

Service Manual



WFM 601A, WFM 601E, & WFM 601M Serial Digital Component Waveform Monitor

070-9836-05

This document applies to firmware version 1.00 and above.

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid potential hazards, use this product only as specified.

Only qualified personnel should perform service procedures.

To Avoid Fire or Personal Injury

Use Proper Power Cord. Use only the power cord specified for this product and certified for the country of use.

Ground the Product. This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Do Not Operate Without Covers. Do not operate this product with covers or panels removed.

Use Proper Fuse. Use only the fuse type and rating specified for this product.

Avoid Exposed Circuitry. Do not touch exposed connections and components when power is present.

Observe All Terminal Ratings. To avoid fire or shock hazard, observe all ratings and marking on the product. Consult the product manual for further ratings information before making connections to the product.

Do not apply a potential to any terminal, including the common terminal, that exceeds the maximum rating of that terminal.

Do Not Operate With Suspected Failures. If you suspect there is damage to this product, have it inspected by qualified service personnel.

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in an Explosive Atmosphere.

Provide Proper Ventilation. Refer to the manual's installation instructions for details on installing the product so it has proper ventilation.

Symbols and Terms

Terms in this Manual. These terms may appear in this manual:



WARNING. Warning statements identify conditions or practices that could result in injury or loss of life.



CAUTION. *Caution statements identify conditions or practices that could result in damage to this product or other property.*

Terms on the Product. These terms may appear on the product:

DANGER indicates an injury hazard immediately accessible as you read the marking.

WARNING indicates an injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

Symbols on the Product. The following symbols may appear on the product:



WARNING
High Voltage



Protective Ground
(Earth) Terminal



CAUTION
Refer to Manual



Double
Insulated

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* before performing any service procedures.

Do Not Service Alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power. To avoid electric shock, disconnect the main power by means of the power cord or, if provided, the power switch.

Use Caution When Servicing the CRT. To avoid electric shock or injury, use extreme caution when handling the CRT. Only qualified personnel familiar with CRT servicing procedures and precautions should remove or install the CRT.

CRTs retain hazardous voltages for long periods of time after power is turned off. Before attempting any servicing, discharge the CRT by shorting the anode to chassis ground. When discharging the CRT, connect the discharge path to ground and then the anode. Rough handling may cause the CRT to implode. Do not nick or scratch the glass or subject it to undue pressure when removing or installing it. When handling the CRT, wear safety goggles and heavy gloves for protection.

Use Care When Servicing With Power On. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

X-Radiation. To avoid x-radiation exposure, do not modify or otherwise alter the high-voltage circuitry or the CRT enclosure. X-ray emissions generated within this product have been sufficiently shielded.

Preface

This manual provides servicing information for the WFM 601A, WFM 601E, and WFM 601M Serial Digital Component Waveform Monitors. Procedures described in this manual are designed for experienced service technicians. For detailed operating information, refer to your waveform monitor User manual. See section 7, *Options*, for the part number of the User manuals.

This manual supports both Module Level (for module exchange) and Component Level service. Module Level service uses the block diagram and its descriptions to isolate a problem to the circuits on a particular circuit board. To support Component Level servicing there are schematic diagrams, circuit board illustrations, and part location tables for each circuit board.

When preparing to service this instrument, remember that its circuit boards contain surface mount components. Surface mount components require special techniques and tools for removal and installation.

Most of the information and procedures in this manual are common across the family of waveform monitors. However, each waveform monitor has several unique features. When a procedure or a description applies to a specific model, it is indicated with the model number of the waveform monitor in parentheses.

About This Manual

This manual is composed of the following sections:

- *Specifications* provides a list of all instrument performance requirements, operating environment requirements, and certifications.
- *Operating Information* provides an overview of the main instrument features.
- *Theory of Operation* provides a block diagram description of the instrument circuits.
- *Performance Verification* provides a manual procedure for verifying the performance requirements in the *Specifications* section.
- *Adjustment Procedures* provides an automated procedure for adjusting the waveform monitor following repair.
- *Maintenance* provides instructions for troubleshooting and replacing instrument modules.
- *Options* provides a list of the available product options.

- *Replaceable Electrical Parts* provides a list of all electrical components used in the instrument.
- *Diagrams* provides block diagrams, component locators, and schematics.
- *Replaceable Mechanical Parts* provides a list of all mechanical parts and electrical modules not contained on a circuit board.

Tektronix Service Offerings

Tektronix maintains a service organization that provides a number of services to help you maintain the waveform monitor at its specified levels. These services range from complete repair and adjustment, at a convenient location, to supplying replacement parts. In addition, Tektronix provides training programs for service technicians.

NOTE. *When considering service offering, remember that Tektronix provides a limited parts and service warranty for all its products. No customer repairs should be attempted during the warranty period.*

Service Training. Tektronix provides service training in a number of programs. Classes are held at our Beaverton campus and at convenient locations by arrangement. To learn more about service training programs, contact your local Tektronix field office or representative. U.S. customers can call our service organization directly using 1 (800) TEK WIDE [835-9433]; ask for “Service Training.”

Field Service Centers. Tektronix maintains service centers worldwide. These centers provide repair and calibration services for Tektronix instruments. They can be contacted through your Tektronix field office or representative. In addition, U.S. and Canadian customers can call 1 (800) TEK WIDE [835-9433] for assistance in contacting their nearest service center.

Module Exchange. The Tektronix module exchange program provides a quick, affordable way to return an instrument to operational status. You exchange a defective module for a calibrated module at a cost well below the new module price. Contact your Tektronix field office or representative for more information. U.S. and Canadian customers can call 1 (800) TEK WIDE [835-9433].

NOTE. *Circuit boards that are damaged due to mishandling or containing modifications not originated by Tektronix are not acceptable for the exchange program.*

When exchanging a circuit board, it is essential that you have the following key information ready to relay to our technician:

- Instrument type
- Serial number
- Installed options
- Assembly/circuit board number (AX)
- Nine-digit part number (671-XXXX-XX)
- Software version number installed on your waveform monitor

Factory Replacement Parts. Replacement parts are available through the local Tektronix field office or representative. However, many common electronic parts are available through local sources. Using a local source, where possible, will eliminate shipping delays.

Changes to Tektronix instruments are sometimes made to accommodate improved components and to improve circuit performance. Therefore, it is important to include the following information when ordering parts:

- Part number
- Instrument type or number
- Serial number
- Modification or option number (if applicable)

If a part has been replaced with a new or improved part, the new part will be shipped, if it is a direct replacement. If not directly replaceable the local Tektronix field office or representative will contact the customer concerning any changes. After any repair, circuit readjustment may be required.

Contacting Tektronix

Phone	1-800-833-9200*
Address	Tektronix, Inc. Department or name (if known) 14200 SW Karl Braun Drive P.O. Box 500 Beaverton, OR 97077 USA
Web site	www.tektronix.com
Sales support	1-800-833-9200, select option 1*
Service support	1-800-833-9200, select option 2*
Technical support	Email: support@tektronix.com 1-800-833-9200, select option 3* 1-503-627-2400 6:00 a.m. – 5:00 p.m. Pacific time

* This phone number is toll free in North America. After office hours, please leave a voice mail message.
Outside North America, contact a Tektronix sales office or distributor; see the Tektronix web site for a list of offices.

Specifications

This section provides a brief overview of the WFM 601A, WFM 601E, and WFM 601M waveform monitor product features. The feature list is followed by the product specifications.

Product Description

The waveform monitors measure and display 4:2:2 component serial digital signals. The waveform monitors display serial digital signals as the familiar component signals and in a variety of standard measurement modes. You can use the EDH (Error Detection and Handling) system and the suite of automated checks of the serial digital format to verify data integrity.

Features

Most of the features listed in this section are common across all three waveform monitors. Where a feature applies only to a specific model, the model is in parentheses following the feature description. The waveform monitors offer the following features:

- Two 270 Mbit serial component loop-through inputs
- Digital video standards SMPTE 259M, ITU-R BT.656, and ITU-R BT.601
- RGB and Y-P_B-P_R display format for 525 and 625 line signals
- Eye Pattern display with Timing and Voltage Cursors (WFM 601E, WFM 601M)
- Jitter demodulator with numeric jitter readout and video correlated jitter waveform display (WFM 601M)
- Parade or Waveform display of Y, P_B, and P_R component signals
- RGB and composite Gamut checks with Diamond and Arrowhead displays
- Field, line, and word select with readout and bright up of selected lines on Picture Monitor Out (Y or G Channel) (WFM 601E, WFM 601M)
- SMPTE RP-165 standard EDH indicator for presence
- Digital Waveform and Data displays with Data-cursor correlation between display modes (WFM 601M)
- Embedded Audio identification
- Source-level meter and cable-length readout (WFM 601E, WFM 601M)

- Lightning and Vector displays
- Reclocked Serial Component Digital output following A/B switching
- Video Reference: Internal Serial Component signal (follows A/B switching) or external composite
- Audio Lissajous display (WFM 601A)

Menus An expanded feature set is available through menus. You select menu items with multi-use bezel buttons and knobs. When you select a menu item, such as Voltage Cursors, on-screen labels show the current function of the bezel buttons and knobs.

Calibrator The waveform monitor provides an internal calibrator signal to set both vertical and horizontal gain. The calibrator signal is a 700 mV, 100 kHz signal. Press the CONFIG button and use the bezel knob to select the Calibrate menu. Press the CAL SIG button to turn on the calibrator signal.

Characteristics Tables

Table 1–1 lists the electrical specifications for the waveform monitors. Performance requirements are generally quantitative and can be tested by the *Performance Verification* procedure in this manual. Reference information describes useful operating parameters that have typical values. These parameters are not directly checked in the performance verification procedure. Table 1–8 lists the EMC compliance specifications.

The Performance Requirements listed in the electrical specification portion of these specifications apply over an ambient temperature range of 0° C to +40° C. The rated accuracies are valid when the instrument is calibrated at an ambient temperature range of +20° C to +30° C, after a warm-up time of 20 minutes.

Table 1-1: Electrical specifications

Characteristic	Performance requirement	Reference information
Waveform Vertical Deflection		
Deflection Factor	For digital input: 700 mV digital input = 700 mV \pm 2% screen display, any magnifier setting	RGB on-screen accuracy \pm 3%
Variable Gain Range		0.2X to 1.4X
Frequency Response	Luminance channel (Y), to 5.0 MHz \pm 2%; Color difference channels (P _B and P _R) to 2.5 MHz \pm 2%	Typically \pm 1% to 5.75 MHz luminance (Y) channel, and \pm 1% to 2.75 MHz for the color difference (P _B and P _R) channels
Transient Response		Preshoot \leq 1% Overshoot \leq 1% Ringing \leq 1% Pulse-to-bar ratio 0.99:1 to 1.01:1
Field Rate Tilt		\leq 1%
Line Rate Tilt		\leq 1%
Offscreen Recovery		1% variation in baseline of a 5 MHz modulated pulse when positioned anywhere on screen. X1, X5, or X10 with any variable gain setting
Voltage Cursor Accuracy	\pm 0.5% over 20–30° C, \pm 1% over rated temperature range	
Differentiated Step Filter		Amplitude of pulses \leq 1% variation
Low Pass Filter		
Gain	1 \pm 1%	
Response		\leq 3 dB attenuation at 1 MHz, \geq 40 dB attenuation at 4 MHz
Serial Digital Video Interface (SER A and SER B inputs)		
Format		270 Mbit/s component. Complies with SMPTE 259M and CCIR 656
Input Type		Passive loop-through, 75 Ω compensated
Input Level		800 mV peak-to-peak \pm 10%. Input voltages outside this range might cause reduced receiver performance.
Return Loss		
Power on		\geq 25 dB 1–270 MHz, channels on or off
Power off		\geq 15 dB 1–270 MHz
Insertion Loss		\leq 1%
Transmission Bandwidth		50 kHz – 300 MHz \pm 1.0 dB –3 dB at not less than 500 MHz

Table 1-1: Electrical specifications (cont.)

Characteristic	Performance requirement	Reference information
Loop-through Input Isolation		≥ 50 dB to 300 MHz
Serial Receiver Equalization Range	Proper operation with 19 dB loss at 135 MHz using coaxial cable having $1/\sqrt{F}$ loss characteristics. 800 mV launch amplitude and 200 meters (655 feet) of Belden 8281 coaxial cable	
Serial Video Output (follows SER A/B channel selection)		
Format		270 Mbit/s component; complies with SMPTE 259M and CCIR 656
Output Level	800 mV p-p ± 10% into 75 Ω load	Internal adjustment can change output to less than 600 mV and greater than 1000 mV
Return Loss		≥ 15 dB 1-270 MHz
Eye Pattern Display (WFM 601E, WFM 601M)		
Type		Equivalent time sampler
Bandwidth	50 kHz to 450 MHz: -3 dB to +1 dB	Low frequency -3 dB point is 500 Hz
Rise Time		500 ps (20-80%), 775 ps (10-90%)
Aberrations		< 10%, 800 mV step
Time Base Jitter		< 200 ps peak-to-peak
Jitter Attenuation		
10 Hz Clock Bandwidth		< 10% for frequencies > 20 Hz. -3 dB at approximately 10 Hz
100 Hz Clock Bandwidth		< 10% for frequencies > 300 Hz. -3 dB at approximately 100 Hz
1 kHz Clock Bandwidth		< 10% for frequencies > 3 kHz. -3 dB at approximately 1 kHz Up to 3 dB jitter gain from 2-4 kHz
Display Modes		
Overlay		Overlays bits 0-9 of a serial word to form each Eye opening
10-Eye		Parades bits 0-9 in a 10-Eye display

Table 1-1: Electrical specifications (cont.)

Characteristic	Performance requirement	Reference information
Deflection Factor		
Vertical	800 mV \pm 5% with an 800 mV p-p input	
Horizontal		
Overlay Mode	1 ns/div \pm 3%	
10-Eye Mode	3 ns/div \pm 3%	
Mag On	500 ps/div \pm 3%	
Jitter Display (WFM 601M)		
Type		Demodulated recovered clock
Digital Readout		
Accuracy		0.05 UI \pm 10% of reading
Dynamic Range		
Alignment Jitter		2.4 UI p-p
Timing Jitter		9.0 UI p-p
Resolution		
Alignment Jitter		0.02 UI
Timing Jitter		0.1 UI
-3 dB Bandwidth		
Alignment Jitter Bandwidth selection		10 Hz to 5 MHz 1 kHz to 5 MHz 10 kHz to 5 MHz 100 kHz to 5 MHz
Timing Jitter		10 Hz to 5 MHz
Jitter Waveform (WFM 601M)		
Accuracy		\pm 10%
Dynamic Range		10 UI p-p
Deflection Factor		
Horizontal		Four modes available: 1 Line, 2 Line 1 Field, 2 Field
Vertical		
X1		1 UI/div \pm 5%
X5		0.2 UI/div \pm 10%
X10		0.1 UI/div \pm 20%

Table 1-1: Electrical specifications (cont.)

Characteristic	Performance requirement	Reference information
-3 dB Bandwidths Bandwidth Selection		10 Hz to 5 MHz 1 kHz to 5 MHz 10 kHz to 5 MHz 100 kHz to 5 MHz
Jitter Output		120 mV/UI \pm 10% into 75 Ω load
Signal Level & Cable Length Detector (WFM 601E, WFM 601M)		
Cable Length		
Accuracy		10 meters \pm 10% of reading (Belden 8281 cable)
Resolution		5 meters
Dynamic Range		0 to 400 meters (Belden 8281 cable)
Source Signal Level		
Accuracy		\pm 0.5 dB for cable lengths from 0–100 meters (Belden 8281)
Resolution		0.25 dB
Dynamic Range		\pm 3 dB
Cable Types		Supported cable types: Belden 8281 Belden 1694A Belden 1505A
Video Error Detection		
Type		Active picture and full field with field rate resolution. Uses EDH (Error Detection and Handling) system based on CRC check-word. Complies with SMPTE RP165.
Reporting Means		Front-panel ALARM indicator, rear-panel TTL line, and CRT readout
Error Statistics		Asynchronous errored seconds. Active picture and full field statistics are separately compiled
Diagnostics		
Embedded Audio		Identifies the presence of up to 16 channels of AES/EBU digital audio
Ancillary Data		Identifies the presence of ancillary data (other than audio and EDH) and indicates if a checksum error has occurred.
Bit Activity		Indicates if any of the 10 data bits are always high or low during the active picture for an entire field.
Line Rate		Indicates whether the signal is 525 or 625 line.

Table 1-1: Electrical specifications (cont.)

Characteristic	Performance requirement	Reference information
Format Errors (WFM 601A, WFM 601M)		Warns that a serial signal format error has occurred for the following error types: <ul style="list-style-type: none"> ■ SAV placed incorrectly relative to EAV. ■ Line length error. ■ Field length error. ■ Reserved values used improperly. ■ ANC data checksum error. ■ ANC data parity error.
Signal Lost		Reports absence of the serial video signal.
Analog Audio Mode (WFM 601A)		
Input		DC coupled, differential input, 20 k Ω input impedance
Full Scale Selection		0, 4, 8, and 12 dBu full scale, menu selectable
Full Scale Accuracy	± 0.5 dB at 1 kHz	
Bandwidth	-3 dB \geq 500 kHz using a leveled sine wave	
X and Y Input Phase Matching	$\leq 1^\circ$, 20 Hz-20 kHz	
Maximum Input Voltage		± 8 V peak, measured to chassis ground
Digital Data Value Cursor and Listing (WFM 601M)		
Digital Waveform		Non-interpolated waveform display. Cursor identifies selected sample value (hexadecimal, decimal, binary). Cross-hair cursor inserted on picture monitor output shows selected line and sample. Vertical and horizontal shift of picture monitor output when selecting blanking interval line and sample values.
Data Mode		Displays interleaved data stream sequentially with 31 samples per screen width. Cursor identifies selected sample value.
Video Mode		Displays Y, Cb, Cr data streams separately. Channels are selected with VIDEO IN buttons. Cursor identifies the selected sample value.
Digital List		Sequential list of sample values in table format. Cursor identifies selected sample. VIDEO mode identifies samples as Y, Cb, Cr.
External Reference		
Input		Analog composite video or black burst
Maximum Operating Input Voltage		-1.8 V to +2.2 V, DC plus peak AC
Absolute Maximum Input Voltage		-8.5 V to +8.5 V, DC plus peak AC
DC Input Impedance		≥ 20 k Ω

Table 1-1: Electrical specifications (cont.)

Characteristic	Performance requirement	Reference information
Return Loss		≥ 40 dB to 6 MHz; typically ≥ 46 dB to 6 MHz, ≥ 40 dB to 10 MHz
Waveform Horizontal Deflection Sweep	<u>Internal Synchronization:</u> Proper horizontal and vertical synchronization with a component digital signal conforming to CCIR Rec. 601/656 and SMPTE 125M. <u>External Synchronization:</u> Proper horizontal and vertical synchronization with a composite sync signal of approximate line and field rate.	Sweep Length: ≈ 12 divisions Sweep free runs without input
Sweep Timing Accuracy	1 Line: $5 \mu\text{s}/\text{division} \pm 1\%$ 2 Line: $10 \mu\text{s}/\text{division} \pm 1\%$	1 Field displays one full field, including field rate sync. 2 Field displays two full fields and the field rate sync between them.
Sweep Linearity	$\pm 1\%$	
Magnified Sweep Accuracy	1 Line: $0.2 \mu\text{s}/\text{division} \pm 1\%$ 2 Line: $1.0 \mu\text{s}/\text{division} \pm 1\%$	
Magnified Sweep Linearity	$\pm 1\%$	
Timing Cursors	Accuracy: $\pm 1\%$	$\pm 0.5\%$ over 20–30° C
Horizontal Position Range	Any portion of the synchronized sweep can be positioned on screen in all sweep modes	
Calibrator Waveform Square Wave	Amplitude: $700 \text{ mV} \pm 1\%$ Frequency: $100 \text{ kHz} \pm 0.1\%$	Crystal-controlled $10 \mu\text{s}$ square wave
Component Vector Mode Vertical Bandwidth		$\geq 1.0 \text{ MHz}$
Horizontal to Vertical Bandwidth Matching	$\leq 2^\circ$ at 500 kHz and 2 MHz	
Vertical Gain Accuracy	$\pm 1\%$	
Horizontal Gain Accuracy	$\pm 1\%$	
Display to Graticule Registration	≤ 0.25 box with the color bar black, display dot centered in target	
Electronic Graticule Shape		Minimal visible gaps or tails at corners of target boxes
Vector Display		P_B is displayed on horizontal axis and P_R is displayed on vertical axis.

Table 1-1: Electrical specifications (cont.)

Characteristic	Performance requirement	Reference information
Lightning and Diamond Mode		
Vertical Gain Accuracy	$\pm 2\%$	
Electronic Graticule Display		
Diamond		GBR Deflection axis indicated
Lightning		Y is displayed vertically P _B is displayed horizontally on top half of display. P _R is displayed horizontally on bottom half of display.
RGB Gamut Error Indication		
Detection Level	Positive detection level = 735 mV ± 7 mV (nominally 105% of legal RGB) Negative Detection level = -35 mV ± 7 mV	
Arrowhead Mode (NTSC/PAL Composite Limit Display Mode)		
Signal to Graticule Registration		Color bar black is positioned in the center of 7.5 IRE box within $\leq .25$ box width.
Signal to Graticule Accuracy (PAL values in parenthesis)	± 2 IRE, 100 IRE and 131 IRE (± 2 , 700 mV)	
Composite Limit Cursor Accuracy (PAL values in parenthesis)		$\pm 2\%$ at 100, 110, 120, 131 IRE (700 and 950 mV)
Composite Limit Detection Level Accuracy (PAL values in parenthesis)	Detection level = 102% $\pm 3\%$ of cursor level	Detection level can be set to 100, 110, 120, or 131 IRE (700 or 950 mV PAL)
Bowtie Mode		
Common Mode Rejection Ratio		≥ 34 dB at 2.5 MHz
Accuracy		$\pm 3\%$
Interchannel Timing Match		± 2.0 ns
Picture Monitor Outputs		
Signal Format		EBU/N10 or RGB, menu selectable
Active Video Accuracy	700 mV $\pm 1\%$ peak-to-peak (Y-P _B -P _R mode)	Typically $< \pm 2\%$ for RGB mode
Black (Blanking) Output Level (WFM 601M)	0 mV ± 35 mV	
Frequency Response (WFM 601M)		Y to 5.75 MHz: $\pm 1\%$ P _B and P _R to 2.75 MHz: $\pm 1\%$
Non-Linearity (WFM 601M)		$\leq 0.5\%$

Table 1-1: Electrical specifications (cont.)

Characteristic	Performance requirement	Reference information
Group Delay Error (WFM 601M)		Y at 5.75 MHz: ≤ 10 ns P _B and P _R at 2.75 MHz: ≤ 20 ns
Interchannel Timing Match (WFM 601M)		Y-to-P _B and Y-to-P _R ± 5.0 ns
Sync Amplitude Accuracy		300 mV $\pm 10\%$ Analog sync is inserted on Y channel only (G channel only in RGB mode)
Sync to Video Timing		525 line rate: 9.037 μ s ± 0.050 μ s 625 line rate: 9.777 μ s ± 0.050 μ s
Return Loss		50 kHz to 5 MHz: ≥ 40 dB

Table 1-2: CRT display

Characteristic	Performance requirement	Reference information
CRT Viewing Area		80 X 100 mm Horizontal: 12.5 divisions Vertical: 1.19 V
Accelerating Potential		Nominally 13.75 kV
Trace Rotation Range	$> \pm 1^\circ$ from horizontal	Total adjustment range is typically $\geq 8^\circ$
Graticule		Internal with variable illumination

Table 1-3: AC power source

Characteristic	Description	Reference information
Electrical Rating		90 – 250 V, 50/60 Hz, 1.5 A maximum ; Continuous range from 90 to 250 VAC
Supply Type		Single Phase
Supply Connection		Detachable cord set
Power Consumption		< 115 VA (75 watts)
Peak Inrush Current Environment		8.4A @ 90 VAC, 26A @ 250 VAC E2

Table 1-4: Environmental characteristics

Characteristic	Standard	Reference information
Vibration	Military Specification: Mil-T-28800D, Paragraph 1.2.2, Class 3	5 minutes at 5 – 15 Hz with 0.060 inch displacement 5 minutes at 15 – 25 Hz with 0.040 inch displacement 5 minutes at 25 – 55 Hz with 0.020 inch displacement
Mechanical Shock	Non-operating: 50 g 1/2 sine, 11 ms duration, 3 shocks per surface (18 total)	
Transportation	Qualified under NSTA Test Procedure 1A, Category II	24 inch drop
Humidity	Proper operation at 95% +0, -5% Relative Humidity	Do not operate with visible moisture on the circuit boards.

Table 1-5: Physical characteristics

Characteristic	Standard
Dimensions	Height: 133.4 mm (5.25 in) Width: 215.9 mm (8.5 in) Depth: 460.4 mm (18.125 in)
Weight	Net: 3.8 kg (8 lbs) Shipping: 7.2 kg (15.7 lbs) approximate

Table 1-6: Safety standards

Characteristic	Standard
U.S. Nationally Recognized Testing Laboratory Listing	ANSI/ISA S82.01 - Safety Standard for Electrical and Electronic Test, Measuring, Controlling, and Related Equipment, 1994
Canadian Certification	CAN/CSA C22.2 No. 1010.1 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use
European Union Compliance	Low Voltage Directive 73/23/EEC, Amended by 93/68/EEC EN61010-1 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use
Additional Compliance	UL3111-1 - Standard for Electrical Measuring and Test Equipment IEC1010-1 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use

Table 1-7: Safety certification compliance

Characteristic	Standard								
Temperature (operating)	+5° to +40° C								
Altitude (operating)	2000 meters								
Relative Humidity (maximum operating)	80% for temperatures up to 31° C decreasing linearly to 50% at 40° C								
Equipment Type	Test and Measuring								
Equipment Class	Class I: Grounded product (as defined in IEC 1010-1, Annex H)								
Overvoltage Category	<p>Overvoltage Category II (as defined in IEC 1010-1, Annex J). Note: Rated for indoor use only.</p> <table border="0"> <tr> <td>Category</td> <td>Examples of Products in this Category:</td> </tr> <tr> <td>CAT III</td> <td>Distribution-level mains, fixed installation</td> </tr> <tr> <td>CAT II</td> <td>Local-level mains, appliances, portable equipment</td> </tr> <tr> <td>CAT I</td> <td>Signal levels in special equipment or parts of equipment, telecommunications, electronics</td> </tr> </table>	Category	Examples of Products in this Category:	CAT III	Distribution-level mains, fixed installation	CAT II	Local-level mains, appliances, portable equipment	CAT I	Signal levels in special equipment or parts of equipment, telecommunications, electronics
Category	Examples of Products in this Category:								
CAT III	Distribution-level mains, fixed installation								
CAT II	Local-level mains, appliances, portable equipment								
CAT I	Signal levels in special equipment or parts of equipment, telecommunications, electronics								
Pollution Degree	<p>Pollution Degree 2: Do not operate in environments where conductive pollutants may be present. Note: Rated for indoor use only.</p>								

Table 1–8: Certifications and compliances

Characteristic	Standard
EC Declaration of Conformity	<p>Meets intent of Directive 89/336/EEC for Electromagnetic Compatibility and Low Voltage Directive 73/23/ECC for Product Safety. Compliance was demonstrated to the following specifications as listed in the Official Journal of the European Communities:</p> <p>EMC Directive 89/336/EEC^{1,2}:</p> <p>EN 55011 Class A Radiated and Conducted Emissions</p> <p>EN 50081-1 Emissions:</p> <p> EN 60555-2 AC Power Line Harmonic Emissions</p> <p>EN 50082-1 Immunity:</p> <p> IEC 801-2 Electrostatic Discharge Immunity</p> <p> IEC 801-3 RF Electromagnetic Field Immunity</p> <p> IEC 801-4 Electrical Fast Transient/Burst Immunity</p> <p> IEC 801-5 Power Line Surge Immunity</p> <p>Low Voltage Directive 73/23/EEC:</p> <p>EN 61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use</p> <p>¹ Use high-quality shielded cables.</p> <p>² When installed in any of the following Tektronix instrument enclosures: 1700F00 (Tektronix part number 437–0100–04) 1700F02 (Tektronix part number 437–0018–07) 1700F05 (Tektronix part number 437–0095–04)</p>

Installation

This section describes how to install and operate the WFM 601A, WFM 601E, and WFM 601M Serial Digital Component Waveform Monitors. It also describes how to remove the waveform monitors for servicing. Note that repackaging information is located at the end of the Maintenance section.

This manual includes one 3.5-inch high-density floppy disk that contains service software. This software is used for the adjustment procedure. Instructions for using the disk are located in the *Adjustment Procedure* section of this manual.

Hardware Installation

Because operating environments vary, the waveform monitor is not shipped with a cabinet unless one is ordered. All qualification testing for the waveform monitor was performed in a 1700F00 cabinet. To guarantee compliance with specifications, you should operate the waveform monitor in one of the cabinets described here.



WARNING. When power is supplied to the rear panel, line voltage is still present in the instrument, even if the Power switch LED is off.

Cabinets

The cabinets offered for the waveform monitor provide EMI shielding, protect against electrical shock, and protect against the accumulation of dust.

A rear panel fan supplies filtered, cooling air which exits through the cabinet vent holes. Restricting the air flow through the vents or the rear fan can lead to an excessive internal temperature. To ensure adequate ventilation, provide the following clearance for the waveform monitor: three inches at the rear, two inches on each side, and one inch each on the top and the bottom.

NOTE. To meet EMI emission specifications, the waveform monitors must be installed in a Tektronix 1700F00, 1700F02, or 1700F05 cabinet. The cabinet front edges must securely contact the conductive front bezel on all four sides.

The optional 1700F00 cabinet is the basic element for all of the cabinets. See Figure 2-1. The 1700F02 portable cabinet is an enhanced version of the 1700F00 cabinet, as is the 1700F05 side-by-side rack mount cabinet. All cabinets are available from your Tektronix representative.

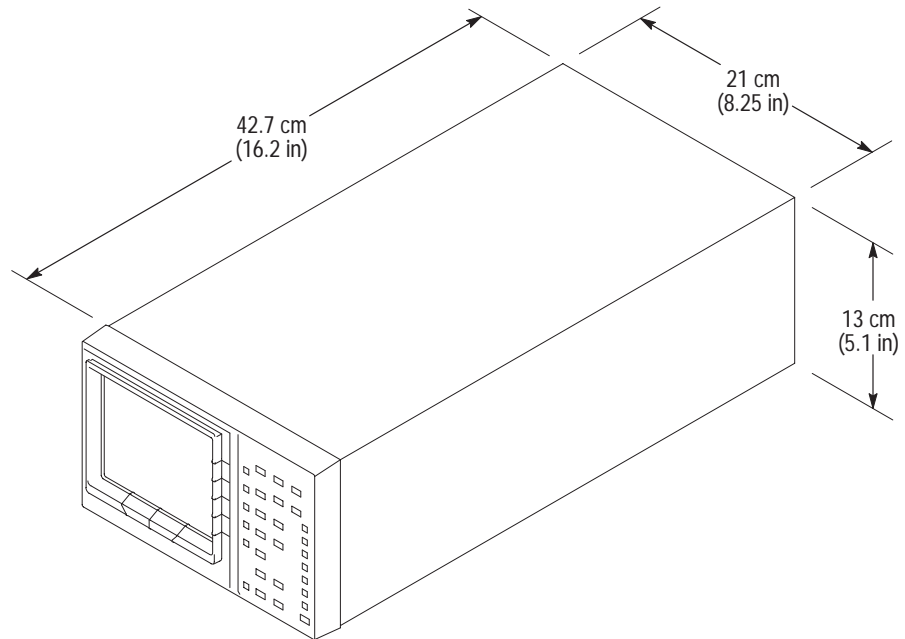


Figure 2-1: Dimensions of the 1700F00 cabinet

The portable cabinet, 1700F02, Figure 2-2, has a handle, four feet, and a flip-up stand. The mounting hole sizes and spacing are different from those of the 1700F00.

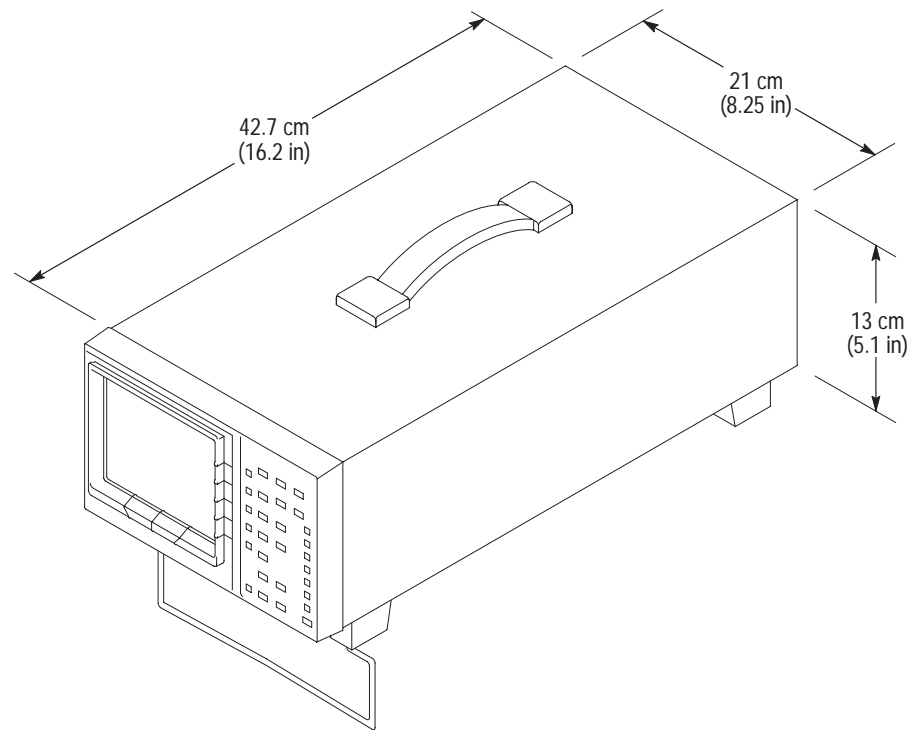


Figure 2-2: 1700F02 portable cabinet

Installing the Waveform Monitor in a Cabinet

Secure the waveform monitor in a cabinet using two 6-32 Pozidrive® screws. Figure 2-3 shows the location of these screws on the rear panel.



CAUTION. Do not carry a waveform monitor in a cabinet without installing the rear panel mounting screws. Without the mounting screws, there is nothing to keep the waveform monitor in its cabinet.

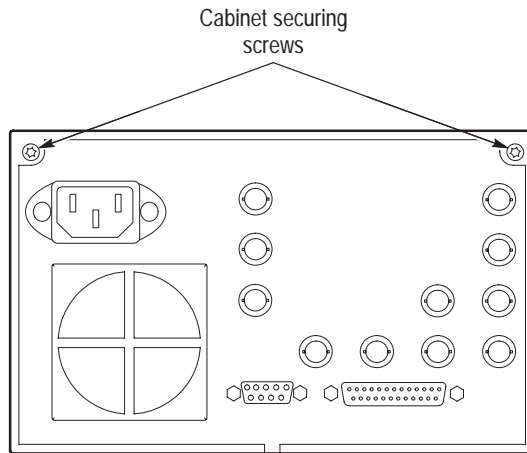


Figure 2-3: Rear view of the waveform monitor in a 1700F00 cabinet

Rack Adapter The optional 1700F05 side-by-side rack adapter, shown in Figure 2-4, consists of two attached cabinets. Use it to mount the waveform monitor and another half-rack width instrument, such as an analog component monitor, in a standard 19-inch rack.

You can adjust the rack adapter so that the waveform monitor is aligned with other equipment in the rack. See Figure 2-4.

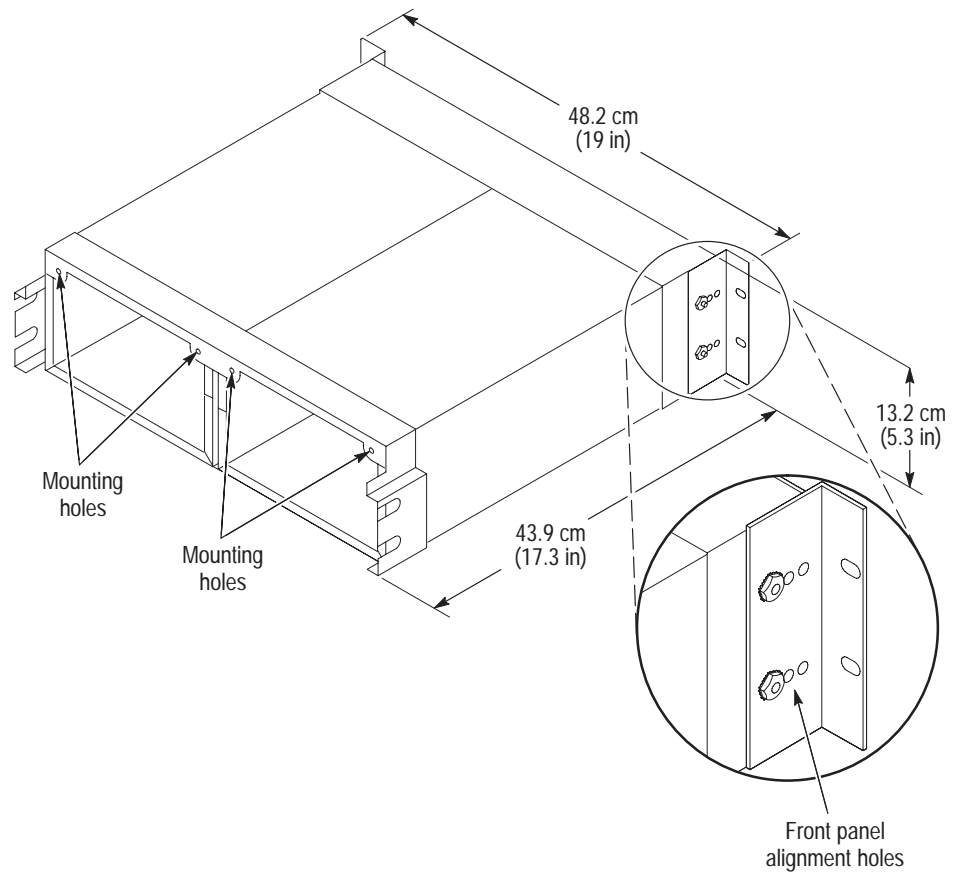


Figure 2-4: The 1700F05 rack cabinet holds two instruments

If you are using only one side of the rack adapter, insert a blank panel (1700F06) or an accessory drawer (1700F07) in the unused section to improve airflow and appearance. Figure 2–5 shows the blank panel and drawer.

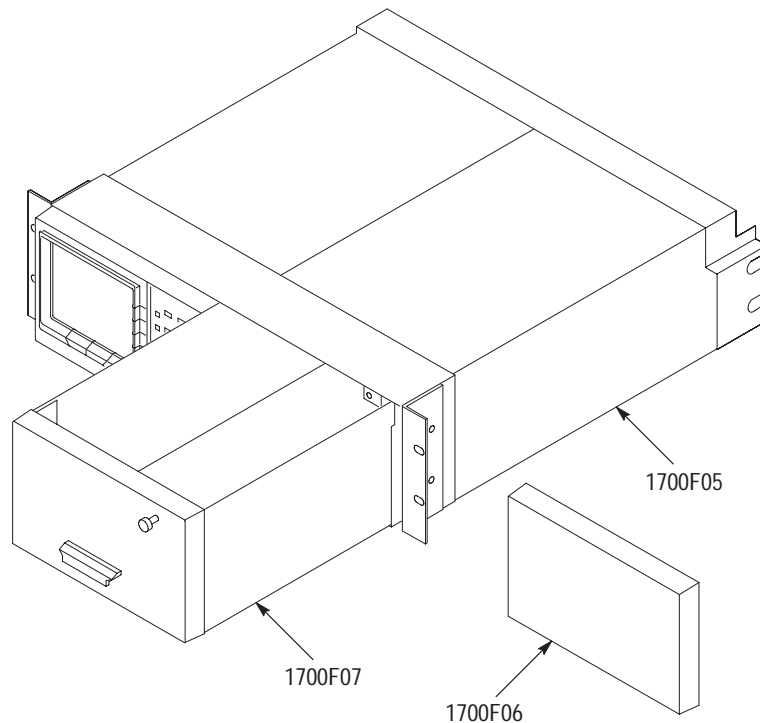


Figure 2-5: 1700F05 cabinet showing utility drawer and blank panel

Repackaging for Shipment

To ship the waveform monitor to a Tektronix Service Center for service, use the following instructions:

1. Attach a tag to the waveform monitor showing the name of the owner, the complete address, the phone number, the instrument serial number and a description of the required service.
2. Repackage the instrument in the original packaging materials. If the original packaging materials are not available, use the following instructions:
 - a. Obtain a carton of corrugated cardboard with inside dimensions at least six inches greater than the dimensions of the instrument. Use a shipping carton that has a test strength of at least 275 pounds.
 - b. Surround the instrument with a protective, anti-static bag. For instruments that are not in a cabinet, wrap a piece of cardboard around the bagged instrument to protect the internal components.

- c. Pack dunnage or urethane foam between the instrument and the carton. If using Styrofoam kernels, overfill the box and compress when closing the lid. You need three inches of tightly packed cushioning on all sides of the instrument.
3. Seal the carton with shipping tape or industrial staples.

Connecting Power

The waveform monitor operates from a single-phase power source with the neutral conductor at or near earth ground. The line conductor is fused for over-current protection. A protective ground connection through the grounding conductor in the power cord is essential for safe operation.



WARNING. When power is supplied to the rear panel, line voltage is still present in the waveform monitor, even if the POWER switch LED is off.

AC Power Requirements

The waveform monitor operates from an AC line frequency of 50 or 60 Hz, over the range of 90–250 Volts, without requiring further configuration, except for the power cord. Refer to page 7–1 for the power cord options. The typical power draw is 75 W. Refer to the *Specifications* section for additional information on power and environmental requirements.

Rear-Panel Connectors

For information on the rear panel connectors, refer to page 2–13.

Operating Information

This section provides a brief description of the waveform monitors front- and rear-panel features and connections. For detailed operating information, refer to the User manual for the specific model.

Front Panel Overview

Figure 2-6 shows the front panel of the WFM 601M waveform monitor. The front panels for the WFM 601A and WFM 601E waveform monitors are similar. A brief discussion of each front-panel feature follows the illustration. Features that are unique to one or two waveform monitor(s) are indicated in the discussions. For detailed information about the operation of the waveform monitor, refer to the *Reference* section in the user manuals.

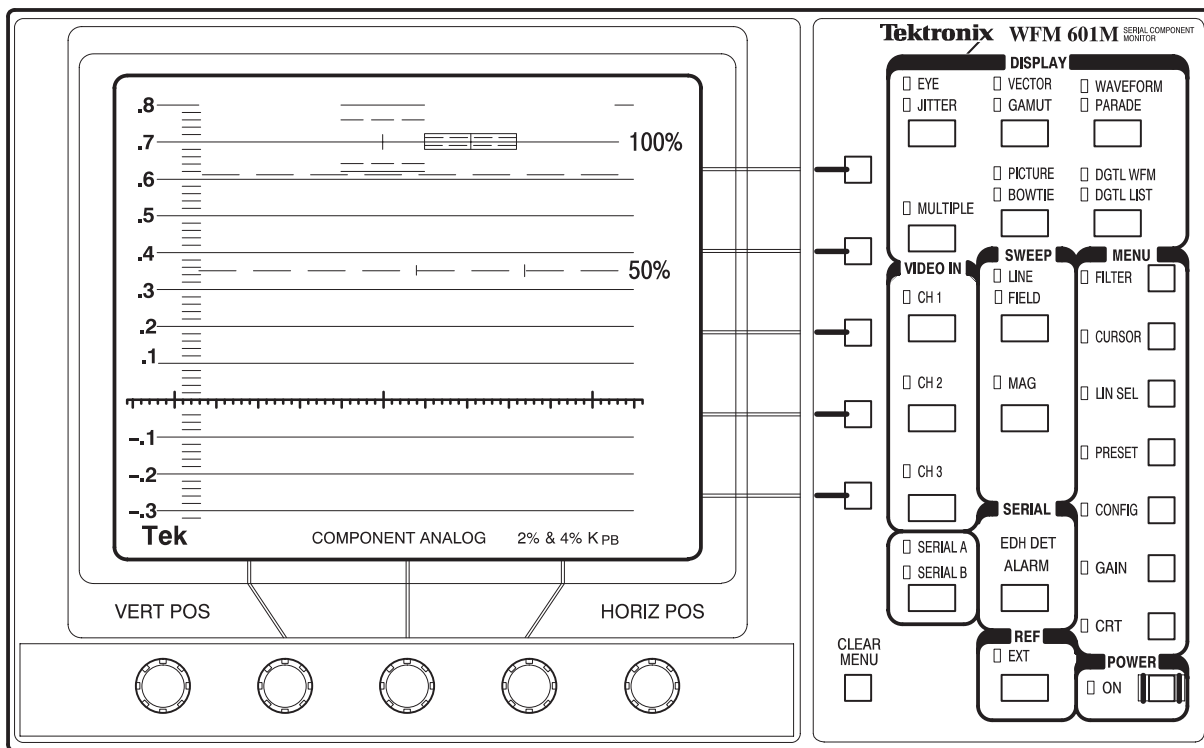


Figure 2-6: The WFM 601M waveform monitor front panel

Bezel Knobs The center three knobs located below the CRT have multiple functions. Your selection of DISPLAY or MENU functions or items from on-screen menus determine the current function of each knob. A label adjacent to the knob indicates its current function. The outside knobs are permanently assigned to control vertical and horizontal trace position.

Bezel Buttons The five bezel buttons along the right side of the CRT have multiple functions. Your selection of DISPLAY modes, MENU functions, or on-screen items from the displayed menus determine the current function of each button. A label adjacent to each button indicates its current selection. The buttons either step through a list of two or more items or turn a function on or off.

DISPLAY Buttons Six buttons in the DISPLAY area control the type of display. Most buttons represent two related types of displays. Press a button to select one of its two displays. Press the button again to select the other. When you select a display type, the indicator LED beside it lights up.

EYE. Displays the serial input signal as an Eye pattern display. You can choose standard or equalized Eye displays (WFM 601E, WFM 601M).

JITTER. Displays the peak-to-peak jitter measurement over a specified bandwidth. The display includes the demodulated jitter waveform for measurement (WFM 601M).

VECTOR. Displays the component signals as either conventional Vector or Lightning mode. Vector mode plots the chrominance signals, P_b and P_r , against each other to show their phase and amplitude relationships. The Lightning mode shows amplitude and timing relationships between the luminance and chrominance signals. The top of the display plots Y against P_b while the bottom plots Y against P_r .

GAMUT. Displays the video signal in Diamond or Arrowhead gamut displays. Diamond mode evaluates RGB signals for gamut limit violations. Arrowhead display plots Y versus chrominance magnitude to show adherence to composite gamut limits. A gamut error message appears at the lower-left when an RGB or Composite gamut error is detected. Turn this alarm on or off in the CONFIG menu.

WAVEFORM. Displays the video signal as voltage versus time. Any or all of the three channels can be displayed from a single video line.

PARADE. Displays up to three channels of the video signal in succession.

MULTIPLE. Allows two display modes to be active at the same time. The Waveform or Parade can be displayed with either Vector, Lightning, or Diamond.

PICTURE. Displays the video signal source. When Line Select is on, the selected line is highlighted to identify where it is in the video picture.

BOWTIE. Displays a bowtie test signal to determine timing differences between the three component signals, Y, P_b, and P_r. The external video source must generate a Bowtie test signal.

DGTL WFM. Displays the digital word values as a waveform. The data values are not interpolated to generate the waveform (WFM 601M).

DGTL LIST. Displays the sequential data values in a list. Data may be in linear data sequence or as groups of four values as they appear in the multiplexed data stream: C_B, Y, C_R, Y' (WFM 601M).

ANALOG AUDIO. Displays the stereo analog audio input as a Lissajous pattern. The size of the opening in the pattern is relative to the phase error between the X and Y audio channels. (WFM 601A)

VIDEO IN Turns on or off CH 1 (Y/R), CH 2 (P_B/G), and CH 3 (P_R/B) and selects the SERIAL A or B digital signal input. At least one input and one channel are always on.

SWEEP Selects the waveform monitor sweep rate (LINE/FIELD) and horizontal magnification (MAG). This area includes two buttons:

LINE / FIELD. Toggles through four sweep rates: 1-Line (5 μ s/div), 2-Line (10 μ s/division), 1-Field, and 2-Field. Selections are limited in some display modes.

MAG. Provides horizontal magnification of waveform signals. Use the Horizontal Position bezel knob to move left or right on through the waveform.

- SERIAL** Displays a status screen providing EDH error statistics, including ANC data errors and line/field length errors. In addition, the WFM 601E and WFM 601M waveform monitors provide screens that report format errors, signal strength, and cable length information. This area includes two indicators:
- EDH DET.** Lights up when the serial digital signal has the SMPTE RP165 specified Error Detection and Handling (EDH) signal.
- ALARM.** Lights up when a serial video data or format error occurs, or when the serial signal is lost.
- REF (Reference)** Selects either internal serial digital or external composite video input for the instrument synchronization reference.
- MENU** Provides access to configuration and measurement functions that affect the DISPLAY mode. Press a MENU button to display that menu and enable the associated functions. Press the button again to exit the menu and disable the function.
- POWER** Puts the waveform monitor into the standby or operational state.
- CLEAR MENU** Turns off the MENU function readouts without affecting the menu settings. Also, provides access to alternative displays in some display modes.

Using the Menus

The waveform monitors have a set of front-panel selectable MENU buttons that call up CRT readout menus. These menus operate in conjunction with the five bezel buttons along the side of the CRT and the three knobs directly beneath it. See Figure 2-7.

Enabled menu selections are surrounded by a rectangle to indicate that they are active.

Pressing the CLEAR MENU button turns off the menu readout while leaving the functions associated with the current Display mode.

Pressing a MENU button when its menu is displayed turns off both the menu readout and, in most cases, disables the function. By selecting Line Select, Cursor, Filter, or Gain, the last settings are returned. For example, if X5 was active when you last used the Gain menu, returning to the Gain menu restores X5 gain.

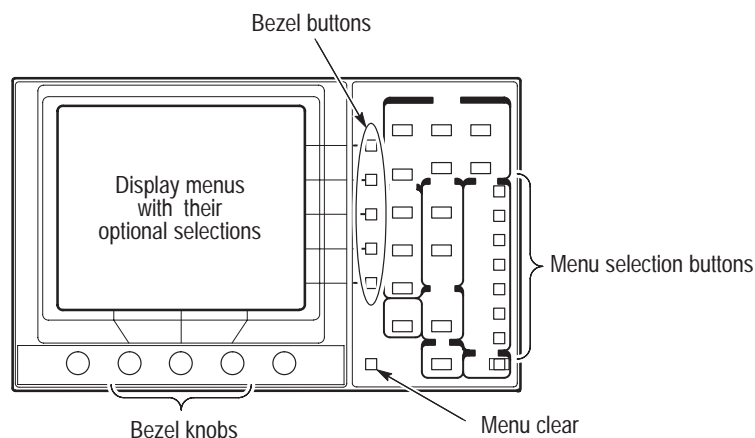


Figure 2-7: Elements of the waveform monitor menu controls

Rear Panel Connectors

Figure 2-8 shows the rear panel of the waveform monitor. A brief discussion of each connector follows the illustration. Again, features unique to a specific waveform monitor are indicated in the text.

Power Connector

The waveform monitor is designed to operate from a single-phase power source with the neutral conductor at or near earth ground. Only the line conductor is fused for over-current protection. A protective ground connection through the grounding conductor in the power cord is essential for safe operation.



WARNING. *Dangerous potentials are present on the Power circuit board. To avoid electric shock, do not connect power to the waveform monitor if it is not enclosed in a prescribed cabinet.*

The waveform monitors operate from an AC line frequency of 50 and 60 Hz, over the range of 90–250 VAC, without the need for configuration. Refer to the *Specifications* section of this manual for additional information on power and environmental requirements.

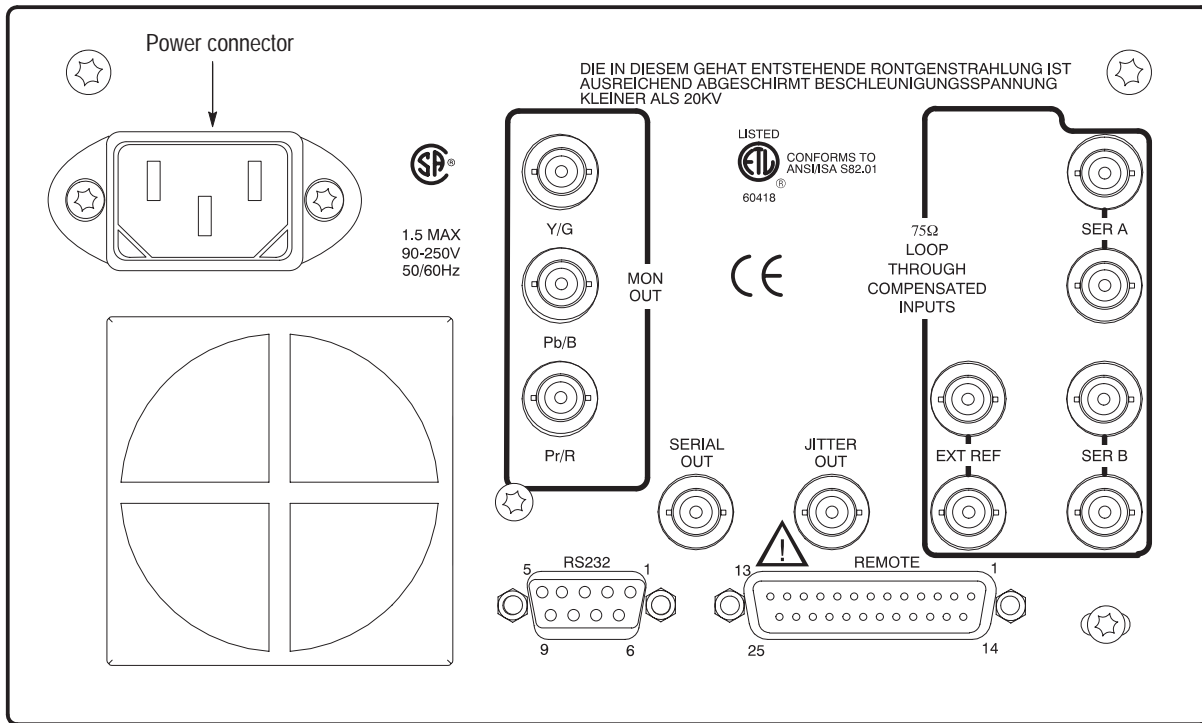


Figure 2-8: Rear panel of the waveform monitor

Loop-Through Inputs

There are three passive loop-through inputs located on the rear panel. All are compensated for 75 Ω impedance and require proper termination at one end of the loop-through connector or at the receiver in a monitored system.

SER A and SER B. Provides for connection of two 270 Mb serial component data signals. These inputs have minimal impact on the monitored serial data path.

EXT REF. Provides for connection of an external synchronization signal such as black burst or composite video.

Coaxial Outputs

Five rear panel connections drive signals into a 75 Ω environment.

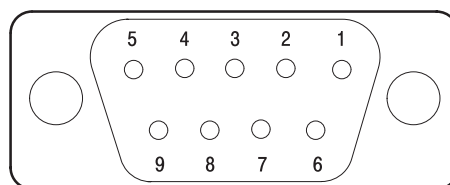
MON OUT (Y/G, P_B/B, P_R/R). Provides three 75 Ω component signal outputs to drive a component picture monitor. You can set the output format to YP_BP_R or GBR. Invalid input signals cause a blinking highlight of the monitor display at the line where the error occurs. This gamut error highlight or “bright-up” signal is present on the Y (or G) output and is controlled in the CONFIG menu.

SERIAL OUT. Provides a reclocked version of the selected signal input (SER A or SER B).

JITTER OUT. Provides a 75 Ω output signal from the jitter demodulator for the WFM 601M waveform monitor. The Jitter high-pass filter (JITTER HPF) selection does not affect this signal. You can view the jitter waveform on the waveform monitor using the JITTER display mode. This output is disabled on the WFM 601A and WFM 601E waveform monitors.

RS-232 Connector

The RS-232 connector is a 9-pin D-type connector that provides a remote verification interface. Figure 2–9 shows the pin assignments and the communication parameters for the RS-232 interface. The Remote Command set is defined in *Appendix C: Remote Commands* of the User Manuals.



Communication parameters

Baud: 9600

Data bits: 8

Stop bits: 1

Parity: None

Flow control: Xon/Xoff

Pin Number	Data Connection
1	DCD (Received line signal detector)
2	RXD (Received data)
3	TXD (Transmitted data)
4	DTR (DTE ready)
5	Signal ground
6	DCR (DCE ready)
7	RTS (Request to send)
8	CTS (Clear to send)
9	Not connected

Figure 2–9: Pin assignments for the RS-232 connector

Remote Connector

The rear-panel REMOTE connector is a 25-pin, D-type connector that allows low-level remote control. Use the RS-232 interface for control using SCPI commands sent from a PC controller.

The 25-pin remote connector provides remote control of presets and monitoring of line select and video alarm events. Eight of the Presets (stored front-panel settings) can be stored or recalled remotely.

STORE. When pin 25 is grounded along with one of the preset pins, the current front-panel settings are stored at the selected Preset location.

Line Select Strobe. Pin 15 outputs an active-low TTL pulse during selected lines when in Line Select modes. Use this signal as a trigger for a logic analyzer or oscilloscope.

Serial Video Alarm. Pin 16 outputs an active-low TTL level whenever the front-panel ALARM light is illuminated.

Remote Connector Pin Assignments. Pin assignments for the REMOTE connector are shown in Figure 2–10 and described in Table 2–1. You enable functions by ground closures (TTL lows) on specified pins. Functions preceded by a forward slash (/) indicate an active low state.

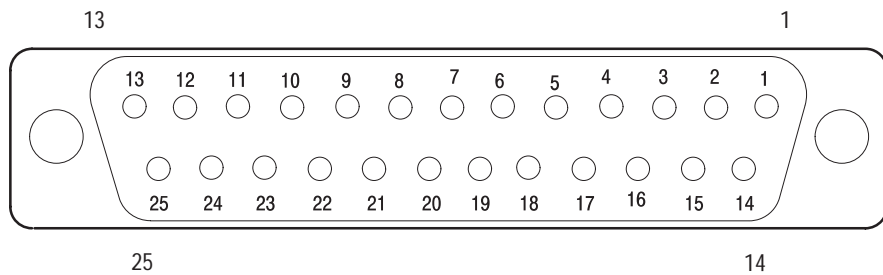


Figure 2–10: Pin assignments for the REMOTE connector

Table 2–1: Remote connector pin assignments and functions

Pin number	Function	Signal requirement	Miscellaneous information
1	Not Used	No connection allowed	
2	Ground	TTL ground	
3	Not Used	No connection allowed	
4	Not Used	No connection allowed	
5	Ground	TTL ground	
6	Not Used	No connection allowed	
7	Ground	TTL ground	
8	+Y Audio Input		Not used in the WFM 601E or the WFM 601M
9	–Y Audio Input		Not used in the WFM 601E or the WFM 601M
10	+X Audio Input		Not used in the WFM 601E or the WFM 601M
11	–X Audio Input		Not used in the WFM 601E or the WFM 601M
12	+Time Code Input		Not used in the WFM 601E or the WFM 601M
13	–Time Code Input		Not used in the WFM 601E or the WFM 601M
14	Ground	TTL ground	
15	/Line Strobe	In Line Select Modes, true (low) during selected video lines (TTL low)	

Table 2-1: Remote connector pin assignments and functions (cont.)

Pin number	Function	Signal requirement	Miscellaneous information
16	Serial Video Alarm	True low. Low pulse when an error occurs in the serial digital input signal	
17	Preset 1	Ground (TTL low)	Recalls the stored Preset from this location, or selects the Preset 1 memory location to store the current front-panel settings. See the pin 25 description.
18	Preset 2	Ground (TTL low)	Recalls the stored Preset from this location, or selects the Preset 1 memory location to store the current front-panel settings. See the pin 25 description.
19	Preset 3	Ground (TTL low)	Recalls the stored Preset from this location, or selects the Preset 1 memory location to store the current front-panel settings. See the pin 25 description.
20	Preset 4	Ground (TTL low)	Recalls the stored Preset from this location, or selects the Preset 1 memory location to store the current front-panel settings. See the pin 25 description.
21	Preset 5	Ground (TTL low)	Recalls the stored Preset from this location, or selects the Preset 1 memory location to store the current front-panel settings. See the pin 25 description.
22	Preset 6	Ground (TTL low)	Recalls the stored Preset from this location, or selects the Preset 1 memory location to store the current front-panel settings. See the pin 25 description.
23	Preset 7	Ground (TTL low)	Recalls the stored Preset from this location, or selects the Preset 1 memory location to store the current front-panel settings. See the pin 25 description.
24	Preset 8	Ground (TTL low)	Recalls the stored Preset from this location, or selects the Preset 1 memory location to store the current front-panel settings. See the pin 25 description.
25	Store	Ground (TTL low)	Grounding /STORE enables storage of instrument settings. When /STORE transitions low when one of the /PRESETs is low, the current front-panel settings are stored in that Preset location.

Block Diagram Descriptions

This section provides a circuit description based on the three block diagrams, at the front of *Diagrams*, section 9. This section also describes the Power Supply based on the major blocks on the A1 Power Supply schematics, also in section 9.

Block Diagram 1, Input and Waveform Display

Block diagram 1 contains the serial inputs and outputs, Eye pattern sampler, vertical and horizontal amplifiers, the CRT, and blanking.

Input Switching and Outputs

The serial inputs are 75 Ω compensated (externally terminated) passive loop-through inputs. Input transistors and capacitive coupling buffer the input signals to keep return loss constant up through 300 MHz. Discreet components select the SER A or SER B input. The switch and amplifier provide a gain of 0.5 to connectors J1 and J2.

The Serial Out, MON OUT, and Jitter Out signals pass straight through the A4 board. The EXT REF input is a 75 Ω compensated, high impedance loop-through input.

Serial Receiver

The component serial digital video signal is buffered and applied to the Serial Receiver circuit. An unbuffered version of the digital signal is routed to the Eye Sampler circuit. The Serial Receiver contains a phase-locked loop circuit that locks its clock to the incoming 270 MHz data signal. Jumper P13 is normally on pins 2 and 3, which selects a clock adjust circuit that brings the oscillator close to the incoming frequency so the PLL can operate. With P13 on pins 1 and 2, you can adjust R269 to change the oscillator center frequency. If you remove cable J3 from the DAC board for troubleshooting, you can move P13 to pins 1 and 2 and adjust R269 to lock on the incoming signal.

If the input signal amplitude is low, the Serial Receiver provides equalization by boosting the high-frequency components of the signal. A Cable Driver circuit buffers the reclocked serial digital signal for the Serial Out rear-panel output. A divide by 10 circuit provides the 27 MHz clock for the Eye pattern circuit. An A/D converter digitizes various analog inputs under microprocessor control.

Jitter Demodulator and Peak Detectors

The Jitter Demodulator is a phase detector that receives a reference clock and the 27 MHz clock derived from the input signal. The output is a Jitter signal for display, measurement, and export to the rear panel Jitter output. The Peak Detector circuit splits the incoming Jitter signal into two paths: the high-pass peak detector and the raw peak detector. The selected high-pass filter is applied

to the jitter signal then sent to the positive and negative peak detectors. The DC outputs of these detectors connect to the A/D converter. The unfiltered Jitter signal is separately peak detected and the DC outputs connected to the A/D converter. The Jitter circuit includes a switch that selects between the Jitter signal and the sampled Eye signal for display.

Signal Level Meter

The Signal Level Meter compares the amplitude of the serial digital signal at 10 MHz and 77 MHz. The amplitude at each of the frequencies is output as a logarithmic DC voltage to the A/D converter. The microprocessor compares these levels to determine the cable length measurement.

Eye Pattern Sampler

The Eye Pattern circuit is an equivalent-time sampler that allows viewing of the serial bit stream as a voltage-versus-time signal. Using a phase locked oscillator, the sample clock (6.75 MHz) is derived from the 27 MHz Parallel Clock and horizontal line frequency (FH) signals. The input signal is displayed either with serial receiver equalization (Eq Eye) or without (Eye).

Coprocessor

The Coprocessor receives 10 bit parallel video input from the Deserializer, the recovered 27 MHz clock, and control instructions from the microprocessor. The coprocessor performs gamut and format error checking on the component video. Three horizontal lines of the component video data are stored in a buffer RAM for the Digital Data displays. The coprocessor outputs the clocks and 10 bit interleaved video data to enable the recovery of the Y, R–Y and B–Y signals by the Half Band filters and DACs. In addition, it generates the signals used for clamping, to re-establish the vertical blanking interval, and to provide composite synchronization. The coprocessor removes nonvideo data from the signal, such as end of active video (EAV), start of active video (SAV), and ancillary data.

Deserializer

The Deserializer receives the 270 MHz component serial data and the recovered parallel clock. The output is 10 bit video component data for the coprocessor.

Phase Locked Loop and Clock Regenerator

The Phase Locked Loop circuit synchronizes an oscillator circuit with the recovered 27 MHz clock. A switch circuit allows selection of the direct recovered clock or the onboard 27 MHz clock, which appears as the front-panel selection CONFIG–FORMAT–SYNC AFC.

Y Delay, Half-Band Filters, and DACs

The multiplexed video data stream from the coprocessor is converted to analog components by three digital-to-analog converters (DACs). The Y Delay circuit delays the luminance data to ensure it passes through the Half Band filter and DAC properly synchronized with the chrominance signals. The coprocessor generates the clock and timing enable signals for the luminance and two color difference Half Band filters and DACs.

The Half Band filters (HBF) use interpolation to double the number of data values in order to ensure a smoother product from the DACs. Data timing signals are 13.5 MHz for luminance and 6.75 MHz for color difference. The HBFs are clocked at 27 MHz for luminance (Y) and 13.5 MHz for P_b and P_r signals. Data out of the HBFs are input to three DACs. The DAC outputs are the component analog signals, Y, P_b, and P_r. Their gain and DC offset is set by the microprocessor through a Daculator on the Component board, diagram 12.

Y, P_b and P_r Reconstruction Filters

The three separate Reconstruction Filters are bandpass filters that provide adjustments for matching the delay through the three HB filters, DACs and Reconstruction filters. An adjustable offset is added to each signal as required for display.

Input Multiplexer

The Line Rate Controller dictates the selection of display when color difference or RGB signals are being displayed. The output of the multiplexer drives the Flat, Luminance, and Differentiated Step Inputs of the Filter Multiplexer.

Filter Selection Multiplexer

The Filter Selection Multiplexer, which is controlled by the Line Rate Controller, selects the input to be displayed.

Square Wave Calibrator

The calibrator provides a 700 mV, 100 kHz output. Its amplitude is set by a microprocessor-controlled DAC, and its timing is set by the Line Rate Controller.

Vertical Amplifier

The Vertical Amplifier is a variable gain amplifier that has controlling inputs driven by either microprocessor or synchronous Line Rate Controller outputs.

Stage gain is controlled by the DAC output voltages. The Line Rate Controller selects and enables vertical magnification.

An offset voltage from the DACs vertically positions the display. When CRT readout processing occurs, the Line Rate Controller changes the gain of the amplifier. The differential output of the Vertical Amplifier drives the vertical output amplifier, which powers the CRT deflection plates.

Horizontal Reference Multiplexer and Reference Switch

The Horizontal Reference Multiplexer selects either the COMPSYNC signal from the coprocessor or the External Reference input as the instrument sync reference. The front-panel REF switch controls the multiplexer.

Sweep Generators and Horizontal Signal Multiplexer

Line and Field Rate signal generators are started and stopped by the retrace signals from the Line Rate Controller. The microprocessor controls the Sweep ramp times, which are ≈ 17 ms for the field sweep and 64 μ s for the line sweep.

The Line Rate Controller selects the signal from the Horizontal Signal Multiplexer to drive the Horizontal Amplifier circuit.

Horizontal Amplifier

The Horizontal Amplifier is a variable gain amplifier with controlling inputs from the microprocessor and Line Rate Controller. Stage gain is controlled by the DAC output voltages. The Line Rate Controller selects the magnification gain.

An offset voltage horizontally positions the display. The amount of offset required for the Waveform mode is significantly greater than that required for the other display modes. During processing of the CRT readout, the Line Rate Controller changes the gain of the amplifier as necessary.

The differential output of the Horizontal Amplifier drives the horizontal output amplifier which powers the CRT deflection plates.

An additional amplifier stage within the Horizontal Amplifier provides a differential output that controls the intensity for the Picture Monitor mode. The microprocessor controls the Picture Monitor contrast.

Blanking Logic

The Blanking Logic is a multiplexer, which is controlled by the Line Rate Controller. The Blanking Logic selects the blanking/unblanking signals that drive the Z-Axis Amplifier, which drives the CRT control grid.

Block Diagram 2, Component

Component Blanking Switching

The Y, P_b, P_r Reconstruction Filters drive the input selection matrix. The coprocessor picks either the component channels or blanking levels for output. Switch output is buffered and becomes the input to the Color Difference to GBR Transcoder, Bypass Switching, and Component display mode switching.

Color Difference to GBR Transcoder

The three component signals enter three mixers that produce GBR signals according to the SMPTE format. An adjustable offset is added to each signal as required for display.

Bypass Switching

The Switch Control Buffers select either the color difference input signals or the transcoded GBR signals to drive the Picture Monitor Output amplifiers.

Gamut Limit Comparator and Monitor Out Amplifiers

The Gamut Limit Comparator includes separate circuits to compare the GBR signals and the component signals to the user selected gamut limits. The two comparators generate separate GBR and composite gamut alarm signals. When the signal exceeds the GBR gamut limits, the Monitor output flashes. A gamut inhibit signal causes the 2 Hz blink rate. The Monitor Out display can be either

transcoded GBR or component video channels (Y/P_b/P_r). Composite sync, generated by the coprocessor, is added to the G/Y channel of the Monitor Out. The Y/G, P_b/B, and P_r/R output impedance is set to 75 Ω.

GBR to Diamond Transcoder and Component Display Switching

The transcoded GBR signals drive the GBR to Diamond Transcoder. The outputs from the transcoder are B+G and B–G for the top half of the Diamond display, and R+G and R–G for the bottom half of Diamond display. Display mode switching provides the vertical and horizontal axes inputs for Lightning, Diamond, Component Vector, and Bowtie displays. The microprocessor controls the display switching through the Controller circuit.

Block Diagram 3, Microprocessor and Control

Microprocessor

The microprocessor has a 32 bit internal architecture and a 16-bit data bus. At boot up it reads initial code from the Read-Only Memory (ROM). The microprocessor then loads program code from EPROM into the RAM for execution. The Nonvolatile Random Access Memory (NVRAM) stores all the calibration and other constants used by the microprocessor.

The 24 bit Address Buffer is unidirectional and is used to select the addresses in the storage devices (RAM, ROM, and EPROM). The Data Buffer is bidirectional. The flash EPROM is programmed through the RS-232 port.

Line Rate Controller and FIFO

The Line Rate Controller (LRC) is a custom IC that loads information from ROM at power up. The microprocessor controls the LRC by placing commands in the FIFO which the LRC reads. The LRC uses three clock inputs (5.5, 6, and 16 MHz) and the H sync pulse to synchronize to the incoming video reference and to generate synchronous switching signals required to drive the various displays modes.

Sync Separator

The Sync Separator strips the sync pulses from either the internal video signal or the external reference video. It generates H sync and V sync to synchronize the Line Rate Controller.

Synchronous Outputs

Data and control signals from the microprocessor are loaded into latches clocked by the Line Rate Controller, which lock their outputs to the incoming video signal.

Readout State Machine

The Readout State Machine interprets the readout instructions from the microprocessor and loads digital data into two identical DACs. The DACs drive the vertical and horizontal stroke generators to create the readouts displayed on the CRT.

- Serial Static Outputs** The microprocessor controls this serial in/parallel out register. It outputs control signals that are not synchronized to the video signal.
- Serial Interface** The Serial Interface is a latch, driven by the microprocessor, that outputs the chip select and enables for the serial devices, such as the DACs and the serial/parallel registers used for the Remote and Front Panel.
- Digital-to-Analog Converter (DAC)** There are a number of DACs used to decode microprocessor instructions and output positioning, gain, and DC offsets to many instrument circuits. These DACs are serially loaded and clocked devices, which are commonly referred to as Daculators. The DACs have 15 outputs each that hold their programmed output once it is set.
- RS232** The RS-232 input consists of a 9-pin D connector and a line driver. It is used to calibrate the instrument and for remote control using the remote command set.
- Remote** The Remote input consists of a 25-pin D connector and parallel in/serial out registers. The Remote interface provides an external interface for low-level remote control of the waveform monitors.

Power Supplies

The low-voltage power supply is of the switching, high efficiency type. It is a universal supply that operates over an AC source range of 90 to 250 V_{AC}. The high-voltage power supply provides an acceleration potential of approximately 13.75 kV. Figure 3-1 provides a block diagram of the power supply.

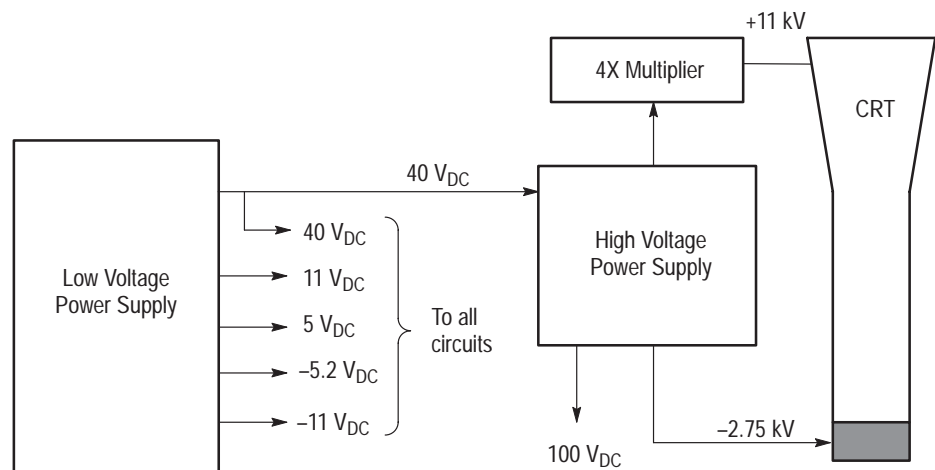


Figure 3-1: Power supply block diagram

The following discussion covers the main blocks on the A1 Power Supply schematics.

Primary Side

Line power enters through an RF filter on the rear panel. The Line Rectifier circuit correctly converts 90 to 250 VAC. The line voltage or primary side of the power supply is fully isolated from the secondary or DC side by transformers and optical signal isolators.

Initial power conversion is controlled by a current-mode pulse width modulator circuit centered on U6. The switcher operates at 100 kHz. U6 senses the output voltage level from U4 and a ramp voltage representing the current in the transformer switcher, Q14. On power up, C62 accumulates a trickle charge to 16 V, which powers U6.

When the power switch is set to on, the 170 kHz oscillation on the Power Switch Oscillator (Q13 and T2) stops, causing the Mag Latch to switch state. The Mag Latch remembers its state mechanically. The output of the Mag Latch is summed with the output of the Overload Time-out to enable or disable the Controller. A shutdown occurs within a few milliseconds and lasts 1 second. The Snubber circuit clamps any voltage that exceeds twice the rectified power line input.

Secondary Side

The secondary circuits include the low voltage output filters and error detection. The Error Amplifier signals the Controller to help regulate the +5 V supply. The 5 V adjustment is in this circuit. The Overvoltage Protection circuit monitors the +5 V supply and grounds the 5 V supply if it rises above 5.5 V. The -5.2 V supply can signal an over-voltage condition through Q21 and ground the 5 V supply. The power supply goes through its start up sequence after this grounding. LED DS6 indicates the 5 V supply is on.

The Output Filters rectify the T1 secondary windings and filters the low voltage outputs. The exception here is the -5.2 V Buck circuit. It provides regulated -5.2 V from the -11 V supply. U10 is the pulse width modulator that operates similar to U6 on the primary side. The 100 kHz out of U10 drives Q18 with a varying duty cycle that produces a DC average out of L10. An input from the +5 V secondary helps synchronize the 100 kHz oscillator to the Primary side.

High Voltage Supply

The High Voltage Power Supply is generated by a sine-wave oscillator and step-up transformer. The main components of the high-voltage oscillator and error amplifier circuit are Q7 and T3, which form an Armstrong oscillator running at about 22 kHz. Error amplifier U2 regulates the +100 V output and keeps the High Voltage Power Supply constant under varying load conditions by controlling the base current to Q7. C26 and Q8 delays the start up of the high-voltage supply until the Low Voltage supply is running.

The CRT cathode supply consists of rectifier CR7 and filtering capacitors. The supply provides -2530 V to the CRT cathode. U1 is a four-times multiplier

providing +11 kV to the CRT anode. The grid is approximately 75 V negative with respect to the cathode.

Low frequency blanking information gets to the CRT grid through an amplitude modulated 200 V_{p-p} sine wave from the anode of CR15. Positive level clipping is set by the CRT Bias adjustment, R53. Negative clipping level is set by the front-panel INTENSITY control through the Z-Axis Amplifier. The clipped sine wave is rectified to a DC voltage proportional to the peak-to-peak amplitude and becomes the CRT control grid bias voltage. DS4 limits the CRT heater to the cathode voltage.

The Z Axis Amplifier takes a signal from the Main board into the junction of R10 and R5, which is the summing junction for the amplifier. It is at +5 V_{DC}. R5 is a feedback resistor, which sets the amplifier gain at 36 V/mA of input current.

Performance Verification

The procedures in this section verify the performance specifications for the WFM 601A, WFM 601E, and WFM 601M waveform monitors. Procedures that apply to only one model indicate this limitation in their titles. Procedures without such limits in their titles apply to all models. Where a procedure, such as Monitor Out Gain Accuracy, differs greatly between models, different versions of the procedure occur sequentially. Choose the one that pertains to the waveform monitor under test. Test equipment used in this procedure should be operating correctly and within calibration.

Perform the Performance Verification procedure at regular intervals to ensure that instrument performance is within tolerance. The recommended interval for performance verification is 2000 hours of operation or every 12 months.

For help on using the Tektronix TG2000/DVG1 generator recommended for this procedure, refer to the information starting on page 5–9.

Equipment Required

The following equipment and accessory items are required to perform the Performance Verification Procedure. Some test equipment is needed to test only a specific model of waveform monitor. Such equipment dependency is included in parentheses following the equipment name.

The equipment listed generally provides an accuracy ratio of 4:1 or better for warranted measurement specifications. The equipment used in two procedures provide a lesser accuracy ratio as follows:

- (WFM 601A, WFM 601E only) Monitor Out Gain Accuracy is 1.5:1
- (WFM 601A only) Audio Bandwidth is 1.5:1

The list includes the equipment specifications and recommended equipment that meets these specifications. The procedures assume you are using the recommended equipment. If you use other equipment, you will need to modify some equipment set up and control settings.

1. Test Oscilloscope

Vertical Amplifier: 400 MHz Bandwidth, 2 mV sensitivity.

For example: Tektronix TDS540A Oscilloscope with TV Trigger option.

2. Oscilloscope Probe

For example: Tektronix P6101B X1 Passive Voltage Probe.

3. Serial Digital Component Television Signal Generator

Output conforms to CCIR 601/SMPTE 125.

For example: Tektronix TG2000 with module DVG1 Option S1.

4. Video Measurement Set

For example: Tektronix 1780 or Tektronix 1781 Video Measurement Set

5. Leveled Sine Wave Generator (WFM 601M, WFM 601E only)

Output Level Range: -11.55 dBm (200 mV) to 0.43 dBm (800 mV).

Frequency: 50 kHz to 450 MHz.

For Example: Tegam SG5030 installed in a TM5006A-Series Power Module.

6. Frequency Counter

Range: 10 Hz to 10 MHz. Accuracy: $\pm 0.001\%$.

For example: Tegam DC 503A installed in a TM5006A-Series Power Module.

7. Function Generator (WFM 601A only)

Range: 10 Hz to 10 MHz. Accuracy: $\pm 0.001\%$.

For example: Tegam FG 503 installed in a TM5006A-Series Power Module.

8. Cable Network

A cable path having a $1/\sqrt{F}$ loss characteristic and a loss of 14.5 dB at 1/2 the serial clock frequency.

For example: 200 meters (656 feet) of Belden 8281 low loss 75 Ω cable.

9. Variable Autotransformer

90 to 260 V AC range.

10. 75 Ω Terminators (4)

Four required. Three should be end-line, two of which are for use on the Serial Inputs. One should be a standard, for use on the External Reference Input. The fourth one should be a feed-through type.

For example: Two 75 Ω end-line terminations, 26 dB to 300 MHz (Tektronix Part No. 011-0163-00) for use on Serial Inputs.

One - 75 Ω , 0.025% accuracy end-line termination (Tektronix Part No. 011-0102-01) for use on the External Reference Input.

One - 75 Ω feed-through termination (Tektronix Part No. 011-0103-02).

11. 75 Ω BNC minimum loss pad (WFM 601E, WFM 601M)

For example: Tektronix Part No. 011-0057-01.

12. Coaxial Cable (3)

Three 75 Ω cables required.

For example: 75 Ω – 42-inch (Tektronix Part No. 012-0159-00).

13. One BNC female to female connector. (WFM 601A only)

For example: Tektronix Part No. 103-0028-00.

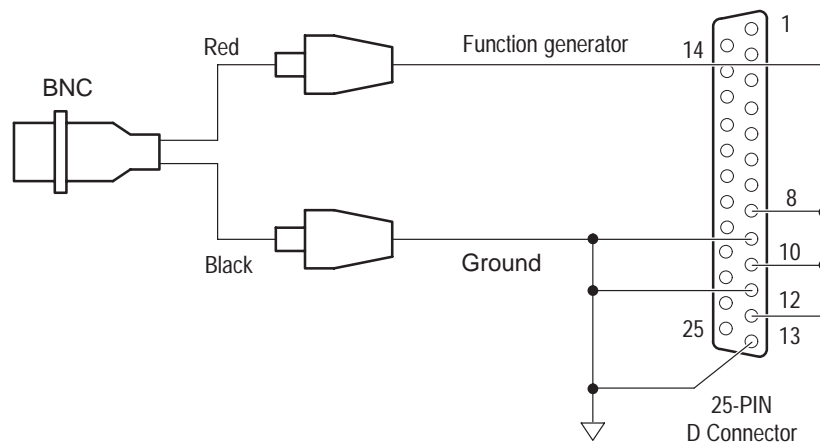
14. Audio Cable Adapter, as shown in Figure 4–1. (WFM 601A only)

Figure 4–1: Audio cable adapter

Calibration Data Report

The Calibration Data Report that follows can be used to document instrument performance. In addition, it can be used as a short form Performance Check for those familiar with the Performance Verification procedure. Only steps that have numeric Performance Requirements are included in this report form (steps 1, 2, and 4 are omitted).



Calibration Data Report

Instrument _____

Cal Date _____

Serial Number _____

Certificate Number¹ _____

Technician _____

Procedure 070-9836-02

Revision Date _____

Step	Operation	Minimum tolerance	Maximum tolerance	Incoming	Outgoing
5	Calibrator Timing Frequency	99990 Hz	100100 Hz		
6	Timing Accuracy/ Linearity	---	---		
6	2-Line (10 μ s/div)	9.9 divs/10 cycles	10.1 divs/10 cycles		
		Over 10 horiz divs, 1 cycle/div \pm 0.5 minor div	---		
6	2-Line Magnified (1 μ s/div)	9.9 div/1 cycle (1 cycle/10 div \pm 0.5 minor div)	10.1 div/1 cycle		
6	1-Line (5 μ s/div)	4.9 divs/5 cycles	5.1 divs/5 cycles		
6	1-Line Magnified (200 ns/div)	9.9 divs/5 cycles	10.1 divs/5 cycles		
		Over 10 horiz divs, 1 cycle/2 major div \pm 0.5 minor div	---		
7	Vertical Gain	686 mV	714 mV		
7	Calibrator Amplitude	693 mV	707 mV		
7	Variable Gain Range	0.2X	1.4X		
7	Serial Output	720 mV	880 mV		
8	Voltage Cursor Accuracy	696.5 mV	703.5 mV		
8	Timing Cursor Accuracy	0.99	1.01		
9	Low-pass Filter Gain	693 mV	707 mV		
10	Frequency Response	686 mV	714 mV		
11	Monitor Out Gain Accuracy (WFM 601M)	693 mV	707 mV		
	Monitor Out Gain Accuracy (WFM 601A, WFM 601E)	679 mV	721 mV		
12	Black (Blanking) Output Level	-35 mV	+35 mV		
13	Vector Horizontal Gain Accuracy	8 major - 0.4 minor div	8 major + 0.4 minor div		
13	Vector Vertical Gain Accuracy	700 mV = 9.9 div	700 mV = 10.1 div		

Step	Operation	Minimum tolerance	Maximum tolerance	Incoming	Outgoing
14	Vector Mode Bandwidth Matching	0° loop opening	≤ 2° loop opening at 500 kHz or 2 MHz		
15	Vector Registration	black dot centered in box	black dot centered in box within ≤ 0.25 of box width		
16	Lightning Vertical Gain Accuracy	9.8 div	10.2 div		
17	Bowtie Interchannel Matching	-2 ns	+2 ns		
18	Arrowhead NTSC Composite	98 IRE 129 IRE	102 IRE 133 IRE		
19	Arrowhead PAL Composite	686 mV	714 mV		
20	RGB Gamut	---	---		
	Positive	728 mV	742 mV		
	Negative	-42 mV	-28 mV		
21	Eye Gain (WFM 601E, WFM 601M)	760 mV	840 mV		
22	Eye Bandwidth (WFM 601E, WFM 601M) 50 kHz to 450 MHz	-3 dB	+1 dB		
23	Eye Timing (Horizontal Deflection Factor) (WFM 601E, WFM 601M)	---	---		
	Overlay	7.178 ns	7.622 ns		
	10-Eye	21.534 ns	22.866 ns		
	Mag On	3.663 ns	3.737 ns		
24	Analog Audio Display Mode (WFM 601A)	-0.5 dB	+0.5 dB		
25	Audio Phasing and Bandwidth (WFM 601A)	≤ 1° (at 20 kHz) -3 dB at ≥ 500 kHz	---		
26	Serial Receiver Equalization Range (800 mV source)	---	Zero errored seconds with up to 19 dB loss at 135 MHz		

¹ Certificate number not provided, unless a "Certificate of Traceability" is issued.

Performance Verification Procedure

Perform the following steps to verify the performance of a waveform monitor:

1. Preliminary Setup

- a. Connect the waveform monitor AC power cord to the variable autotransformer. Set the mains Power switch for the autotransformer to On. Set the autotransformer to the local nominal mains voltage (110 V or 220 V).
- b. Connect a serial digital output from the serial component signal generator to the waveform monitor SER A input. Terminate the remaining side of the loop-through connector with a high-frequency, 75 Ω end-line termination.
- c. Connect a second serial digital output from the serial component signal generator to the SER B input. Terminate the remaining side of the loop-through connector with a high-frequency, 75 Ω end-line termination.
- d. Connect the digital component television generator black burst signal to the waveform monitor EXT REF connector. Connect a 75 Ω end-line termination to the remaining side of the EXT REF loop-through connector.
- e. Turn the waveform monitor front-panel POWER switch on.
- f. Enter the CRT menu and adjust the bezel controls for best viewing of the display. Exit the CRT menu.
- g. To set the waveform monitor to the factory settings, press the PRESET button, select FACTORY, and press the RECALL bezel button.

2. Power Supply Operation

REQUIREMENT – Stable operation over an AC input range of 90 – 250 V.

- a. Vary the autotransformer from low-line to high-line voltage (90 – 132 V for 110 V, or 180 – 250 V for 220 V operation).
- b. **CHECK** – for stable instrument operation over the prescribed voltage range, 90 – 132 V for 110 V, or 180 – 250 V for 220 V.
- c. Set the autotransformer to the nominal mains voltage.

3. Trace Rotation Range and Graticule Illumination

REQUIREMENT – Rotation of $> \pm 1^\circ$ from the horizontal.

- a. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- b. Enter the CRT menu and select TRACE.
- c. Position the trace to the graticule baseline.
- d. **CHECK** – that the TRACE ROTATE control moves the trace $> \pm 1^\circ$ from the graticule baseline.
- e. Adjust the TRACE ROTATE control for a level trace across the graticule baseline.
- f. From the CRT menu, select DISPLAY.
- g. **CHECK** – that the SCALE control changes the graticule illumination from completely off to fully illuminated.
- h. Adjust the SCALE control for the desired graticule illumination.
- i. Exit the CRT menu.

NOTE. Intensity, readout intensity, and focus are also controlled from the CRT menu. If they need adjustment during this procedure, select the CRT menu and adjust as necessary. The levels set will remain after the CLEAR MENU or CRT menu button is pushed.

4. Horizontal Mag Registration and Position Range

REQUIREMENT – Any portion of the synchronized sweep can be positioned on-screen in all sweep modes.

- a. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- b. Horizontally center the display, then press the MAG Line/Sweep button to turn on horizontal magnification.
- c. **CHECK** – that the center of the trace is displayed with MAG on.

- d. **CHECK** – by adjusting the HORIZ POS control that both ends of the waveform can be positioned past the center of the CRT.
- e. Turn off the MAG Sweep.

5. Calibrator Timing Frequency

REQUIREMENT – Frequency: 100 kHz \pm 0.1%.

- a. Set the Frequency Counter Timing to 1 μ s.
- b. Connect an X1 probe from the frequency counter to the ribbon cable side of A3R274 (Main board). See Figure 5–6 on page 5–16 in the *Adjustment Procedure* section.
- c. Connect the probe ground to the metal shield adjacent to A3L5 on the Main board.
- d. Adjust the frequency counter settings for a stable readout.
- e. **CHECK** – that the counter reading is 100 kHz \pm 0.1 kHz.
- f. Remove the ground connection and the frequency-counter probe from A3R274.

6. Timing and Linearity

REQUIREMENT – Sweep Timing Accuracy: 5 μ s/div (1 Line), 10 μ s/div (2 Line), 0.2 μ s/div (1 Line + MAG), 1.0 μ s/div (2 Line + MAG), \pm 1%.
Sweep Linearity: 1 Line and 2 Line sweeps unmagnified or magnified, \pm 1%.

- a. Press the WAVEFORM display button.
- b. Enter the CONFIG menu and select CALIBRATE.
- c. Select CAL SIG ON. Ensure that the VAR GAIN bezel button is OFF.
- d. Push the SWEEP button several times to select the 2-Line Sweep mode. The LINE indicator is on and the time base readout indicates 10 μ s/div.
- e. Press the CRT button and adjust the Scale bezel knob to increase scale illumination to a useful level.
- f. Press the Clear Menu button.
- g. Use the VERT POS and VERT HORIZ knobs to position the calibration waveform on the horizontal graticule line for measurement.
- h. **CHECK** – for one cycle of the calibrator signal per major division \pm 0.5 minor division over the 10 major graticule divisions.
- i. Turn on the MAG Sweep.

- j. **CHECK** – for one cycle of calibrator signal per 10 major divisions ± 0.5 minor division over the center 10 divisions.
- k. **CHECK** – both ends of the magnified sweep for one cycle of calibrator signal per 10 major divisions ± 0.5 minor division over the center 10 divisions.
- l. Turn off the MAG Sweep and select 1 LINE SWEEP ($5 \mu\text{s}/\text{div}$) and Line indicator on.
- m. **CHECK** – for one cycle of calibrator signal per two major divisions ± 1 minor division over the center 10 divisions.
- n. Press CONFIG menu to turn the calibrator signal off.
- o. Select the high-frequency timing signal (2.5 MHz) from the serial component generator.
- p. Turn on the MAG Sweep.
- q. **CHECK** – for one cycle per two divisions ± 0.5 minor division.
- r. Turn off the MAG Sweep.

7. Vertical Gain, Calibrator Amplitude, and Variable Gain Range

REQUIREMENT – 700 mV input = 700 mV $\pm 2\%$. Calibrator Amplitude: 700 mV $\pm 1\%$. Variable Gain Range: 0.2X to 1.4X. Serial Output Level = 800 mV $\pm 10\%$.

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- b. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- c. **CHECK** – that the signal display is 700 mV ± 14 mV (1 minor division equals 20 mV).
- d. Select the Serial B input.
- e. **CHECK** – that the signal display is 700 mV ± 14 mV (1 minor division equals 20 mV).
- f. Connect a 75Ω coaxial cable, from the waveform monitor rear-panel SERIAL OUT connector through a 75Ω feed-through termination to the test oscilloscope vertical input.

- g. CHECK** – the vertical amplitude on the scope display is from 0.72 to 0.88 volts.
- h.** Remove the cable from the SERIAL OUT connector.
- i.** Enter the GAIN menu and select VARIABLE gain.
- j.** Select X5 and adjust VAR GAIN to make the last step of the color bar staircase 4 divisions high.
- k.** Select X10 gain.
- l. CHECK** – that the last step of the color bar staircase is now eight divisions in amplitude.
- m.** Select X5 gain.
- n. ADJUST** – the VAR GAIN control for a seven division signal amplitude (Variable gain should still be on from step i).
- o.** Select X1 gain.
- p.** Adjust the VAR GAIN for maximum signal amplitude.
- q.** Position the bottom of the display to the –0.3 graticule line.
- r. CHECK** – for a display amplitude of ≥ 9.8 divisions (–0.3 to +0.68).
- s.** Turn VARIABLE OFF and exit the GAIN menu.
- t.** Enter the CONFIG menu and select CALIBRATE. Turn CAL SIG ON. Press the CLEAR MENU button to turn off the readout.
- u. CHECK** – for a calibrator signal display of $700 \text{ mV} \pm 7 \text{ mV}$.
- v.** Press the CONFIG button, and turn CAL SIG OFF.
- w.** Press the CLEAR MENU button.

8. Voltage and Timing Cursors

REQUIREMENT – Voltage Accuracy: $\pm 0.5\%$. Timing Accuracy $\pm 1\%$.

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- b. Set the signal bottom (blanking level) on the CRT graticule baseline.
- c. Ensure that the sweep rate, located in the upper right of the display, indicates $10 \mu\text{s}/\text{div}$. If not, press the Line/Select button to select the correct sweep rate.
- d. Enter the CURSOR menu (VOLT should be selected). Press the CLEAR MENU button if desired to remove the menu readout.
- e. Set the VOLT1 cursor to the 0.7 V line on the graticule.
- f. Set the VOLT2 cursor to the graticule baseline (0 V).
- g. **CHECK** – that the cursor reading, ΔV , is 697 to 703 mV.
- h. Go to the CURSOR MENU and select TIME.
- i. Set the Time1 cursor to the graticule left cardinal mark, and set the Time2 cursor to the graticule right cardinal mark. See Figure 4–2.

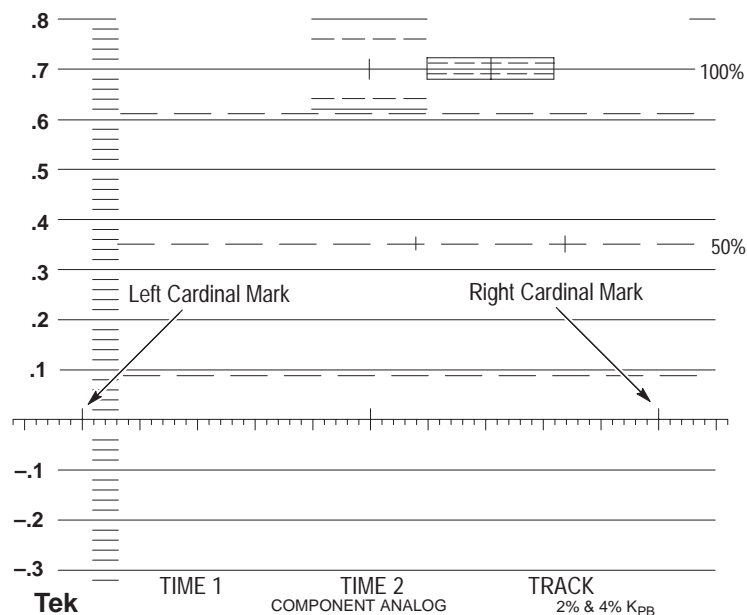


Figure 4–2: Timing cursors

- j. **CHECK** – that the cursor reading, ΔT , is 99 to 101 μs .
- k. Exit the CURSOR menu.

9. Low-pass Filter Gain

REQUIREMENT – Low Pass Filter Gain: $1 \pm 1\%$.

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- b. Turn off CH 2 and CH 3 on the waveform monitor.
- c. Set the serial component generator output to the 60% Multiburst signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Frequency Resp
Frequency Resp	60% Multiburst

- d. Select the LPASS filter by pressing the FILTER button and the LPASS bezel button.
- e. Select a One Line Sweep display (5 $\mu\text{s}/\text{div}$).
- f. **CHECK** – that the peak-to-peak amplitude of the second packet or burst from the left is $> 300 \text{ mV}$.
- g. Enter the GAIN menu and set the gain for X5.
- h. **CHECK** – that the peak-to-peak amplitude of packets five and six (from the left) are $< 4 \text{ mV}$ (1 minor division).
- i. Select the FLAT filter in the Filter menu.
- j. Select the Pulse and Bar signal from the serial component generator.
- k. With the VERT POS bezel knob, center the baseline of the signal on the 0 V graticule line. Gain is still at X5.
- l. Press the CURSOR menu button.
- m. Use the VOLT2 bezel knob to place the VOLT2 cursor on the baseline of the signal.
- n. Rotate the VERT POS bezel knob counterclockwise to bring the top of the square pulse onto the CRT. Place the top of the square pulse on the .7 V graticule line.
- o. Use the VOLT1 bezel knob to place the cursor on the top line of the square pulse.
- p. Record the cursor voltage reading.

- q. Select the LPASS filter.
- r. Remeasure the square pulse amplitude with the Cursors by repeating steps m through p.
- s. **CHECK** – that the LPASS voltage is within $\pm 1\%$ (± 7 mV for a 700 mV signal) of the FLAT filter voltage reading.

10. Frequency Response On Screen

REQUIREMENT – Luminance (Y) to 5.0 MHz $\pm 2\%$.
Chrominance (P_b and P_r) to 2.5 MHz $\pm 2\%$

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- b. Select the 100% Sweep signal on the TG2000.
- c. Select the following on the waveform monitor:
PARADE display mode, CH 1, CH 2, CH 3 on, and One Line Sweep (5 μ s/div).
- d. **CHECK** – that all three channel waveforms are within 2%, 14 mV.

11. Monitor Out Gain Accuracy (WFM 601M only)

REQUIREMENT – Active Video Gain: 700 mV $\pm 1\%$

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- b. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- c. Connect the output from the MON OUT Y/G connector to the CH A input on the 1780/81 R.
- d. Connect the black burst output from the digital component signal generator to the waveform monitor EXT REF loop-through input.
- e. Connect the other EXT REF loop-through connector to the 1780/81R Ext Ref input.

- f. Select the following on the 1780/81:

INPUT	CH A
FILTER	FLAT
REF	EXT
RIGHT DISPLAY	WFM+CAL
WFM HORIZONTAL	TWO LINE
GAIN	X1

- g. Select the Configure Menu on the 1780/81. Set the FIXED CAL AMPL to 700, then select page 2 and set the ABS UNITS to mV and set the CAL to VAR.
- h. Position the display so the Peak White and blanking level are visible on the 1780/81.
- i. Adjust the large knob on the 1780/81 until the Peak White and blanking of the chopped display are matched. Use X5 Gain for better resolution.
- j. **CHECK** – that the CAL read out on the 1780/81 is 693 mV to 707 mV.
- k. Move the 75 ohm cable on the waveform monitor Y/G MON OUT connector to the MON OUT P_b/B connector.
- l. Adjust the large knob on the 1780/81 until the Peak P_b level and negative going level of the chopped P_b display are matched.
- m. Adjust the vertical position to place the chopped display on the 0 IRE (0 mV PAL) line on the 1780/81 R.
- n. **CHECK** – that the CAL read out on the 1780/81 is 693 mV to 707 mV.
- o. Move the 75 ohm cable from the P_b/B MON OUT to the P_r/R MON OUT.
- p. Adjust the vertical position to place the chopped display on the 0 IRE (0 mV PAL) line on the 1780/81 R.
- q. Adjust the large knob on the 1780/81 until the Peak P_r level and negative going level of the chopped P_r display are matched.
- r. **CHECK** – that the CAL read out on the 1780/81 is 693 mV to 707 mV.
- s. Disconnect the cable from the MON OUT P_r/R.

11. Monitor Out Gain Accuracy (WFM 601A, WFM 601E only)**REQUIREMENT** – Active Video Gain: 700 mV \pm 3%

- t. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- u. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- v. Connect the output from the MON OUT Y/G connector, through a 75 Ω feed-through termination, to Ch 1 of the test oscilloscope.
- w. Adjust the test oscilloscope to obtain a stable, triggered display.
- x. **CHECK** – the test oscilloscope for a signal amplitude of 679 to 721 mV, excluding sync.
- y. Move the 75 Ω cable from the MON OUT Y/G connector to the MON OUT P_b/B connector.
- z. **CHECK** – the test oscilloscope for a maximum peak-to-peak signal amplitude of 679 to 721 mV peak-to-peak.
- aa. Move the 75 Ω cable from the to the MON OUT P_b/B connector to the MON OUT P_r/R connector.
- ab. **CHECK** – for an overall maximum peak to peak signal amplitude of 679 to 721 mV_{pp}.
- ac. Disconnect test oscilloscope cable from MON OUT P_r/R.

12. Black (Blanking) Output Level (WFM 601M only)**REQUIREMENT**– 0 mV \pm 35 mV

- a. Connect a 75 ohm cable from the Y/G MON OUT connector on the waveform monitor, through a 75 ohm feed-through termination, to the test oscilloscope CH 1 vertical input.
- b. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- c. Select the following on the test oscilloscope.

Coupling	DC
Volts/Div	50 mV
Trig Source	CH 1
Sweep	10 μ s

- d. Adjust the trigger on the test oscilloscope for a locked display.
- e. Select Ground on the test oscilloscope CH 1 input and adjust the trace to the center line on the graticule.
- f. Select DC coupling on test oscilloscope CH 1 input.
- g. **CHECK** – that the Black (blanking) Level is ± 35 from the ground reference.
- h. Repeat steps d through g after moving the 75 ohm cable on the waveform monitor Y/G MON OUT to each of the P_b/B and P_r/R MON outputs.
- i. Remove the cable from the P_r/R MON OUT connector on the waveform monitor.

13. Vector Horizontal and Vertical Gain Accuracy

REQUIREMENT – Vertical: 700 mV = 10 divisions of deflection $\pm 1\%$;
 Horizontal: 700 mV = 8 divisions of deflection $\pm 1\%$.

- a. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- b. Select VECTOR VIDEO DISPLAY.
- c. Turn off the generator B–Y output. See page 5–11 for instructions on turning off the TG2000/DVG1 outputs.
- d. Vertically position the display between the – 0.3 and 0.7 graticule lines.
- e. **CHECK** – for 10 divisions of deflection ± 0.5 minor divisions.
- f. Turn on the serial component generator B–Y output.
- g. Turn off the serial component generator R–Y output.
- h. Horizontally and vertically position the display over the center eight divisions of the graticule 0 line.
- i. **CHECK** – for 8 divisions of horizontal deflection, ± 0.4 minor divisions.

14. Vector Mode Bandwidth Matching

REQUIREMENT – Horizontal-to-Vertical Bandwidth Matching: $\leq 2^\circ$ loop opening at 500 kHz or 2 MHz.

- a. Set the serial component generator output to the 60% Multiburst signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Frequency Resp
Frequency Resp	60% Multiburst

- b. Turn on the serial component generator R–Y signal.
- c. **CHECK** – for $\leq 2^\circ$ (less than a trace width) of loop opening.

15. Vector Registration

REQUIREMENT – ≤ 0.25 box width with the X1 color black dot centered in box.

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- b. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- c. Select the VECTOR VIDEO DISPLAY.
- d. **CHECK** – that the center dot (the color black dot) is centered in its box within $\frac{1}{4}$ of the box width.
- e. Enter the GAIN menu and select X1.
- f. **CHECK** – that every dot is within its target box.

16. Lightning Mode

REQUIREMENT – Proper Lightning Display, Vertical Gain Accuracy: $\pm 2\%$.

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- b. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- c. Select the Vector Display on the waveform monitor.
- d. Press the lower bezel button to select the Lightning display.
- e. **CHECK** – for dots in all targets.

17. Bowtie Interchannel Matching

REQUIREMENT – Null must occur within ± 2.0 ns of center marker.

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- b. Select the high-frequency (2.5 MHz) Bowtie timing signal from the serial component generator.
- c. Turn on the waveform monitor Bowtie display.
- d. Turn on SWEEP MAG.
- e. Position the waveform to place the null and center marker of the Bowtie display on the graticule area. See Figure 4–3.

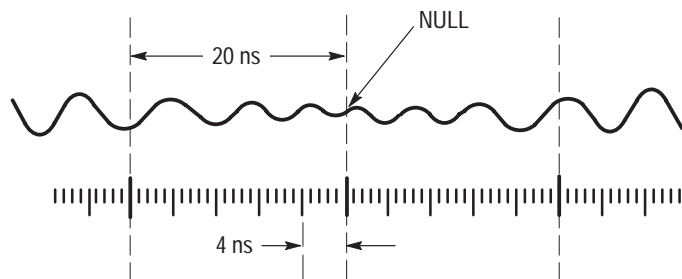


Figure 4-3: HF Bowtie magnified to measure null offset

- f. **CHECK** – that the Bowtie null point occurs within 0.5 divisions (2.0 ns) of the Bowtie center marker.

18. Arrowhead NTSC Composite

REQUIREMENT – Signal to graticule accuracy: $\pm 2\%$ at 100 and 131 IRE.

- a. Connect the TG2000/DVG1 output cable to SER Ch A input and terminate with a 75 ohm high-frequency terminator.
- b. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- c. Select the GAMUT display on the waveform monitor.
- d. **CHECK** – for two bright dots on the 131 IRE line $\pm 2\%$. See Figure 4-4.

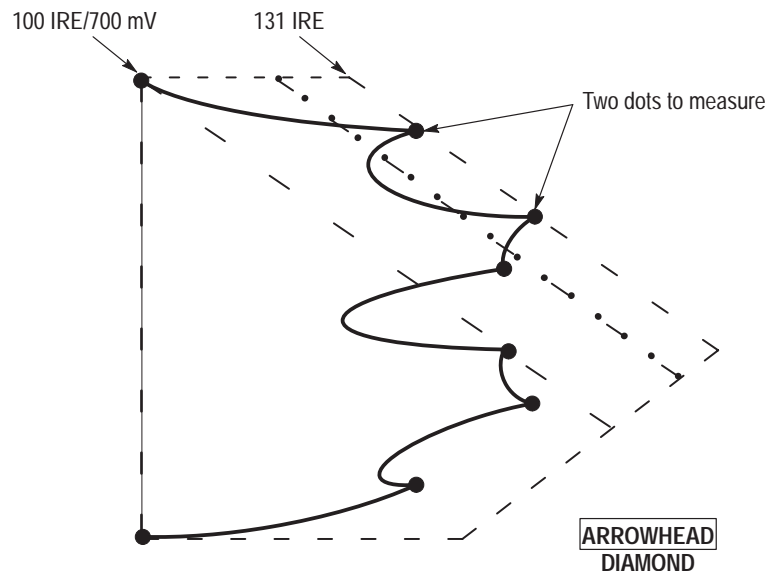


Figure 4-4: Arrowhead gamut check

- e. Select Active Signal Parameters on the serial component generator touch screen.
- f. Select VIDEO on the serial component generator touch screen.

- g. Adjust the Active Video Gain using the knob on the serial component generator to verify signal to graticule accuracy. The two dots should be centered on the 131 IRE line with video gain set to 100% \pm 2% (98 to 102%).
- h. Select GAMUT (IRE) 100 on the waveform monitor.
- i. Set Active Video Gain to 75% by typing 75 and ENTER on the serial component generator key pad.
- j. **CHECK** – for two bright dots on 100 IRE line \pm 2%.
- k. Adjust the Active Video Gain using the Navigation Knob on the serial component generator to verify signal to graticule Accuracy, 75% \pm 2% (or 73.5 to 76.5%).
- l. Select RESET on the serial component generator touch screen.
- m. Select the Signal Sets button on the serial component generator.

19. Arrowhead PAL Composite

REQUIREMENT – Signal to graticule accuracy: \pm 2% for 700 mV.

- a. Connect a 75 ohm cable from the serial component generator output to SER Ch A input and terminate with a 75 ohm high-frequency terminator.
- b. Press the serial component generator Signal Set button, then use the touch screen to select the 625–270 Signal Set for the DVG1 module.
- c. Select the 100% Colour Bars signal on the serial component generator touch screen.
- d. Select Active Signal Parameters on the serial component generator touch screen.
- e. Select Video on the serial component generator touch screen.
- f. Set Active Video Gain to 75% by typing 75 and ENTER on the serial component generator key pad.
- g. Select the GAMUT display on the waveform monitor.
- h. **CHECK** – for two bright dots on the 700 mV line \pm 2%. See Figure 4–4.
- i. Select Active Signal Parameters on the serial component generator touch screen.
- j. Select VIDEO on the serial component generator touch screen.
- k. Adjust the Active Video Gain using the knob on the serial component generator to verify signal to graticule accuracy. The two dots should be

centered on the 700 mV line with video gain set to 75% \pm 2% (73.5 to 76.5%).

- l. Select RESET on the serial component generator touch screen.
- m. Select the Signal Sets button on the serial component generator.

20. RGB Gamut limit

REQUIREMENT – Positive detection level = 735 mV \pm 7 mV.
Negative detection level = –35 mV \pm 7 mV.

- a. Set the serial component generator output to the Gamut Limit signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Monitor
Monitor	Gamut Test

- b. Connect a 75 Ω cable through a 75 Ω feed-through termination, from the Y/G MON OUT on the waveform monitor to the test oscilloscope CH 1 vertical input.
- c. Select the Gamut display mode on the waveform monitor.
- d. Enter the Config Gamut menu and set GAMUT CHECK to RGB and ALARM DISP to BOTH.
- e. Select the following parameters on the test oscilloscope.

Coupling	DC
Volts/Div	100 mV
Trig Source	CH 1
Sweep	10 μ s

- f. Adjust the trigger level for a locked display.
- g. Use Vert position on the test oscilloscope to view the top of the waveform.
- h. **CHECK** – that the positive gamut strobe pulse is flashing at the center \pm one minor division.
- i. Use Vert position on the test oscilloscope to view the bottom of the waveform.
- j. **CHECK** – that the negative gamut strobe pulse is flashing at the center \pm one tic mark.
- k. **CHECK** – that an RGB ERR appears at the lower left on the waveform monitor display.

21. Eye Gain (WFM 601E, WFM 601M only)

REQUIREMENT – 800 mV \pm 5% with a 800 mV signal.

- a. Connect the leveling head from the leveled sine wave generator to a 75 Ω minimum loss pad. Connect the remaining side of the pad to the SER B input of the waveform monitor.
- b. Terminate the channel B loop-through input with a high-frequency, 75 Ω terminator.
- c. Connect the Black Burst output from the serial component generator to the waveform monitor Ext Ref input. See page 5–11 for instructions on connecting the black burst signal.
- d. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- e. Select the Eye display mode and the SERIAL B input.
- f. Press the waveform monitor REF button and note that EXT indicator lights.
- g. Set the following parameters on the leveled sine wave generator:

Output Head	ON
Frequency	4 MHz
Amplitude	1.26 V

- h. **CHECK**– for an amplitude of 800 mV \pm 5% (760 to 840 mV).

22. Eye Bandwidth (WFM 601E, WFM 601M only)

REQUIREMENT – 50 kHz to 450 MHz: –3 dB to +1 dB.

- a. Connect the leveling head from the leveled sine wave generator to a 75 Ω minimum loss pad. Connect the remaining side of the pad to the SER B input of the waveform monitor.
- b. Terminate the channel B loop-through input with a high-frequency terminator.
- c. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- d. Select the Eye display mode and the SERIAL B input.
- e. Set the following parameters on the leveled sine wave generator:

Output Head	ON
Frequency	10 MHz
Amplitude	632 mV

- f. Adjust the leveled sine wave generator amplitude for a 400 mV display on the waveform monitor.
- g. Set the leveled sine wave generator frequency to 50 kHz.
- h. **CHECK** – that the amplitude on the waveform monitor is greater than 280 mV and less than 450 mV.
- i. Set the leveled sine wave generator frequency to 270 MHz.
- j. **CHECK** – that the amplitude on the waveform monitor is greater than 280 mV and less than 450 mV.
- k. Set the leveled sine wave generator frequency to 450 MHz.
- l. **CHECK** – that the amplitude on the waveform monitor is greater than 280 mV and less than 450 mV.
- m. Disconnect the leveling head from the waveform monitor.

23. Eye Timing (Horizontal Deflection Factor) (WFM 601E, WFM 601M only)

REQUIREMENT – Overlay Mode: 1 ns/div $\pm 3\%$. 10-Eye Mode: 3 ns/div $\pm 3\%$. Mag On: 500 ps/div $\pm 3\%$.

- a. Connect the serial component generator to the waveform monitor SER A input and terminate the 75 ohm loop-through input.
- b. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- c. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- d. Select the EYE display mode.
- e. Enter the CURSOR menu and select the TIME cursors.
- f. **CHECK** – using the timing cursors that two cycles of the Eye pattern is 7.4 ns $\pm 3\%$ (7.178 to 7.622 ns).
- g. Press the MAG button.
- h. **CHECK** – using the timing cursors, that one cycle of Eye pattern is 3.7 ns $\pm 3\%$ (3.663 to 3.737 ns).
- i. Press the MAG button to turn off magnification.

- j. Enter the CONFIG menu, select EYE PATTERN, then DISPLAY 10 EYE. Press the CONFIG button.
- k. **CHECK** – using the timing cursors that six cycles of Eye pattern are 22.22 ns \pm 3% (21.534 to 22.866 ns).

24. Analog Audio Display Mode (WFM 601A only)

REQUIREMENT – Audio Mode Full Scale Accuracy: \pm 0.5 dB.

- a. Connect the function generator output using the audio remote cable adapter to the waveform monitor rear-panel REMOTE INPUT connector pins 8 and 10. Ground pins 9 and 11 of the REMOTE INPUT connector.
- b. To load the factory preset, press the PRESET button, use the bezel knob to pick the FACTORY setting, then press the RECALL bezel button.
- c. Select the ANALOG AUDIO display button.
- d. Enter the GAIN menu and select 0 dBu.
- e. Center the display dot using the VERT and HORIZ POS bezel knobs.
- f. Set the function generator for a sinewave output. Set the frequency to 1 kHz and the amplitude to 2.19 V.
- g. **CHECK** – that both trace ends are on the audio box cross hairs.
- h. Repeat steps c through g for each Gain and signal amplitude setting in Table 4–1.

Table 4–1: Audio values

Gain	Signal amplitude (V _{pp})
0 dBu	2.19 V
4 dBu	3.47 V
8 dBu	5.50 V
12 dBu	8.71 V

25. Audio Phasing and Bandwidth (WFM 601A only)

REQUIREMENT – X/Y Input Phase Match: $\leq 1^\circ$ (at 20 kHz).
Audio Bandwidth: -3 dB at ≥ 500 kHz.

- a. Enter the GAIN menu and select 0 dBu.
- b. Set the function generator for a sinewave output. Set the frequency to 20 kHz and the amplitude to 2.19 V.

- c. Move the waveform onto the audio graticule using the VERT and HORIZ POS bezel knobs. Make sure that both ends of the trace are within the $1/2$ dB target boxes.
- d. **CHECK** – for no more than a trace width of eye opening in the audio signal (1%).
- e. Set the function generator frequency to 500 kHz.
- f. Disconnect the signal from pin 8 of the rear-panel REMOTE connector.
- g. **CHECK** – for a horizontal line greater than 5.6 divisions long.
- h. Reconnect the signal to pin 8 and disconnect it from pin 10 of the rear panel REMOTE connector.
- i. **CHECK** – for a vertical line greater than 7 divisions long.
- j. Remove the function generator signal from the REMOTE connector.

26. Serial Receiver Equalization Range

REQUIREMENT – Proper operation with up to 19 dB loss at 135 MHz using coaxial cable having $1/\sqrt{F}$ loss characteristics (800 mV launch amplitude).

- a. To load the factory preset, press the PRESET button, use the bezel knob to pick FACTORY, then press the RECALL bezel button.
- b. Connect 200 meters (656 feet) of Belden 8281 coaxial cable from the signal generator Serial Output 1 to the waveform monitor SER A INPUT. Terminate the remaining side of the loop-through input with a high frequency terminator.
- c. Set the serial component generator output to the 100% Color Bars signal:

Modules	DVG1
Signal Sets	525–270
Test Signals	Color Bars
Color Bars	100% Color Bars

- d. **CHECK** – that a video waveform appears.
- e. Press the waveform monitor SERIAL button.
- f. **CHECK** – that the EDH readout appears on screen.
- g. Press the Serial menu RESET button.
- h. Allow the instrument to run for at least 2.5 minutes.
- i. **CHECK** – that the Errored Seconds, on screen, is zero.

- j.** Press the CLEAR MENU button.
- k.** Move the Belden cable and terminator to the SER B INPUT.
- l.** Select SERIAL B.
- m.** Repeat steps d through i for the Serial B input.

You have completed the Performance Check procedure.

Adjustment Procedures

This section describes how to calibrate the waveform monitor to meet the performance levels defined in the *Specifications* section. These procedures require that you use the Adjustment Procedure software on the 3.5 inch disk included with this manual.

This section is organized as follows:

- Equipment Required
- Using the Adjustment Software
- Using the TG2000/DVG1 Opt S1 Generator
- Adjustment Procedure
- Circuit Board Adjustment Locations
- Adjustment Procedure Illustrations
- TV Generator Test Signals

Equipment Required

The following equipment and accessory items are required to perform the adjustment procedures. The list includes the equipment specifications and recommended equipment that meets these specifications. The procedure is written assuming you are using the recommended equipment. If you use other equipment, you will need to modify some equipment set up and control settings.

1. MSDOS Compatible PC

DOS 3.3 or higher.
Minimum 640 kbytes of RAM
3.5 inch/1.44 Mbytes high-density floppy drive
Free RS-232 Port

2. Test Oscilloscope with 1X and 10X probes

Vertical Amplifier:
300 MHz Bandwidth, 2 mV Sensitivity.
Time Base:
10 ns/div to 5 ms/div sweep, triggering to 150 MHz.

For example: Tektronix TDS540A Oscilloscope with TVTrig option and P6109B 10X and P6119B 1X probes.

3. Digital Serial Component Television Signal Generator

For example: Tektronix TSG-422 Digital Component Generator, Option 1S.

4. Precision Digital Component Television Signal Generator

For example: Tektronix TG2000 Television Generator Platform with Digital Video Generator module DVG1 with Jitter Option S1. Table 5-1 on page 5-5 lists the the procedures that require this generator.

The TG2000 is suitable for all Adjustment Procedures in place of the TSG-422 Television Signal Generator.

5. Video Measurement Set (WFM 601M only)

For example: Tektronix 1780 or Tektronix 1781 Video Measurement Set

6. Leveled Sine Wave Generator

Output Level Range: -11.55 dBm (200 mV) to 0.43 dBm (800 mV).
Frequency: 50 kHz to 450 MHz.

For example: Tegam SG5030 installed in a Tegam TM5006A-Series Power Module.

7. Function Generator (WFM 601A only)

Range: 10 Hz to 10 MHz. Accuracy: $\pm 0.001\%$.

For example: Tegam FG 503 installed in a TM5006A-Series Power Module.

8. Volt Meter

Range: 0 to $> 100 V_{DC}$. Accuracy: $\pm 0.3\%$.

For example: Tektronix DMM247 Digital Multimeter.

9. Cable Network

A cable path having a $1/\sqrt{F}$ loss characteristic and a loss of 14.5 dB at 1/2 the serial clock frequency.

For example: 100 meters (328 ft) of Belden 8281 low loss 75 Ω cable.

10. 75 Ω BNC minimum loss pad

For example: Tektronix Part No. 011-0057-01.

11. 75 Ω Terminators

Six required; Two high-frequency (HF), end-line type
Four feed-through type

For example:

High frequency, 0.025% 75 Ω terminator (Tektronix Part 011-0163-00).
Feed-through, 75 Ω terminator (Tektronix Part 011-0103-02).

12. Coaxial Cable

Two high-quality 75 Ω cables and one 50 Ω cable required.

For example:

75 Ω – 42-inch (Tektronix Part 012-0074-00).
50 Ω – 42-inch (Tektronix Part 012-0057-01).

13. Jumper Cable Adapter

Figure 5–1 shows how this two-wire cable is connected. The BNC signal lead connects to pin 1 on the plug jumper.

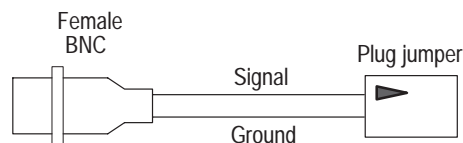


Figure 5–1: Jumper cable adapter

14. Audio Cable Adapter, as shown in Figure 4–1 on page 4–3. (WFM 601A only)

15. RS-232 Cable

The RS-232 cable provides the remote control connection between the PC and the waveform monitor. Figure 5–2 depicts two possible configurations for PC/waveform monitor remote communications.

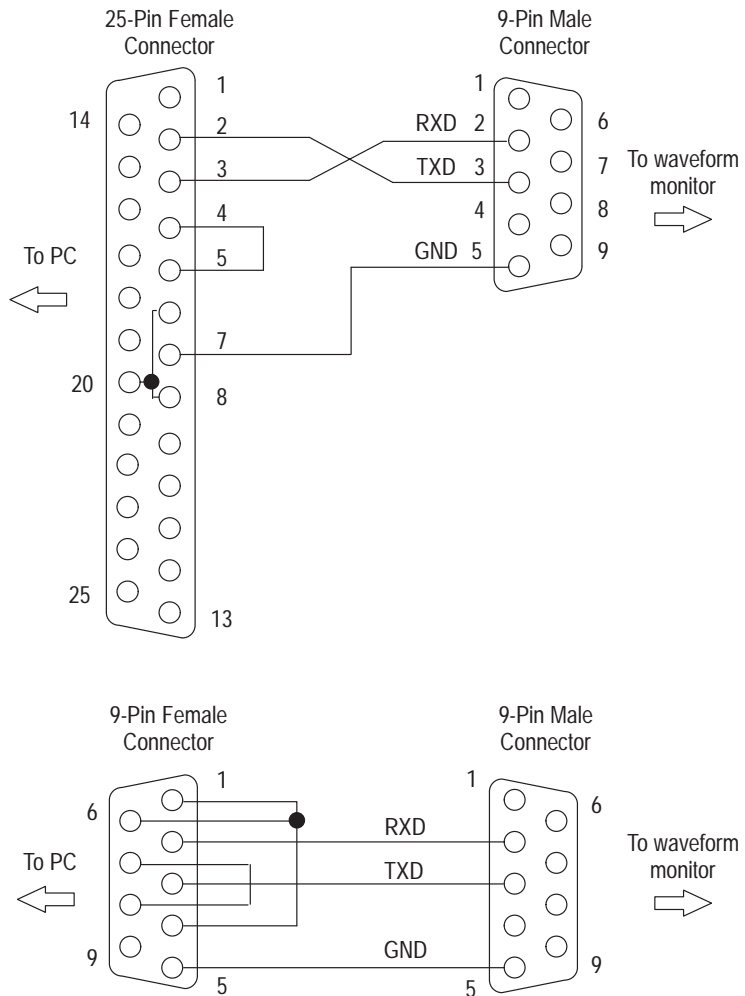


Figure 5-2: Minimum configurations for remote communications

Where Special Equipment is Used

Two, high-precision test instruments are recommended in a few adjustment procedures. Table 5–1 lists the special test equipment and the procedures where they are used. In all cases, the special equipment is required due to the measurement accuracy required to verify a specification.

Table 5–1: List of special equipment and where it is used

Equipment	Procedure where used
Tektronix TG2000/DVG1 Opt S1	Y/G Monitor Out Gain EQEye Gain Jitter Null Adjust Jitter Gain Arrowhead NTSC Composite Arrowhead PAL Composite
Tektronix 1780/81	Y/G Monitor Out Gain (WFM 601M only)

Using the Adjustment Software

The Adjustment Software is a DOS program on a 3.5 inch disk included with this manual. The floppy disk contains the Adjustment Procedure software which you use to return the instrument to its performance specifications. You should either make a copy of the Adjustment Software disk or copy the Adjustment Software onto a system hard disk.

The software requires an IBM compatible PC with a DOS 3.3 or higher and a 3.5-inch high density floppy disk drive.

While you are running the Adjustment Software, you will make some adjustments using the arrow keys on the PC. Such adjustment steps follow the adjustment name with “(PC)”. For example, a PC key adjustment might resemble the following line:

ADJUST – X10 V GAIN (PC) to reduce the waveform to a horizontal line.

Installing the Software

To install the Adjustment Software, copy it to a floppy disk or a hard disk and run it from that source. To make a copy of the Adjustment Software, use the following procedure:

1. Insert the Adjustment Procedures disk into the PC floppy drive. If you wish to make a copy, place a formatted disk in second floppy drive, such as the B drive.

NOTE. On your PC, the drive letter for the floppy drive may be A or B. Enter the appropriate letter for your floppy drive in the following steps.

2. At the DOS prompt, enter the copy command
For example, `copy A:*. * B: <RETURN>`
3. To copy the files to a hard disk (disk C here) enter the following commands:
`mkdir cal601` (or any valid directory name)
`copy A:*. * C:\cal601`

Starting the Adjustment Software

Use the following steps to start the Adjustment Procedure software:

1. Open a DOS window.
2. Change to the drive containing the software by entering the drive letter followed by a colon. For example, `A:.`
3. If you installed the Adjustment Software into a directory, change to that directory. For example, `cd c:\cal601.`
4. Ensure the RS-232 cable is connected between the PC and the waveform monitor and that your PC is configured with the communications parameters indicated in Table 6–10, on page 6–38.
5. Power on the waveform monitor.
6. To start the Adjustment Software, type `CAL` and press the Return key.
7. The program begins by prompting you for a few configuration parameters before beginning the adjustment steps.

Display Features

The Adjustment Software provides a graphic user interface and assigns a number of special keys to simplify calibration. Figure 5–3 shows an example display.

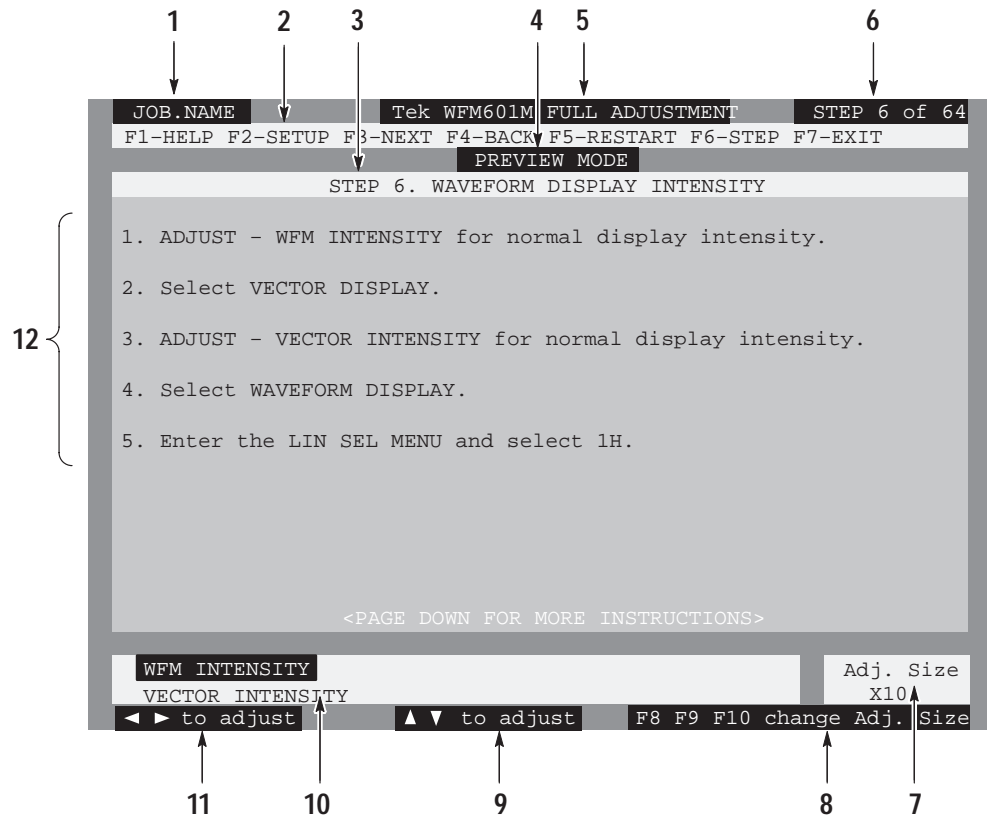


Figure 5–3: Typical display of the adjustment procedures

The display features are as follows:

1. The job name box appears only when the current procedure is a job you saved and have loaded and resumed.
2. The function key box lists the active function keys that provide program control during the adjustment procedure. The keys function as described in the following list:
 - F1.** Displays the Help Menu.
 - F2.** Displays the Setup Window. The Setup window details the initial equipment connections for that particular step. Only those connections listed in the Setup Window should be in place when the step is started. All other connections from previous steps should be removed.
 - F3.** Advances the Adjustment Procedures program to the next step.

F4. Returns the Adjustment Procedures program to the previous step.

F5. Returns the Adjustment Procedures program to the beginning of the current step. All front-panel settings and internal instrument settings are returned to their former state (the same state they were in when the current step was started).

F6. Displays the Select Step window. The Select Step window allows the user to select any step in the procedure. The current step is highlighted when the window opens. Selections are made by pressing the PAGE UP or PAGE DOWN keys on the PC. Pressing the ESC key will close the window and return the user to the current step.

F7. Displays the Exit menu. The Exit menu allows the user to change procedure types, save the current Adjustment job, or to exit to DOS.

3. The step name box displays the current adjustment step number and title.
4. The mode box appears only when the procedure is in the Preview mode. The Preview mode does not attempt to communicate with the instrument under test.
5. The title box lists the instrument type and the current procedure. You select the current procedure when the program starts from selections such as Full adjustment and Component board.
6. The step number box lists the current step number and the total steps in the selected procedure.
7. The resolution box displays the adjustment resolution for the current adjustment.
8. The resolution selection box appears when the current step has an adjustment controlled by the PC up/down arrow keys. Pressing the F8, F9, or F10 function key selects the amount of change each press of an Up or Down arrow key has on the adjustment. The current adjustment size is displayed above this box.

F8. Selects X1 as the adjustment size. The X1 setting provides the smallest adjustment size and is used for fine tuning an adjustment.

F9. Selects X10 as the adjustment size. X10 is the default adjustment size and is used to bring an adjustment close to proper position.

F10. Selects X100 as the adjustment size. X100 is the largest adjustment size and is used to rough in adjustments that are far out of position.
9. The message box appears when the current step has an adjustment set by the PC up/down arrow keys. The box also reminds you that the arrow keys control the adjustment.

10. The adjustment box list the names of the adjustments for the current step. The active adjustment is highlighted. You modify the active adjustment using the PC up/down arrow keys. Use the left/right arrow keys to select an adjustment.

For some adjustments you must first make the adjustment, then, to save the adjustment, you must select (highlight) an Assign item and press the Return key. In two cases, you select the adjustment name and press the Return key. The procedure will prompt you on how to make these adjustments.

11. The multiple adjustment box appears when the current step has more than one PC adjustment. Pressing the PC left/right arrow keys will select which adjustment is currently controlled by the PC up/down arrow keys. The box serves as a reminder for which arrow keys control the adjustment selection.
12. The instruction window displays the actual procedure steps to perform. The message PAGE DOWN FOR MORE INSTRUCTIONS refers to the Page Down key on the PC and it indicates that there are additional steps to perform.

To complete any procedure step, press the F3 function key.

Using the TG2000/DVG1 Opt S1 Generator

This discussion briefly covers how to use the Tektronix TG2000 Signal Generation Platform with the DVG1 Generator in the Adjustment Procedure. Most TG2000 settings required in the procedure are covered in this section. For more information on using the TG2000/DVG1 generator, refer to the User manuals for the TG2000 and DVG1 products.

Configuring the Jitter Output

The DVG1 Option S1 provides adjustable signal jitter. Either output of the DVG1 can be configured to output the signal with added jitter. The DVG1 is shipped with CH 2 configured to generate jitter. For information on setting the SDI jitter level, refer to page 5–11.

Selecting Output Signals

The TG2000 with the DVG1 Option S1 generator can be configured with a large number of signals. To select a signal, follow these steps:

1. Press the MODULES button. If the front panel does not respond, press the FRONT PANEL ENABLE button to unlock the front panel.
2. Touch the folder icon for the DVG1 module you are using. The SIGNAL SETS button will light and several signal sets are displayed.
3. Touch the 525–270 icon for NTSC signals or the 625–270 icon for PAL signals. If either of these are missing, you will need to load signals from the

signal set disks. Refer to Adding Test Signals on page 5–12. The test signals button lights and the display shows many Test Signal icons.

4. Use the cursor keys, the Navigation arrow keys, to select a Test Signal icon for the test signals you require. For example, for color bar signals, select the Color Bars icon.
5. Rotate the knob to see the signals in the signal set. A drop-down list appears and the knob moves the highlight from item to item in the list.
6. Press the SELECT button, located next to the knob, to load and output the selected test signal.

Required Signals

The Adjustment Procedure requires the TG2000/DVG1 test signals shown in Table 5–2. All these signals are provided on the signal set disks included with the DVG1 generator.

Table 5–2: Signals required for adjustment procedure

525-270 test signals	625-270 test signal
Color Bars	Color Bars
75% Color Bars	75% Color Bars
100% Color Bars	100% Color Bars
Frequency Resp	
60% Multiburst	
100% Sweep	
Linearity	
5-step	
Y valid Ramp	
Shallow Ramp Matrix	
Limit Ramp	
Monitor	
Gamut Test	
Pulse Bar	
Pulse & Bar	
Timing	
2.5 Bowtie	
500 kHz Bowtie	
Active Picture Timing	
Multipulse	

Setting Channel Amplitude & Turning Y, P_b, or P_r Channels Off

To adjust component channel amplitude or turn off a channel, follow these steps:

1. Press the TEST SIGNAL button, if it is not lighted. Touch Active Signal Parameters, then touch Video.
2. Use the Navigation cursor keys to select Luma Amplitude, R–Y or B–Y Amplitude.
3. Use the TG2000 knob to adjust the amplitude setting.
4. To turn off a channel, set the amplitude to 0%.
5. To turn channels back on or to reset the amplitude, touch Reset.
6. Press the TEST SIGNALS button to leave the Active Signal Parameters menu.

Setting SDI Amp or Embedded Audio

To adjust SDI amplitude or enable Embedded Audio, follow these steps:

1. Press the TEST SIGNAL button, if it is not lighted. Touch Module Parameters.
2. To enable Embedded Audio, touch the Embedded Audio icon, then touch the AUDIO icon. To disable Embedded Audio, touch the AUDIO icon again.
3. To set the SDI jitter amplitude, touch the SDI icon.
4. Use the Navigation cursor keys to select Jitter Freq or Jitter Amp.
5. Use the TG2000 knob or the numeric keypad to set the jitter frequency or amplitude as required.
6. Press Reset before leaving the menu. Press the TEST SIGNALS button to leave the Module Parameters menu.

Selecting TG2000 Black Burst Output

The TG2000 outputs the black burst signal from the BG1 module. Connect a cable to one of the BG1 outputs. Enable the appropriate black burst signal by following these steps:

1. Press the MODULES button, and touch the BG1 module icon.
2. Select the appropriate signal set, NTSC or PAL, called for by the adjustment procedure.

Adding Test Signals

If the 525–270 or 625-270 signal sets or individual signals called for in an adjustment procedure are missing from the Signal Sets window, you will need to load additional signals from the signal set disks shipped with the DVG1. See Table 5–2 on page 5–10 for a list of signals included in the various signal sets. You can also obtain signal sets from the Tektronix bulletin board. Contact Tektronix customer support center at 1-800-TEKWIDE. If you need more information on adding test signals than is presented here, refer to the DVG1 User manual.

To add test signals to your DVG1 module, use the following procedure:

- 1.** Press the DISK button.
- 2.** Touch the Add Signals soft key. Then touch the Select Source soft key. The A: drive listing should appear showing the available signal sets.
- 3.** Use the Navigation cursor keys to choose the signal set, such as 625-270, or an individual test signal you need to load. Touch Quit/Load.
- 4.** Touch the Select Destination soft key. Use the Navigation cursor keys to choose the correct module type and point in the signal hierarchy to load the new signal(s). You must load signal sets or individual test signals into the same hierarchy level as their origin level. Touch Quit/Load.
- 5.** Check that the readout Total Tagged: does not exceed the readout Free:. The Total Tagged value is the file size of the signals to be loaded. The Free value is the memory available in the generator module.
- 6.** If insufficient memory is available, delete unnecessary signals from the DVG1 module. Use the following procedure to delete signals:
 - a.** Press the DISK button.
 - b.** Touch the Delete Signals soft key.
 - c.** Select the signals that you do not expect to use soon. Touch the Delete button. Press the DISK button to return to Adding Signals.

Adjustment Procedure



WARNING. *Dangerous voltage levels exist in the Power Supply. The Adjustment Procedures require you to supply power to the waveform monitor while making adjustments and measurements to various components without a cover in place. Use extreme caution when performing adjustment procedures.*

1. Initial Equipment Connections
 - a. Connect an RS-232 cable from the waveform monitor rear-panel RS-232 connector to the COM 1, 2, 3, or 4 connector on the PC. See the Equipment Required list on page 5–1 for the cable wiring illustrations.
 - b. Connect the waveform monitor to AC mains power and turn on the instrument.
2. Allow the waveform monitor to warm for 15 minutes before proceeding with the adjustments.
3. After major repair, such as replacing a circuit board, perform the following checks.
 - Check that the fan is running.
 - Check that the green LED on the Main board is on.
 - Check that A1DS6 (the red LED) on the Power Supply board is on.

NOTE. *The waveform monitor power switch must be on before you start the Adjustment procedure software. Turning the instrument on after starting the software may cause your PC to lock up and require a system reset.*

4. Start the adjustment software by changing to the disk and directory that contain the software and entering the cal command. Refer to page 5–5 for instructions for installing the adjustment software.
5. The adjustment software will prompt you to make the following choices:
 - a. Select RS-232 Port – select from COM1 – 4 or Preview mode. Enter the associated number from the list. Preview mode allows you to look through the procedure without having an instrument connected.
 - b. Select PRC File to Peruse – lists adjustment files (.prc) when more than one resides in the adjustment software directory.
 - c. Select Model to Calibrate – lists instrument model numbers that can be adjusted using the adjustment software.

- d. Select Calibration Procedure – selects one of the following procedures to run:
 - Full – performs most available steps. Run this procedure for overall instrument calibration. You are asked if the Main board is new. If the Main board was replaced or repaired, enter yes. Otherwise enter no.
 - Component – performs adjustments required when the Component board was repaired.
 - Serial – performs adjustments required when the Serial board was replaced or repaired.
 - Power Supply – performs adjustments required when the Power Supply board was replaced or repaired.
- 6. Each step begins with a setup screen that describes equipment connections and the output signal for the generator. References to HF terminator refer to the high-frequency terminators specified in the Equipment Requirement list on page 5–1.
- 7. Escape from a procedure at any time by pressing the F3 or F7 keys. F3 advances to the next procedure and F7 allows you to select a different procedure. Use the online Help (F1) to get help on the function keys.
- 8. Continue to perform all steps until a prompt indicates you have reached the end of the selected adjustment procedure.

If an adjustment fails, it could indicate that repair is needed. Verify the connections, calibration, and configuration all test equipment, including connecting cables and high-frequency terminators, as described in the Equipment Requirement list on page 5–1.

Circuit Board Adjustment Locations

Figure 5-4 shows the location of each circuit board in the waveform monitor. The Figures 5-5 through 5-8 show the locations of the hardware adjustments described in the Adjustment Procedure software.

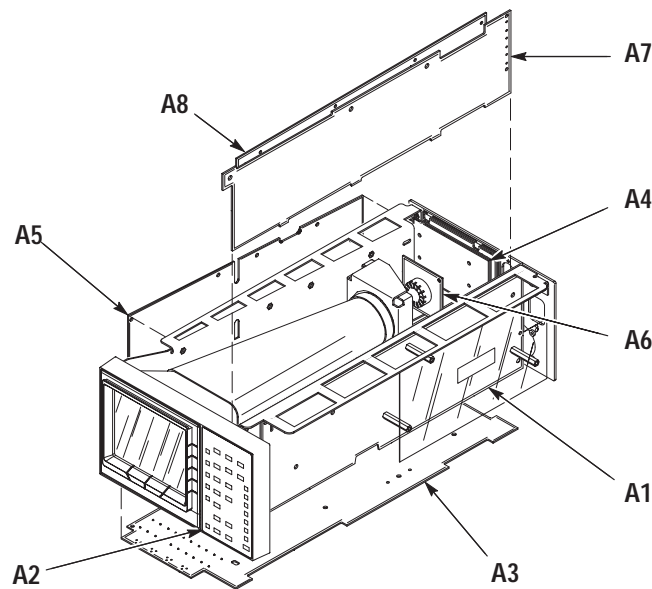


Figure 5-4: Location of circuit boards

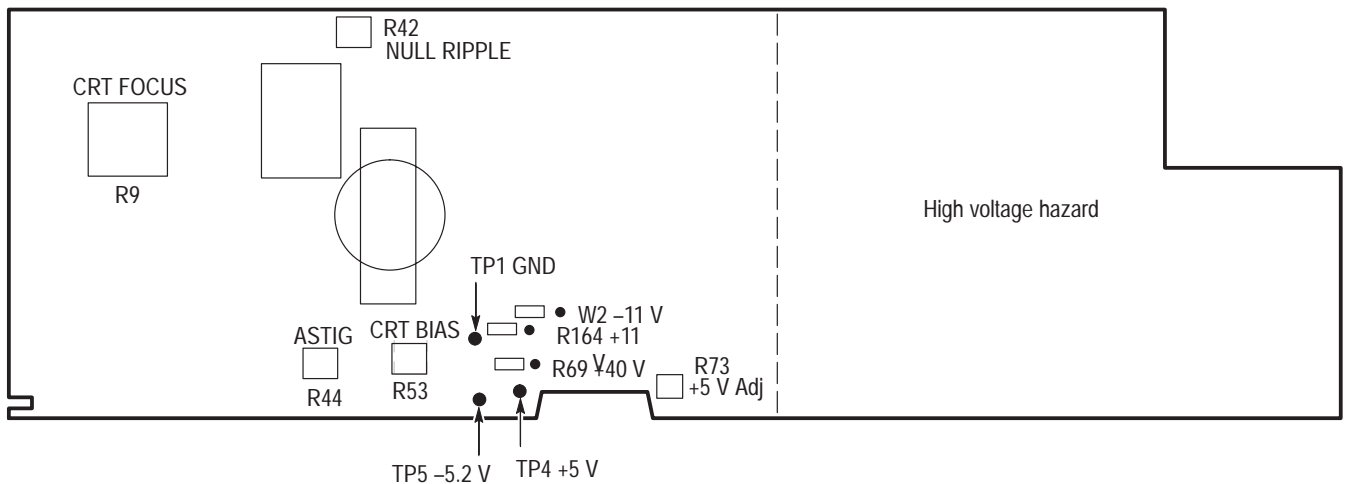


Figure 5-5: A1 Power Supply board

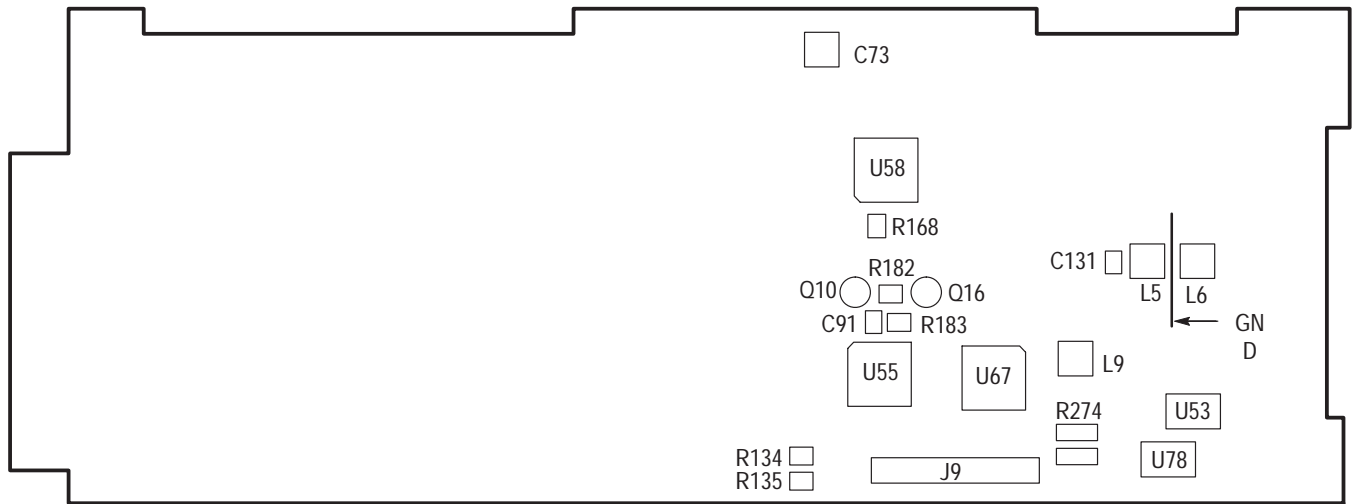


Figure 5-6: A3 Main board

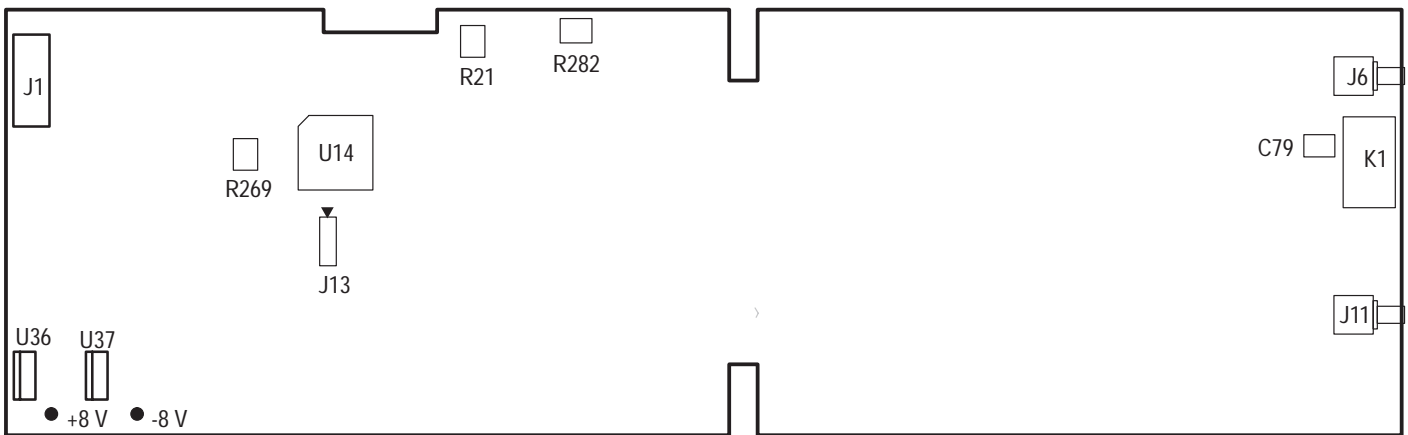


Figure 5-7: A5 Serial board

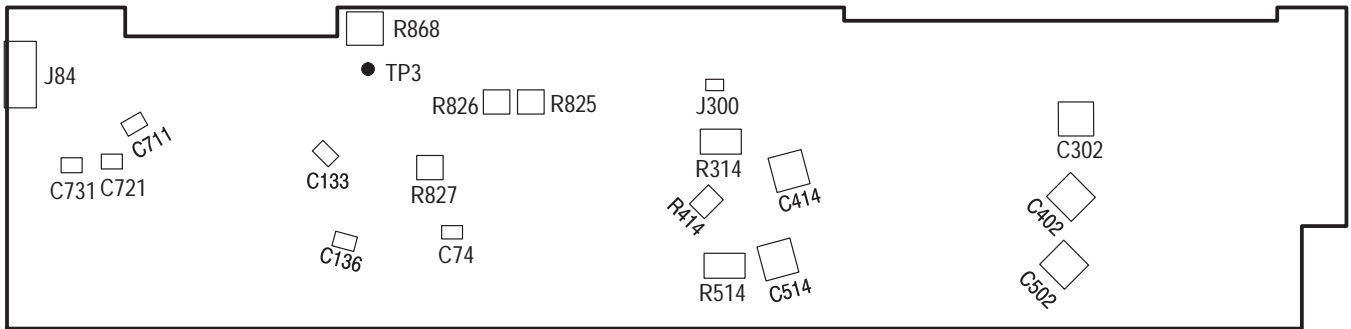


Figure 5-8: A7 Component board

Waveform Illustrations

The Figures 5-9 through 5-22 will help you make adjustments described in the Adjustment Procedures software. The Adjustment Procedures software refers you to the illustrations when appropriate. The illustrations are named for the associated adjustment step.

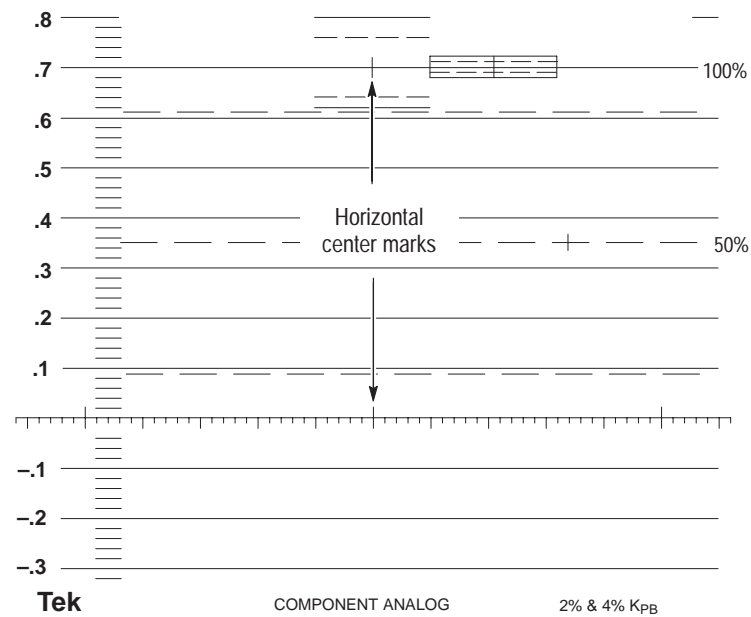


Figure 5-9: Trace Rotation, Y Alignment, and Geometry – Horizontal center marks

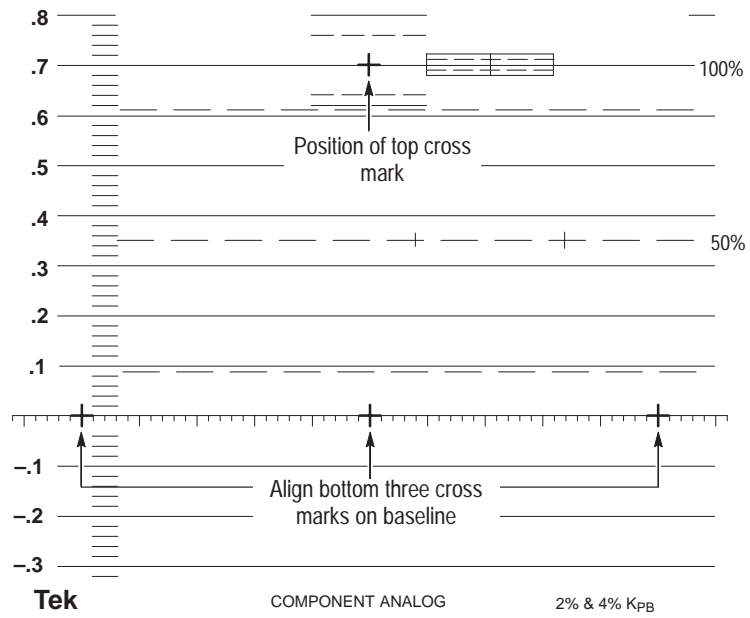


Figure 5-10: Post Readout, Offset, and Gain

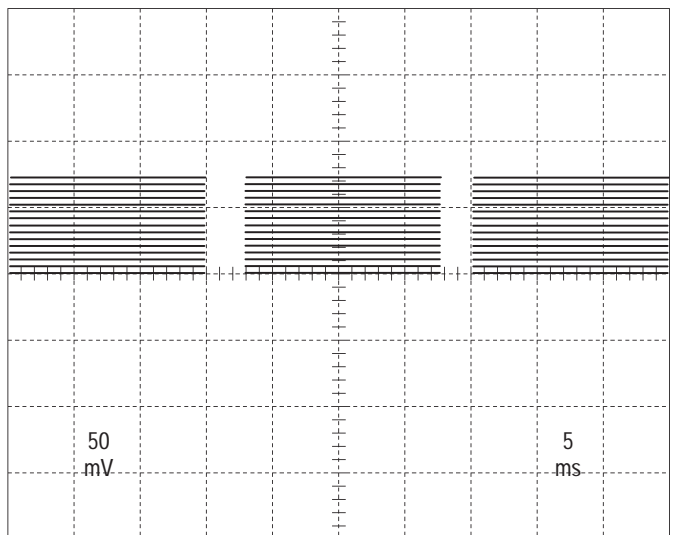


Figure 5-11: Monitor Out YOffset

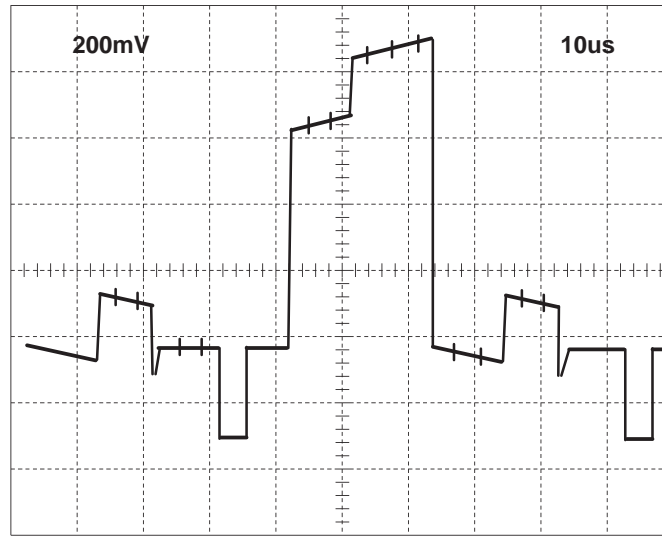


Figure 5-12: Gamut Limit – Strobe pulses

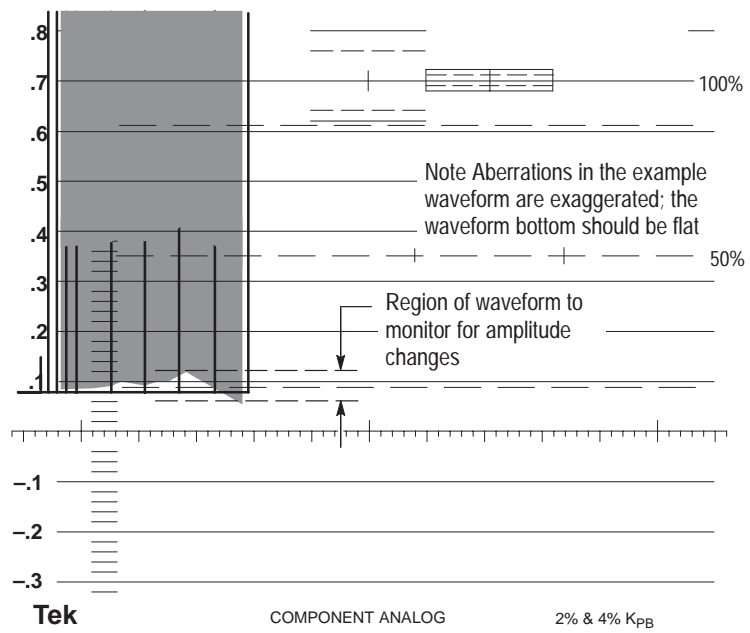


Figure 5-13: On-Screen Frequency Response

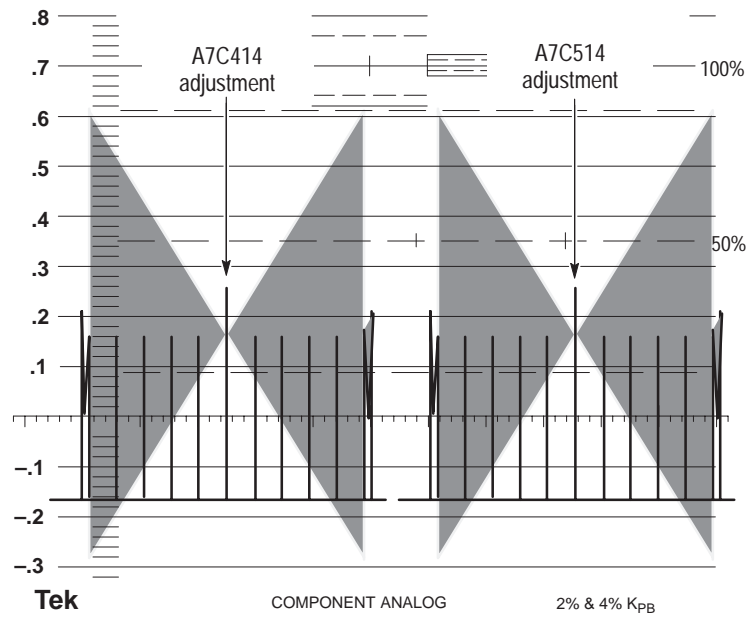


Figure 5-14: Bowtie Timing

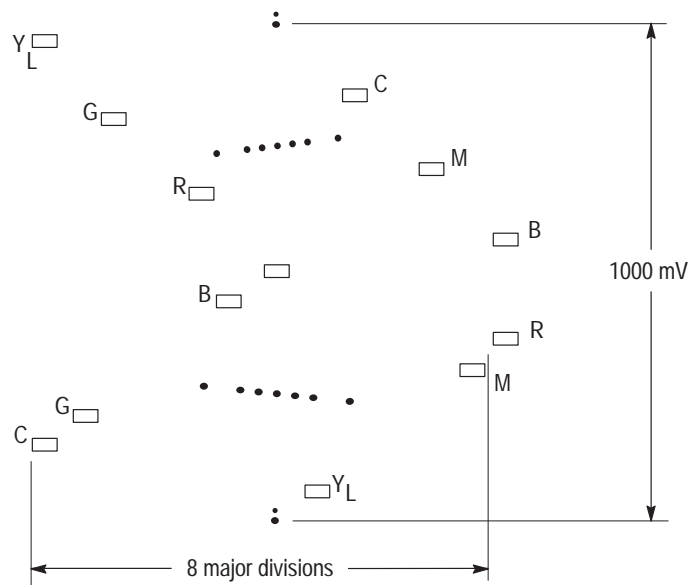


Figure 5-15: Electronic Graticule Adjustment

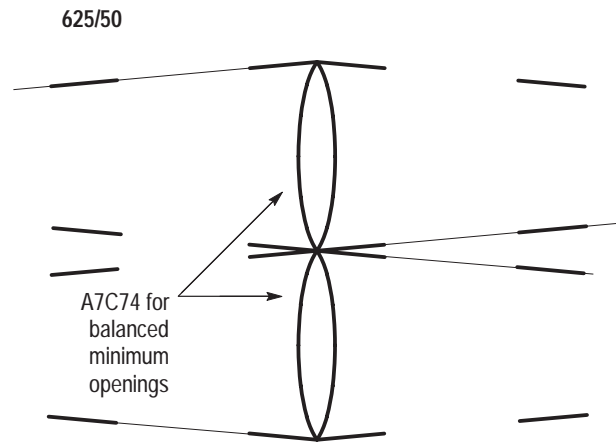


Figure 5-16: Diamond Eye Opening

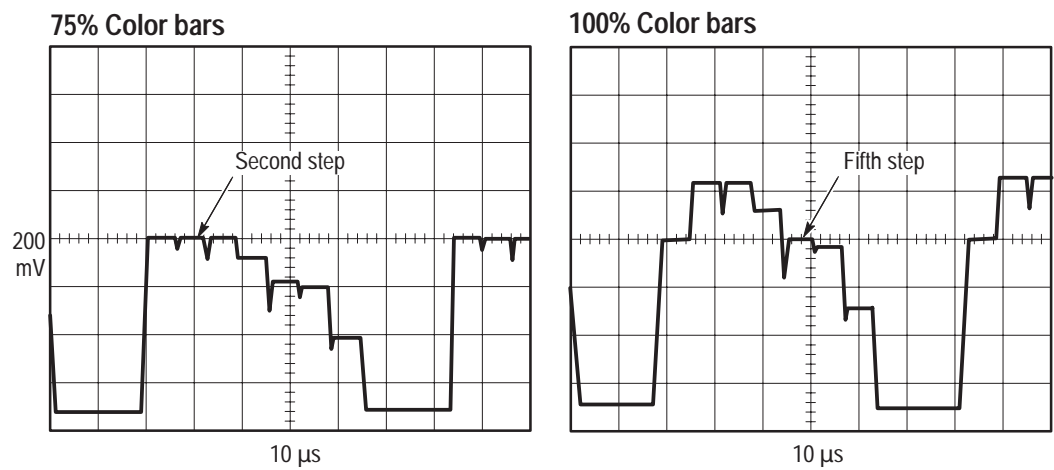


Figure 5-17: Arrowhead PBPR - A7R827 adjustment

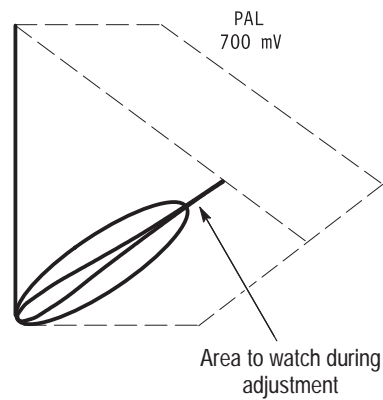


Figure 5-18: Arrowhead PBPR - A7R868 adjustment

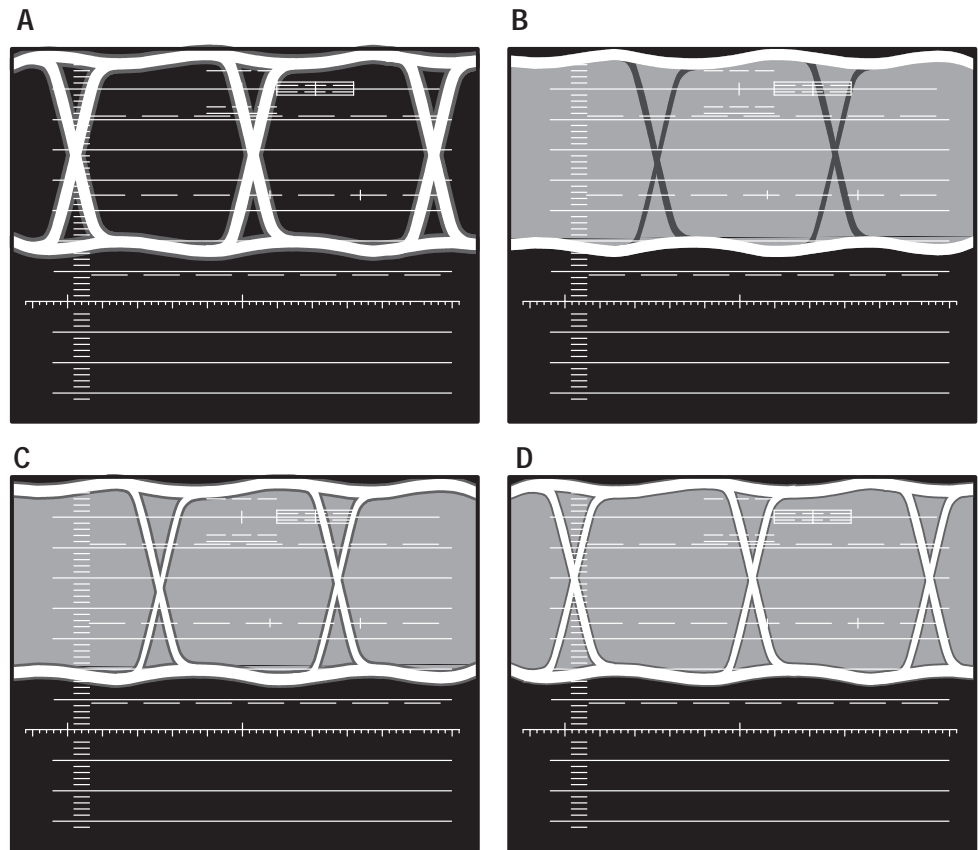


Figure 5-19: Jitter Gain

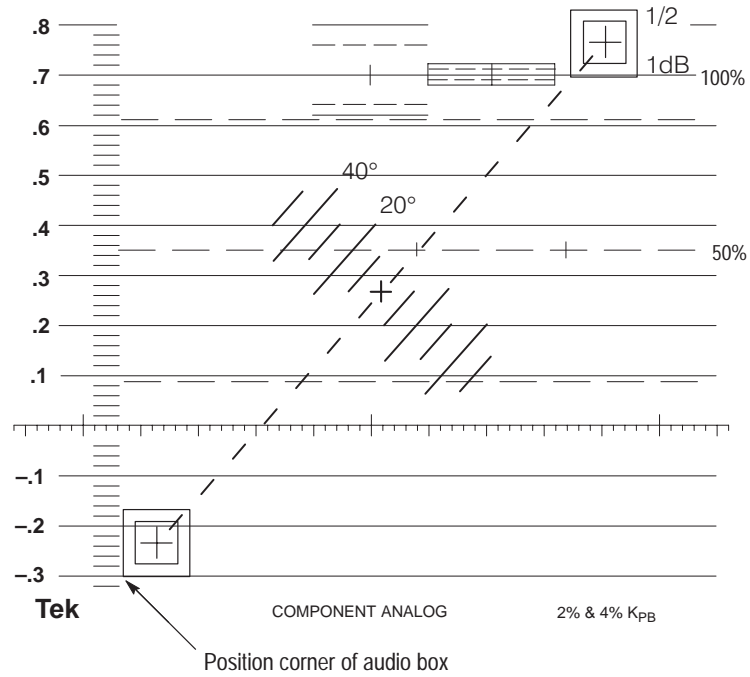


Figure 5-20: Audio Graticule X and Y Offsets

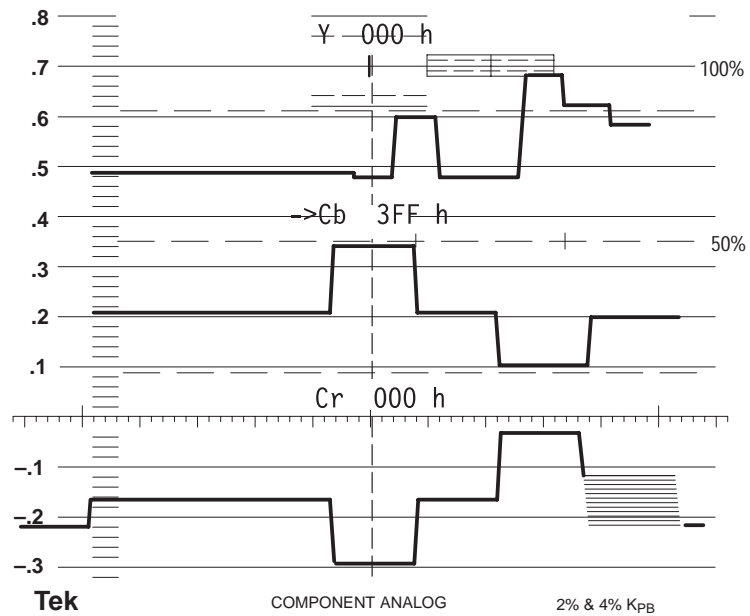


Figure 5-21: Digital Cursor - Correct waveform and Data Cursor alignment

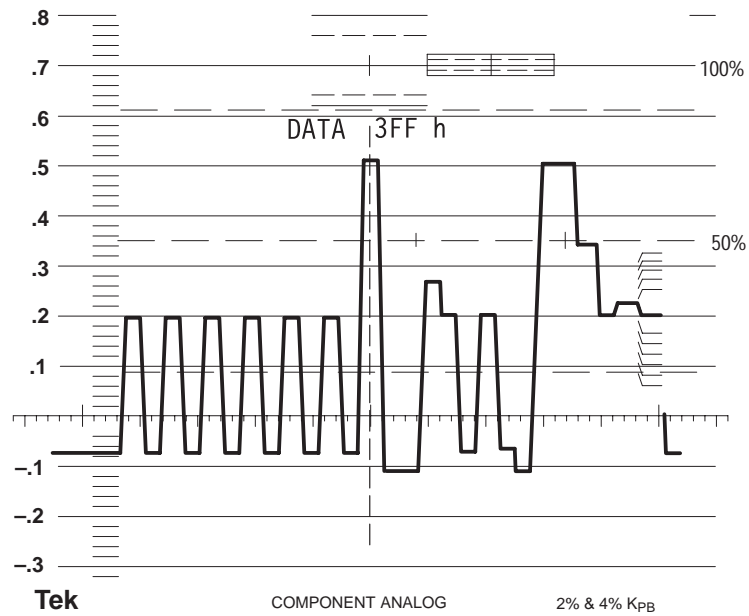


Figure 5-22: Digital Cursor – Alignment in DATA view

TV Generator Test Signals

The signal illustrations in Figures 5-23 through 5-29 are provided as a reference for the test signals used in the Adjustment Procedure. They are shown in a three-channel Parade display as they would appear on the waveform monitor.

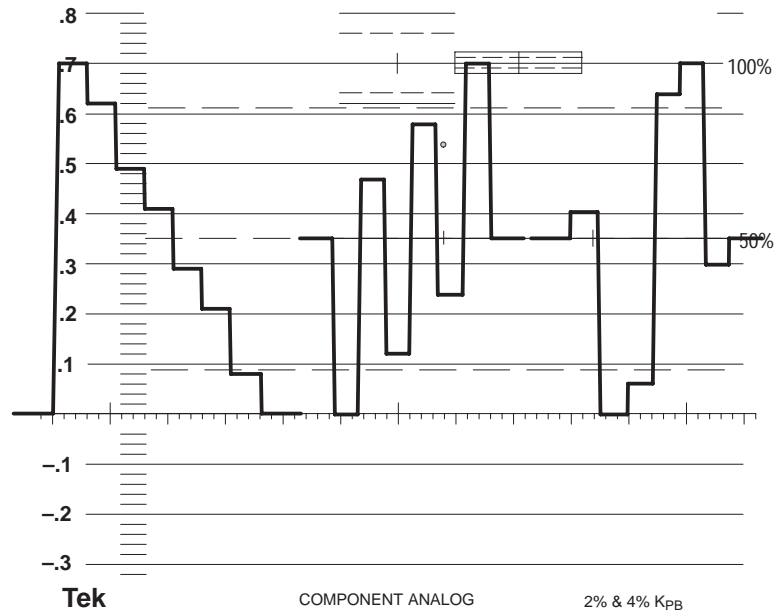


Figure 5-23: 100% Color Bars signal

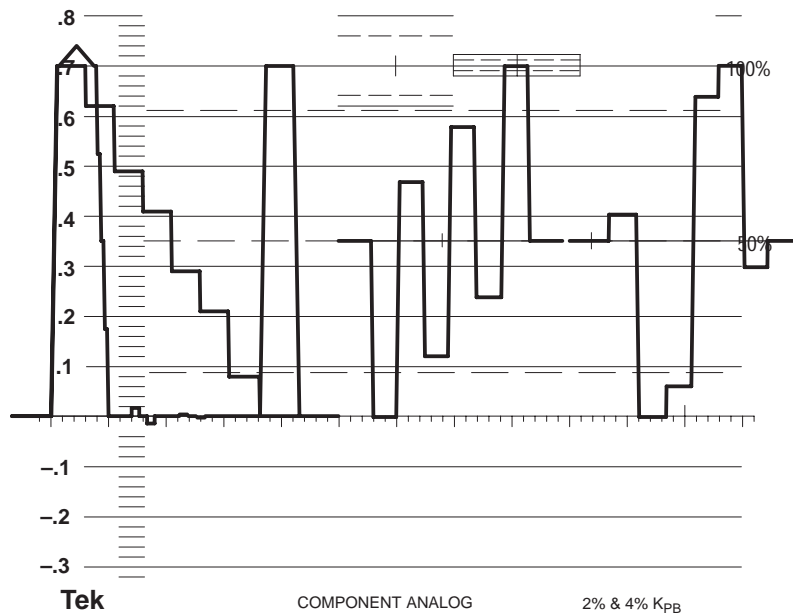


Figure 5-24: 100% Color Bars with Level Reference

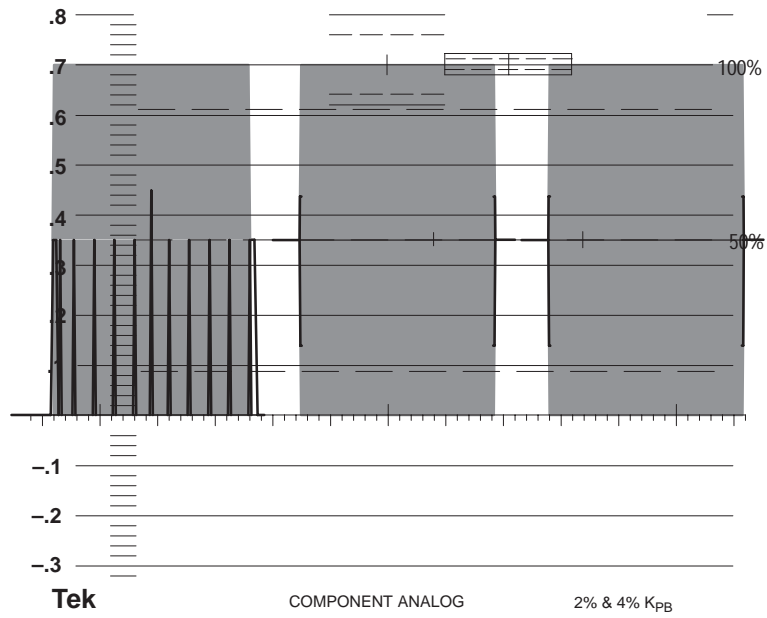


Figure 5-25: 2.5 MHz Bowtie signal

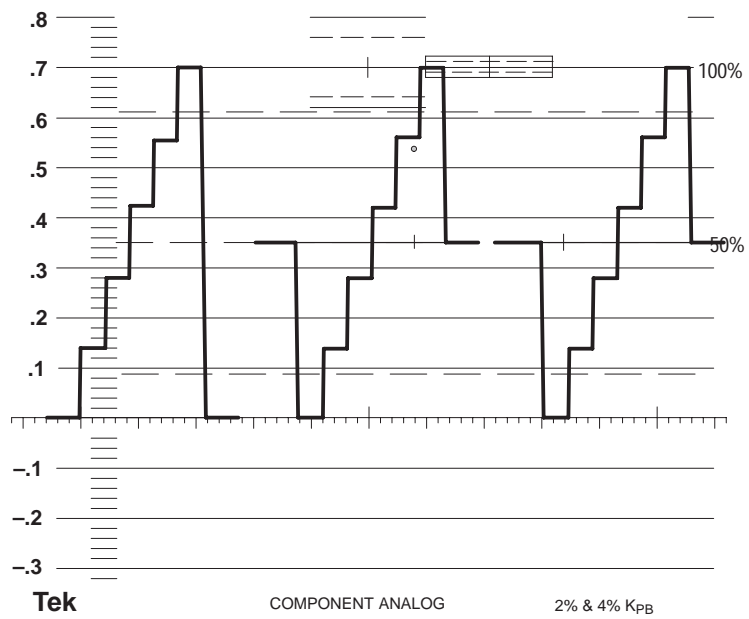


Figure 5-26: 5-step Staircase signal

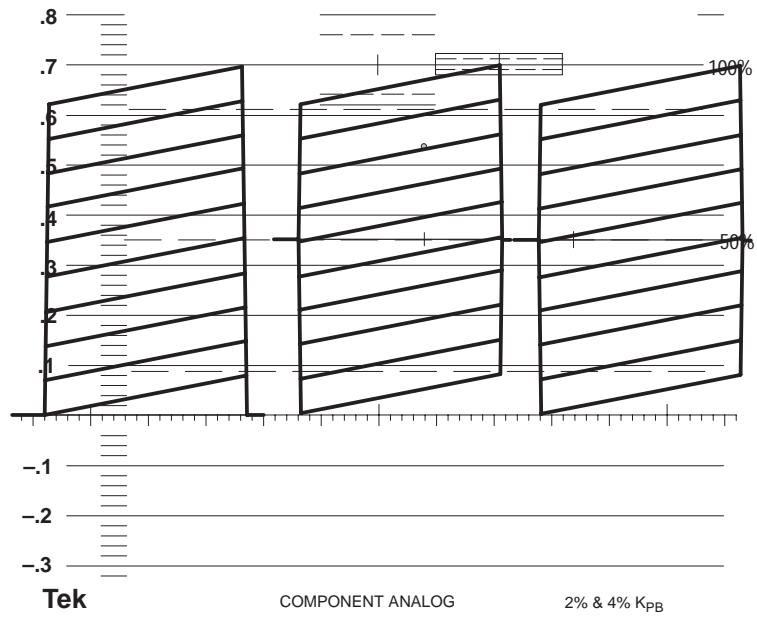


Figure 5-27: Shallow Ramp signal

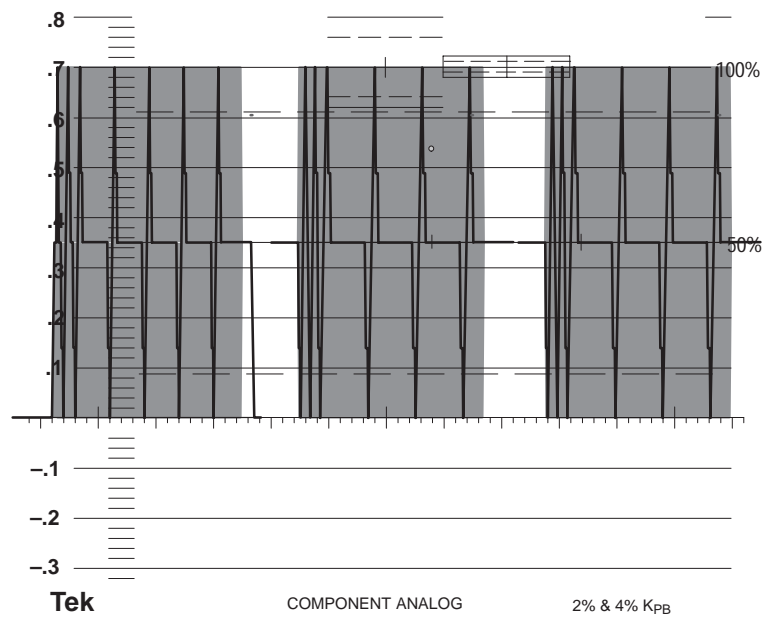


Figure 5-28: 100% Sweep signal

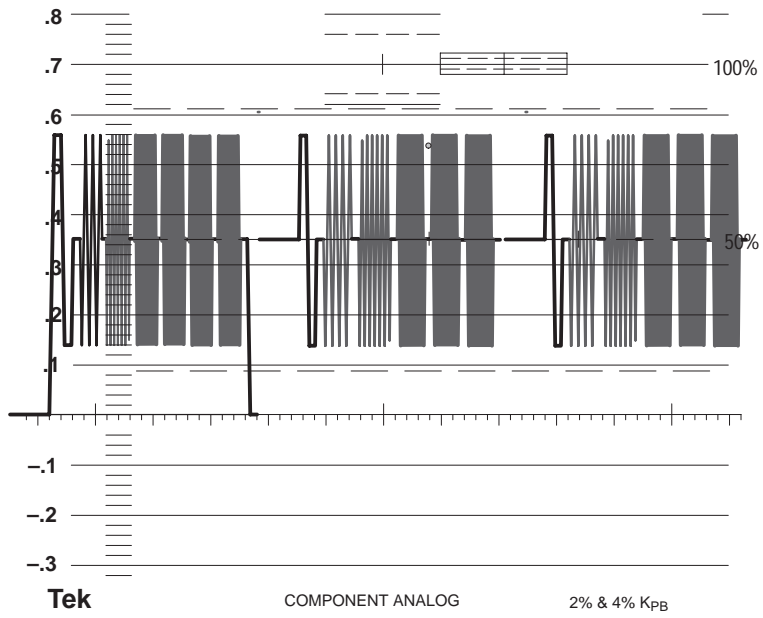


Figure 5-29: Multiburst signal

Maintenance

This section contains information on preventive maintenance, general troubleshooting, and corrective maintenance of the WFM 601A, WFM 601E, and WFM 601M Serial Digital Component Waveform Monitors and includes procedures for the following tasks:

- Inspecting and cleaning the waveform monitor
- Removing and replacing components
- Troubleshooting
- Adjusting the waveform monitor after repair
- Installing upgrade software
- Repackaging the waveform monitor for shipment

Preventive maintenance consists of cleaning, visually inspecting, periodically adjusting, and checking the performance of the waveform monitor. The preventive maintenance schedule you establish for the waveform monitor should be based on your operating environment and the amount of use your waveform monitor gets. Under average conditions, schedule preventive maintenance after every 2000 hours of operation.

Service Options

As with all Tektronix products, a number of servicing options are available.

- Return the instrument to Tektronix for repair and/or calibration. Tektronix supports service worldwide.
- Exchange a major assembly or circuit board for a fully tested replacement from a Tektronix service center.
- Troubleshoot and repair the defective module to component level and purchase replacement parts from a Tektronix service center. Most circuit boards contain fine-pitch surface mount components, which require special equipment for replacement.

You should determine which of these options is appropriate for you.

Preparation

The service information presented in this section is intended for qualified service personnel only. Before performing any service procedures, read the *Service Safety Summary* and the *General Safety Summary* located at the front of this manual.

The procedures in this manual assume you have a basic knowledge of the operation of the waveform monitor. Refer to *Operating Information* in section 2 for an overview of the instrument functions. For more operating information, refer to the User manual for your waveform monitor.

Prevention of Electro-Static Damage to Components

The waveform monitor contains electrical components that are susceptible to damage from static discharge. Static voltages from 1 kV to 30 kV are common in unprotected environments. Table 6–1 shows the relative susceptibility to static discharge of common semiconductor types.

Table 6–1: Static susceptibility

Relative level	Device type	Voltage
1	MOS or CMOS	100 V – 500 V
2	ECL	200 V – 500 V
3	SCHOTTKY SIGNAL DIODES	250 V
4	SCHOTTKY TTL	500 V
5	HF BIPOLAR TRANSISTORS	400 to 600 V
6	JFETS	600 to 800 V
7	LINEAR μ CIRCUITS	400 to 1000 V est.
8	LOW POWER SCHOTTKY TTL	900 V
9	TTL	1200 V

Observe the following precautions to avoid damage to components:

- Minimize handling of static-sensitive components.
- Transport and store static-sensitive components or assemblies in their original containers, on a metal rail, or on conductive foam. Label any package that contains static-sensitive components or assemblies.
- Discharge the static voltage from your body by wearing wrist and foot grounding straps. Service static-sensitive assemblies or components only at a static-free workstation.

- Keep static generating items or items capable of holding a static charge away from the workstation surface.
- Keep the component leads shorted together whenever possible.
- Pick up the components by the body, never by the leads.
- Always move components by picking them up first, never by sliding them across a surface.
- Avoid handling components in areas that have a floor or work surface covering capable of generating a static charge.
- Use a soldering iron that is connected to earth ground.
- Use only antistatic suction or wick-type desoldering tools.

Inspection and Cleaning

Clean the instrument often enough to prevent dust or dirt from accumulating. Dirt acts as an insulating blanket that prevents effective heat dissipation and can provide electrical leakage paths between conductors or components in a humid environment.



CAUTION. Do not allow water to get inside enclosed assemblies or components. Do not clean plastic materials with organic cleaning solvents, such as benzene, toluene, xylene, acetone, or similar compounds, because they may damage the plastic.

Cleaning the Exterior

Clean the dust from the exterior of the instrument by wiping it with a soft cloth or small brush. A brush is useful to remove dust from around the buttons, knobs, and connectors. Remove hardened dirt with a cloth dampened in water containing a mild detergent. Do not use abrasive cleaners.

Cleaning the CRT/Display

Clean the CRT protective shield, light filter, and CRT face with a soft, lint-free cloth dampened in denatured alcohol.

Cleaning the Interior

Clean the interior of the instrument by loosening the accumulated dust with a dry, soft brush. Once the dirt is loose, remove it with low-pressure air. High-velocity air can damage parts. Remove hardened dirt or grease with a cotton-tipped applicator dampened with a solution of mild detergent and water. Abrasive cleaners should not be used. If the circuit board assemblies must be removed for cleaning, refer to *Removal and Replacement* on page 6-5.

After cleaning, allow the interior to thoroughly dry before applying power to the instrument.

Replacing and Cleaning the Air Filter

In order to operate in all environmental conditions the waveform monitor requires clean unrestricted air flow. The air filter, which cleans the air supplied by the fan, is located in the fan housing on the rear panel. Check the filter frequently. A supply of replacement filters was shipped with this instrument.

Filter Replacement. To replace the air filter, pull the fan cover off the fan, lift out the old filter and replace it. Carefully press the cover into place over the fan housing. Refer to Figure 6–14 on page 6–16 for details of the fan assembly.

Filter Cleaning. You can clean and reuse the air filters supplied with this instrument. Wash the used filters in warm water and mild detergent. Let them dry thoroughly before reusing them.

Additional Air Filters. Order additional air filters directly from Tektronix. The part number for the air filters is listed in *Options*, section 7.

Visual Inspection

After cleaning, carefully check the instrument for defective connections or damaged parts. If you discover a heat-damaged part, determine the cause of overheating before replacing the damaged part to prevent additional damage.

Periodic checks of the transistors and integrated circuits are not recommended. The best measure of performance is the actual operation of the component in the circuit.

Determining the Software Version

Operation of the waveform monitors is dependent upon the operating software loaded in the Flash EPROM on the Main board. New software versions may be released to add features or correct reported problems. You can save considerable time and troubleshooting effort by reporting the software version when calling Tektronix for parts or service information.

NOTE. *If the Flash EPROM fails, you will need to return the instrument to Tektronix to replace the part and restore proper operation.*

Use the following procedure to view the software and coprocessor version numbers:

1. Press the CONFIG button.
2. Select the CALIBRATE submenu using the bezel knob.
3. Read the version number from the lower right corner of the CRT. The software version number is preceded by the letter V. The version number of the serial coprocessor code is preceded by the letter C.

Periodic Performance Check and Adjustment

Check instrument performance after each 2000 hours of operation or every 12 months. This performance check will help to ensure maximum performance and help you locate defects that may not be apparent during regular operation. A performance verification procedure and an adjustment procedure are included in this manual.

Removal and Replacement Instructions

The procedures in this section describe how to remove circuit board assemblies from the waveform monitor frame. Figure 6–21 on page 6–25 identifies the circuit boards. To remove most screws, use either a TORX T15 screwdriver tip or a medium Pozidrive screw tip.



WARNING. Before attempting to disassemble the waveform monitor, be sure to disconnect the power cord and wait until DS7 on the Power Supply circuit board (A1) extinguishes.



CAUTION. Do not reinsert screws in the rear panel when the instrument is removed from the cabinet.

Cable Pin Assignments and Removal

Signals and power supply voltages are passed through the instrument with a system of interconnecting cables. The connectors on these cables have numbers that identify terminal connectors; numerals are used from pin 2 up. A triangular key symbol identifies pin 1 on the circuit board. Figure 6–1 shows the numbering scheme (and the triangular marking) on the circuit board.

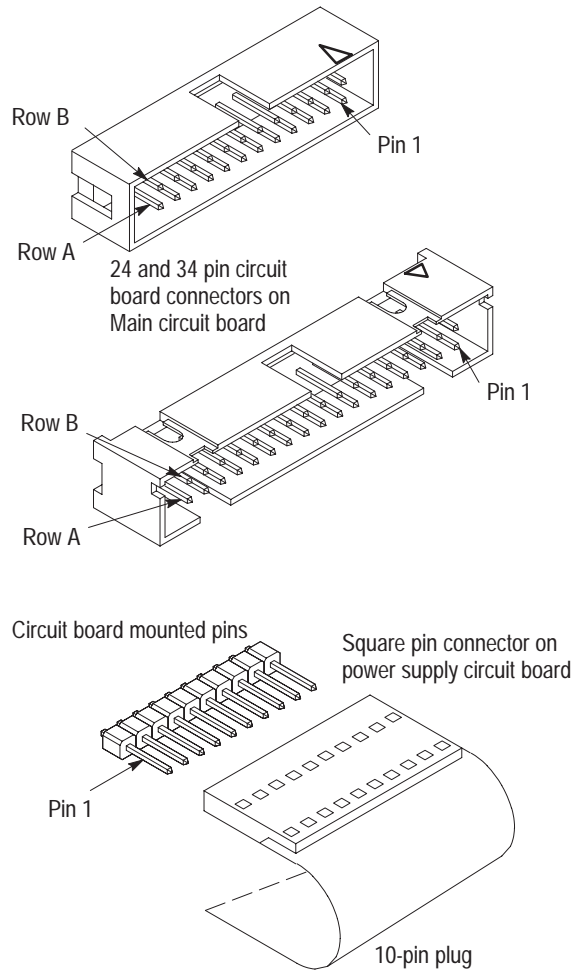


Figure 6–1: Multiple pin connectors

Figure 6–2 shows the correct way to remove the large cables joining circuit boards.

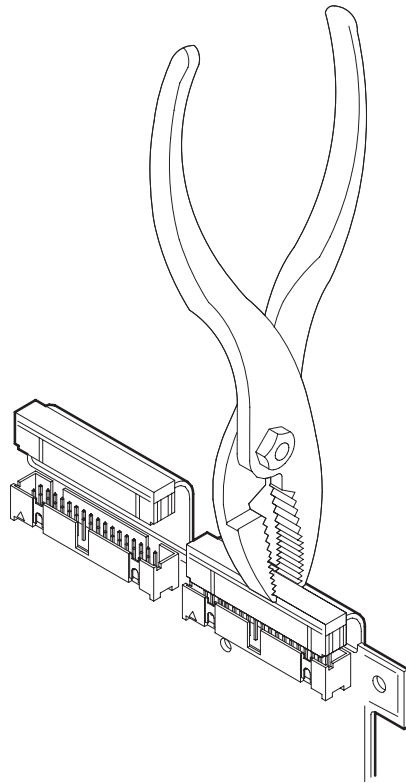


Figure 6-2: Removing large cable connectors

Case Removal

To remove the case, use the following procedure:

1. Disconnect the power cord from the AC mains and the waveform monitor.
2. Remove the two TORX T15 screws shown in Figure 6-3.

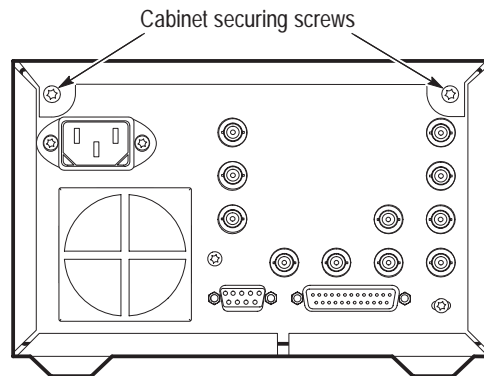


Figure 6-3: Removing the case from the waveform monitor

3. Slide the case off the rear of the waveform monitor.
4. To reinstall the case, reverse these instructions.

Bezel Removal

Removing the bezel provides access to the graticule filter, graticule lights and CRT. To remove the bezel, use the following procedure:

1. Remove the five knobs located below the CRT, using a $\frac{1}{16}$ -inch Allen wrench. See Figure 6-4.

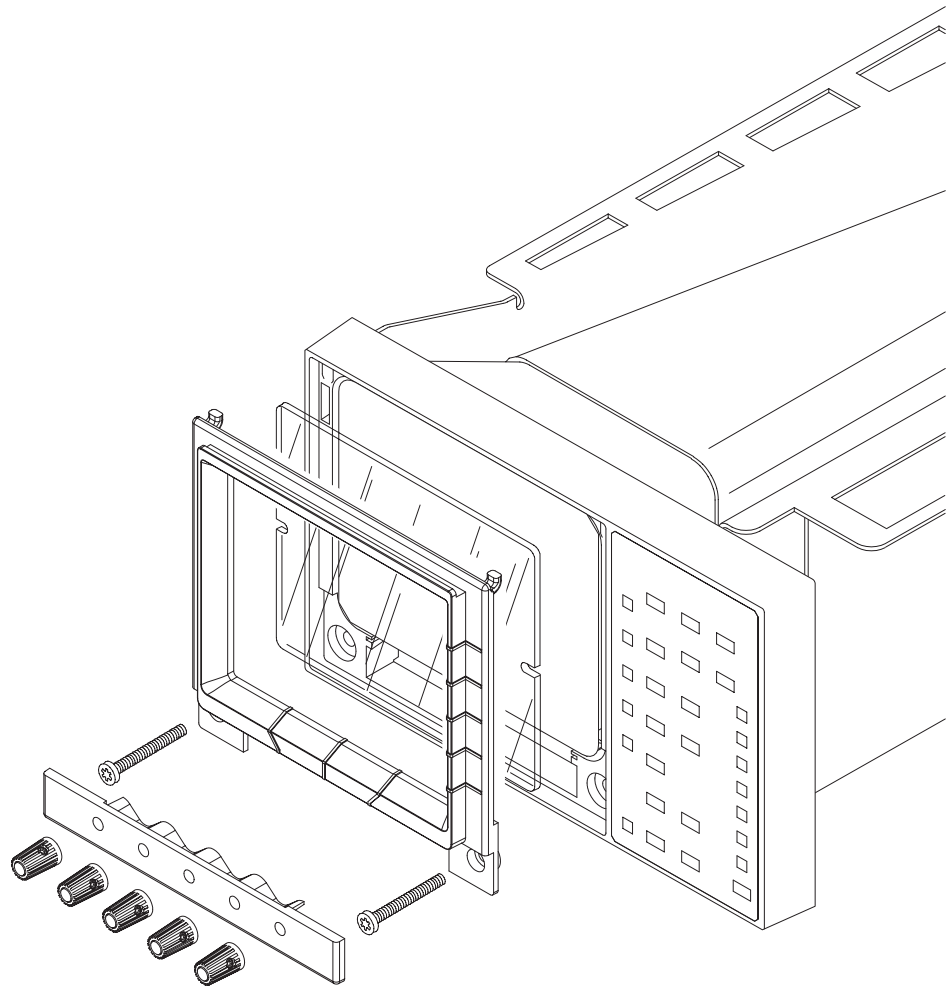


Figure 6-4: Removing the CRT bezel

2. Use a screwdriver to press out the small panel located below the CRT, as shown in Figure 6-5. Behind the small panel are two bezel mounting screws shown in Figure 6-4.

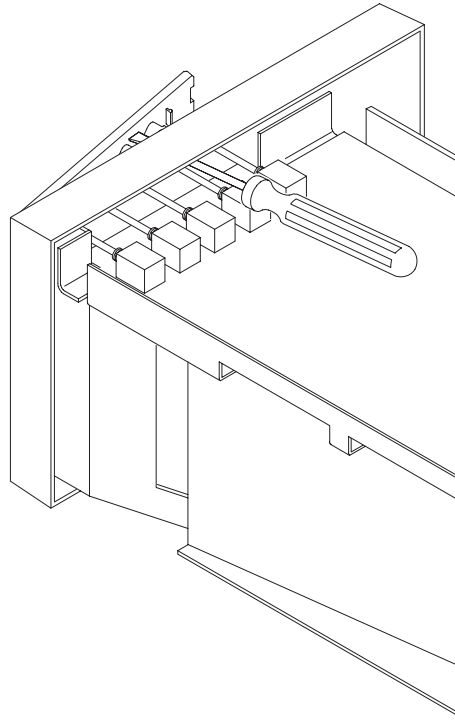


Figure 6-5: Removing the bezel knob panel from the bottom of the waveform monitor

3. Remove the two screws the front of the bezel.
4. Grasp the bottom of the bezel and pull out and up. There are two hinges at the top of the bezel that release when the bezel reaches a 45° angle.
5. To replace the bezel, reverse these steps. To install the small knob panel, press evenly on it until fully seated.

Graticule Light Bulb Replacement

Replacement bulbs are supplied with this instrument as standard accessories. Additional bulbs can be purchased from Tektronix (see *Replaceable Electrical Parts* list) or from local electronics distribution sources. The bulbs (A3DS1 – A3DS5) are parts of the A3 Main board.

When changing the graticule bulb in the following procedure, use tweezers with curved, serrated tips.



CAUTION. *Needle-nosed pliers can break the graticule bulbs. Using them for this procedure is not recommended.*

1. Remove the front panel bezel according to the instructions on page 6–8.
2. Remove a bulb by positioning the tweezer tips to grasp the thin, flat portion of the bulb (close to the plastic socket). Carefully pull the bulb straight out, as shown in Figure 6–6.

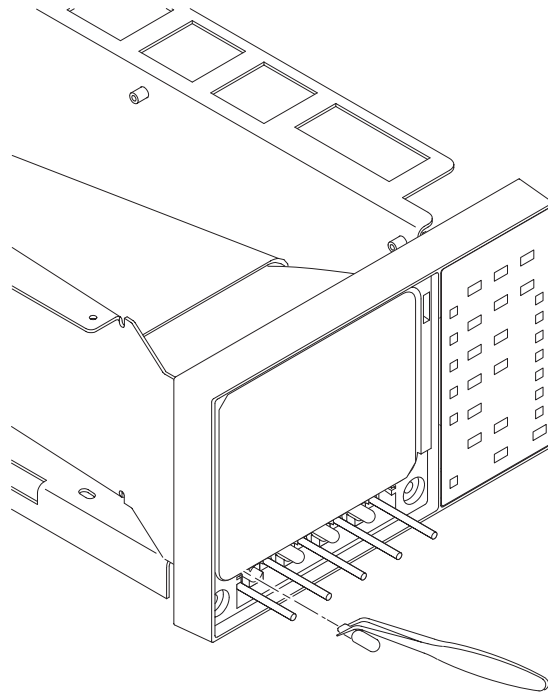


Figure 6–6: Replacing graticule light bulbs using tweezers

3. To install a bulb, grasp the thin, flat portion of the bulb with the tweezers, position it in front of the socket, and gently press the bulb in until it snaps into place.
4. Replace the bezel.

CRT Removal To remove the CRT, use the following procedure:



WARNING. The CRT can retain a dangerous charge. Ground the conductor of the anode to discharge the CRT. Do not allow the conductor of the anode to touch your body or any circuitry.



WARNING. The CRT is a high vacuum device and could implode causing injuries. Always wear safety glasses, gloves, and protective clothing when handling CRTs.

1. Remove the front panel bezel according to the instructions on page 6–8.
2. Disconnect the anode by first clipping the plastic strap that secures the anode lead. Note how the plastic strap secures the anode lead so you can install a replacement strap during reassembly. See Figure 6–7.

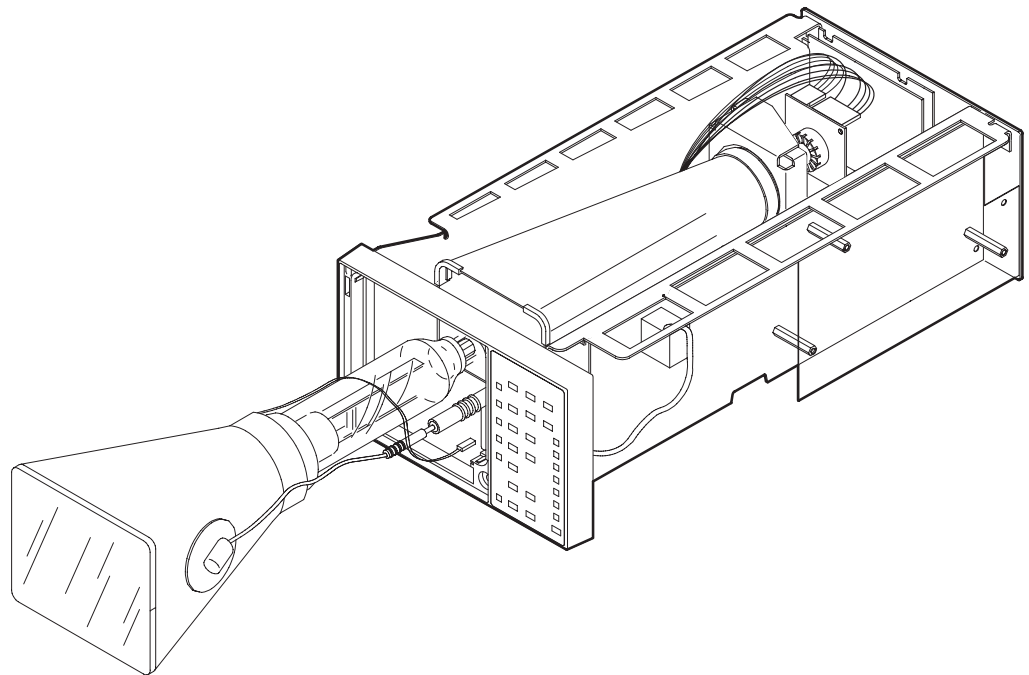


Figure 6–7: Removing the CRT

3. Carefully pull the anode lead out the front then separate the anode lead connector. Do not touch the exposed tip of the connector. Discharge the connector tip to the chassis. Notice how the anode lead is tucked between the CRT and CRT shield. It must be replaced in this position to avoid leakage to other components.

4. Disconnect the 2-pin cable from A3J3 on the Main board and push it through the hole in the Main board. The red lead is toward the rear of the instrument.
5. Grasp the front of the CRT and use your other hand to rock the CRT out of the socket on the A5 CRT board. Pull the CRT straight out the front leaving the CRT shield in the case.
6. To replace the CRT, reverse the steps for disassembly. Ensure that the four plastic supports are on the corners of the CRT shield before inserting the CRT. Check that the CRT wire harness is routed beneath the CRT shield as shown in Figure 6–8.
7. When connecting the anode lead, press the two ends together until they *snap* into place. Tuck the anode lead between the CRT and CRT shield. The upper-right shield support has two tabs removed to provide room for the anode lead.
8. Orient the red lead of the 2-pin cable toward the rear of the instrument.

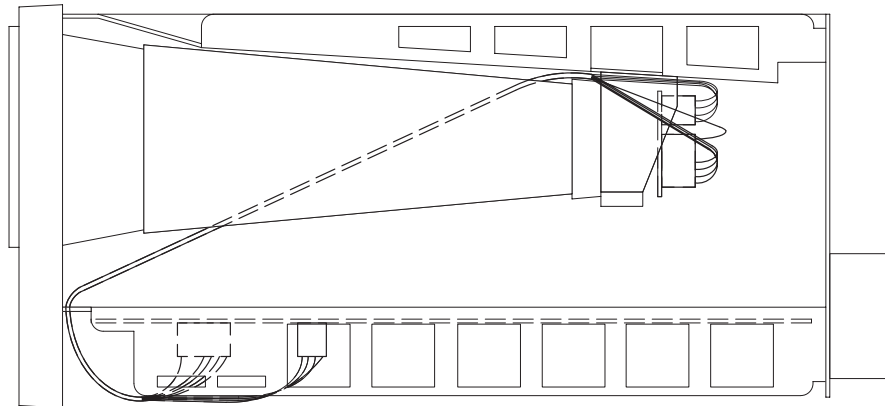


Figure 6–8: Routing for CRT wire harness

Removing the Front Panel Board

To remove the Front Panel board, use the following procedure:

1. Remove the blue multiwire connector from A3J1.
2. Push down on the tab located on the top rear of the front-panel assembly and press outward on the upper part of the assembly. See Figure 6–9.
3. Remove the Front Panel assembly by slipping it through the front-panel opening.

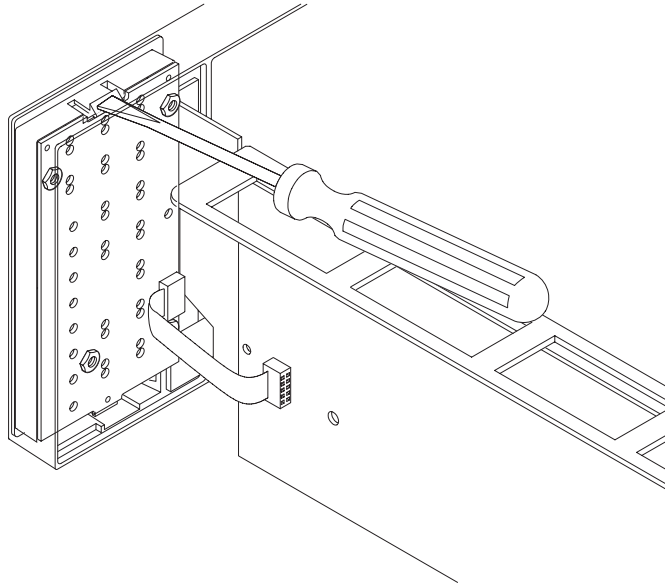


Figure 6-9: Removing the front-panel assembly

4. To access the Front Panel assembly components, use the following procedure:
 - a. Use a $\frac{1}{4}$ inch nut driver to remove the four nuts holding the assembly together. See Figure 6-10.
 - b. Pull the Front Panel board free from the front panel, spacer, and keypad.

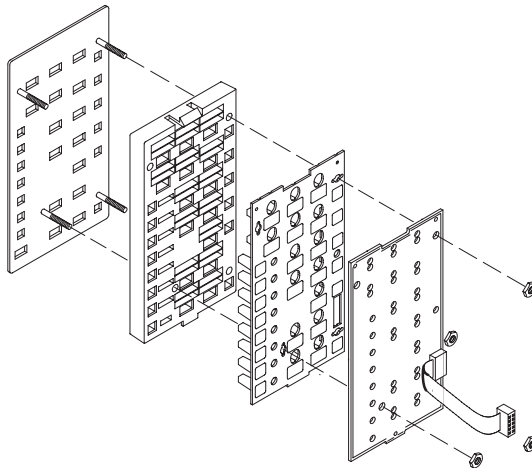


Figure 6-10: Front-panel assembly

5. To reassemble, reverse these steps. Tighten the nuts on the Front Panel assembly with no more than 3 lb of torque.

Removing the Rear-panel and BNC/Input Circuit Boards

To access the rear panel Input board, BNC board, use the following procedure:

1. Remove the ten TORX T-10 screws from the rear-panel as shown in Figure 6-11.

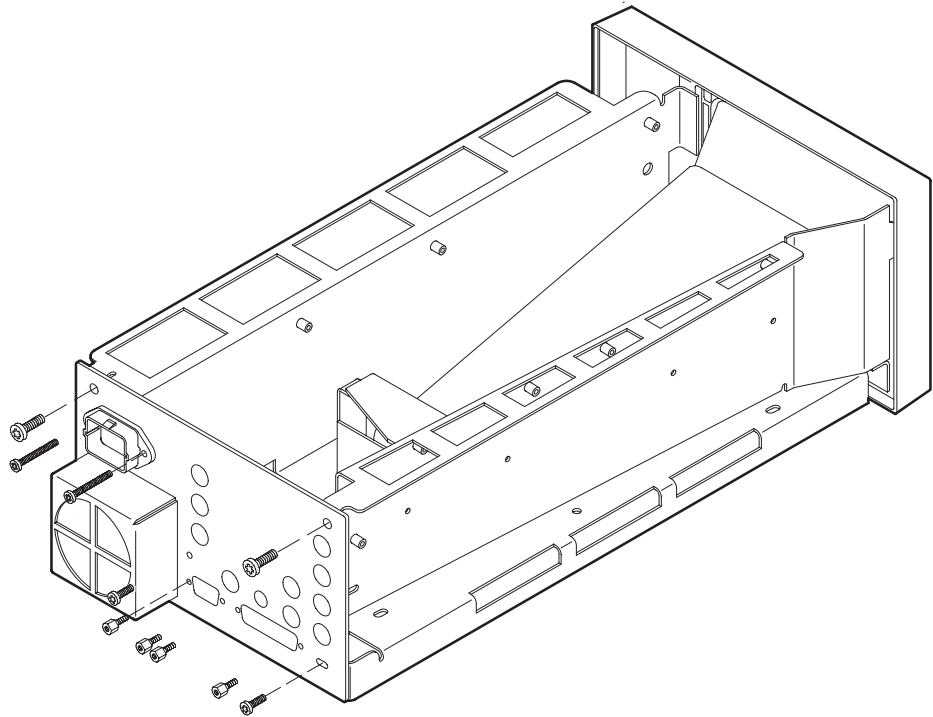


Figure 6-11: Removing the rear-panel input and BNC assembly

2. Disconnect A4J1, A4J2, and A4J4 coaxial cables and A4J3 ribbon cable on the A4 Input board as shown in Figure 6-12.

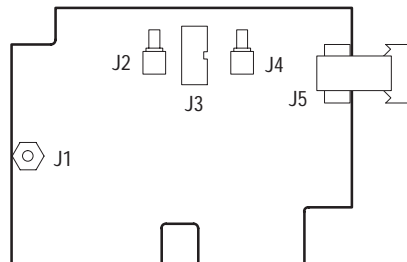


Figure 6-12: Connection locations on the A4 Input board

3. Disconnect A7J84 on the A7 Component board.

4. Disconnect the fan leads from A1J5 on the A1 Power Supply board.
5. Carefully pivot the Rear Panel out from the chassis with the line filter end remaining near the chassis. Do not damage the short wires from the AC line filter to the Power Supply board. These leads are soldered to the Power Supply board.
6. Pull free the two communications ports connectors (RS-232 and REMOTE) to J14 on the Main board. These connections have very short cables.
7. To remove the Input board (A4), use a $\frac{5}{16}$ -inch nut driver to remove the four securing nuts as shown in Figure 6–13. Pull the Input board free from the rear panel standoffs.

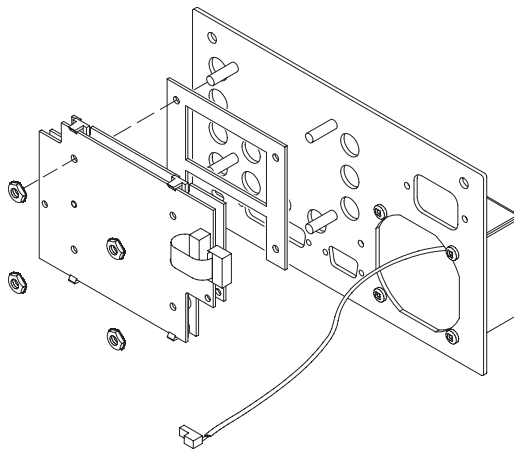


Figure 6–13: Disassembling the BNC/Input assembly

8. To remove the fan, remove the four TORX T-10 screws from the inside of the rear panel. Pull the fan free with its cable attached. Figure 6–14 shows the parts of the fan assembly.

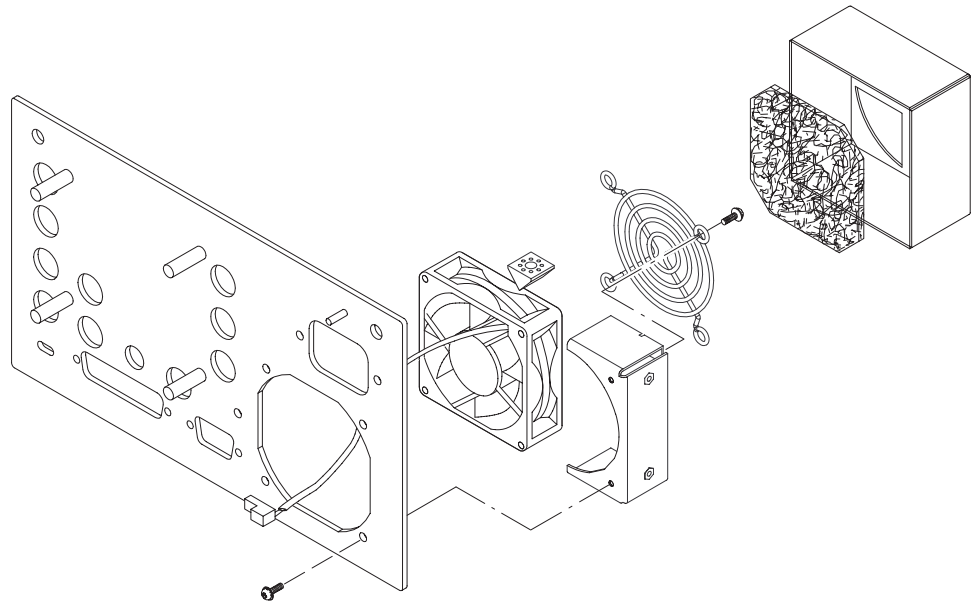


Figure 6–14: Components of the fan assembly

- 9.** To remove the Line Filter, perform these steps:
 - a.** Unsolder the two wires from the A1 Power Supply.
 - b.** Remove the nut holding the green ground lead to the frame.
 - c.** Remove the two TORX T-10 screws from the inside of the rear panel to free the locking adapter and the Line Filter. Notice how the pieces of the locking adapter attach the Line Filter to the rear panel.
 - d.** Pull the Line Filter out the back of the rear panel.
- 10.** To replace the rear panel and Input assembly, reverse these steps.

Removing the Main Board

To remove the A3 Main board, use the following procedure:

- 1.** Disconnect the cables from the connectors shown in Figure 6–15. Some connectors come off the Main board and others from the other instrument circuit boards.
- 2.** Follow the Bezel removal instructions on page 6–8 to remove the five front-panel knobs and the small panel below the CRT bezel.
- 3.** Unsolder the four (red, green, blue, and brown) CRT deflection leads from the Main board. The Main board has labels showing where each lead connects.

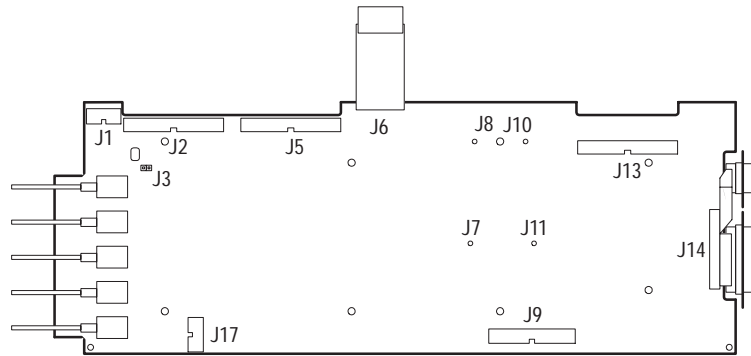


Figure 6-15: Connections on the A3 Main Board

4. Pass the CRT and trace rotation leads through the appropriate holes in the Main board.
5. Use a $\frac{3}{16}$ -inch nut driver to remove the mounting studs from the rear-panel RS-232 and REMOTE connectors.
6. Remove the eight screws that hold the Main board in place.
7. Slide the Main circuit board forward until the REMOTE and RS-232 connectors are clear of the rear panel.
8. Remove the Main board by sliding it upward and toward the rear panel until the control shafts on the front of the board clear the front panel, then lift it out.
9. To replace the Main board, slide the knob shafts into place in the front panel while matching the board to the board guides on either side of the front panel. Pass the CRT and trace rotation leads through the appropriate holes in the Main board.
10. Lower the rear of the Main board and carefully fit the REMOTE and RS-232 connectors into their rear panel slots.
11. Lower the Main board and insert the securing screws.
12. Reconnect cables and solder the CRT connections to the Main board.

Removing the Power Supply Board

To remove the A1 Power Supply, use the following procedure:

1. Be sure that the instrument is not connected to the AC power mains and that the high-voltage indicator, DS7, on the Power Supply board is off.



WARNING. Dangerous line-potential voltage exists beneath the plastic shield over the Power Supply board. Do not remove this shield when waveform monitor is plugged into the AC power mains. DS7 is an indicator. If DS7 is lighted or flashing, dangerous potentials exist beneath the plastic shield.

2. Remove the connector from A1J4 on the Power Supply board.



WARNING. The CRT may retain a dangerous charge. Ground the conductor of the anode to discharge the CRT. Do not allow the conductor to touch your body or any circuitry.

3. Disconnect the CRT anode connection at its connector located between the CRT and the Power Supply board. Discharge the anode lead to ground. See Figure 6-16.

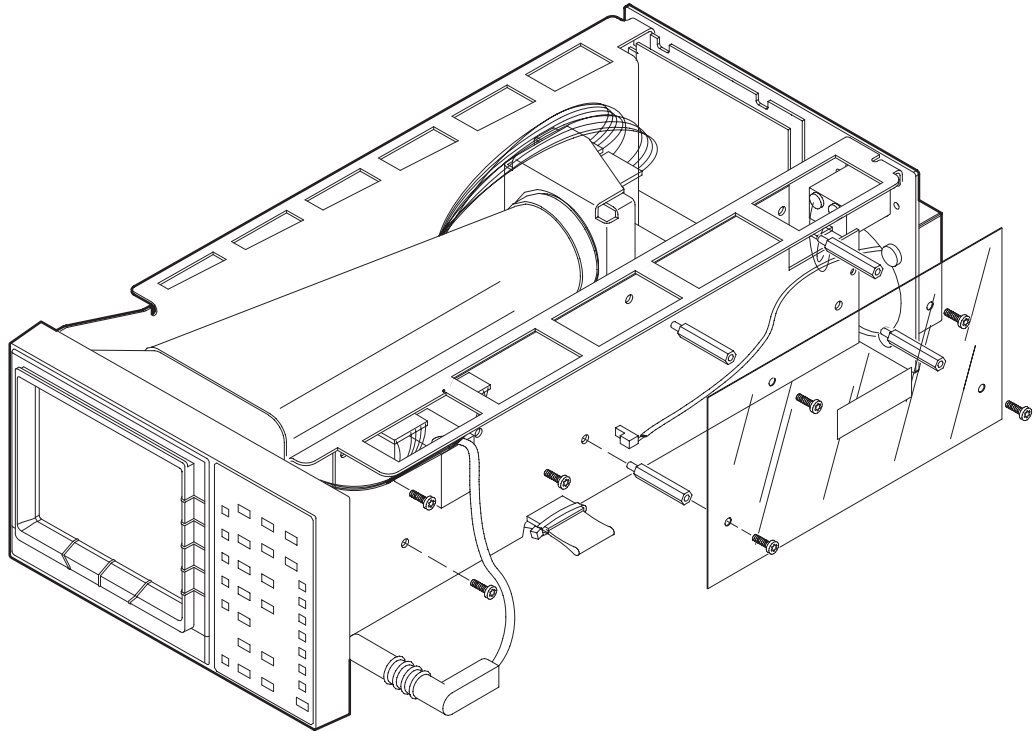


Figure 6-16: Removing the Power Supply board

4. Disconnect A1J1, A1J2, and A1J5 on the Power Supply board.
5. Desolder the two wires (blue and brown) from J12 (blue) and J10 (brown), which come from the Line Filter.
6. Clip the cable tie from the cable to connector J4. Notice how the cable tie is routed.
7. Remove the three TORX T-15 screws that secure the Power Supply board and the four T-15 screws that secure the plastic shield. See Figure 6–16.
8. Use a 1/4-inch nut driver to remove the four studs that support the plastic shield.
9. Remove the Power Supply board by sliding it forward and lifting it up.
10. To replace the Power Supply board, reverse these steps.

Removing the Serial Board

To remove the A5 Serial board, use the following procedure:

1. Disconnect the cable to A3J9 (Main circuit board) and feed the cable through the chassis as shown in Figure 6–17.
2. Disconnect the cables from A5J1, A5J5, and A5J8. Pull straight out on coaxial cable connections to avoid damaging them.
3. Disconnect the cable from the Input board A4J1.

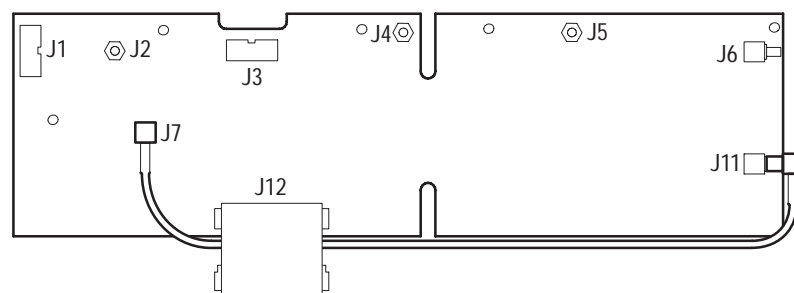


Figure 6–17: Location of connections on the Serial board

4. Remove the five TORX T-15 screws securing the Serial board. See Figure 6–18.
5. Pull out the top edge of the Serial board and lift it free.

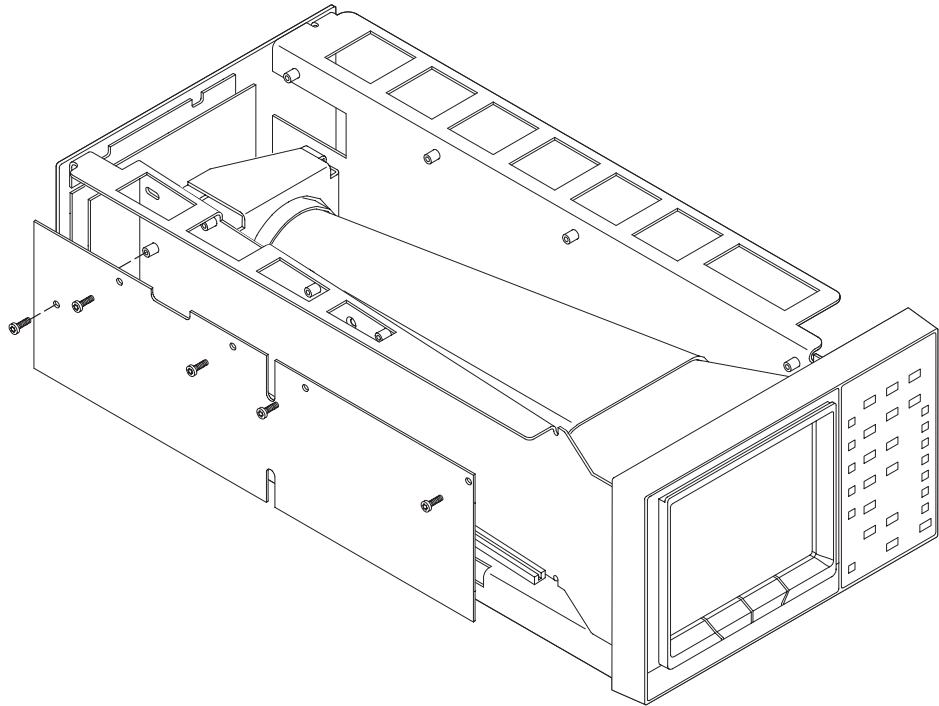


Figure 6-18: Removing the A5 Serial board

6. To reinstall the Serial board, reverse this procedure. Ensure that the bottom edge of the Serial board is seated in the board guide before installing the screws. Check that the cables under the Serial board are clear of the mounting posts.

Removing the CRT Board

The A6 CRT board (see Figure 6-21 on page 6-25 for the location of this board) contains the socket for the CRT and provides connectors for all inputs to the CRT, except the anode and trace rotation connections at the front. To remove the A6 CRT board, use the following procedure:

1. Disconnect A6J1, A6J2, and A6J3 cables on the A6 CRT board. J1 and J2 come from connectors with the same name on the A1 Power Supply board. J3 is from soldered connections on the A3 Main board.
2. Carefully pull the board to the rear and rock the CRT socket off the CRT connector.
3. Pull the A6 CRT board free from the bracket and instrument chassis.
4. To reinstall the A6 CRT board, reverse these steps. Carefully align the CRT connectors with the CRT socket. Press the socket onto the CRT until fully seated.

Removing the Component and DAC Boards

To remove the A8 DAC board and A7 Component board assembly, use the following procedure:

1. Disconnect the short cable at A7J84, which connects the A4 Input circuit board.
2. Disconnect the cable at A8J1, which connects the A5 Serial board.
3. Use slip-joint pliers to loosen and remove the connectors from A7J9, A7J12, and A7J13. Refer to Figure 6–2 for the correct way to remove these cables.
4. Remove the four TORX T-15 screws that secure the DAC and Component boards to the chassis, as shown in Figure 6–19.

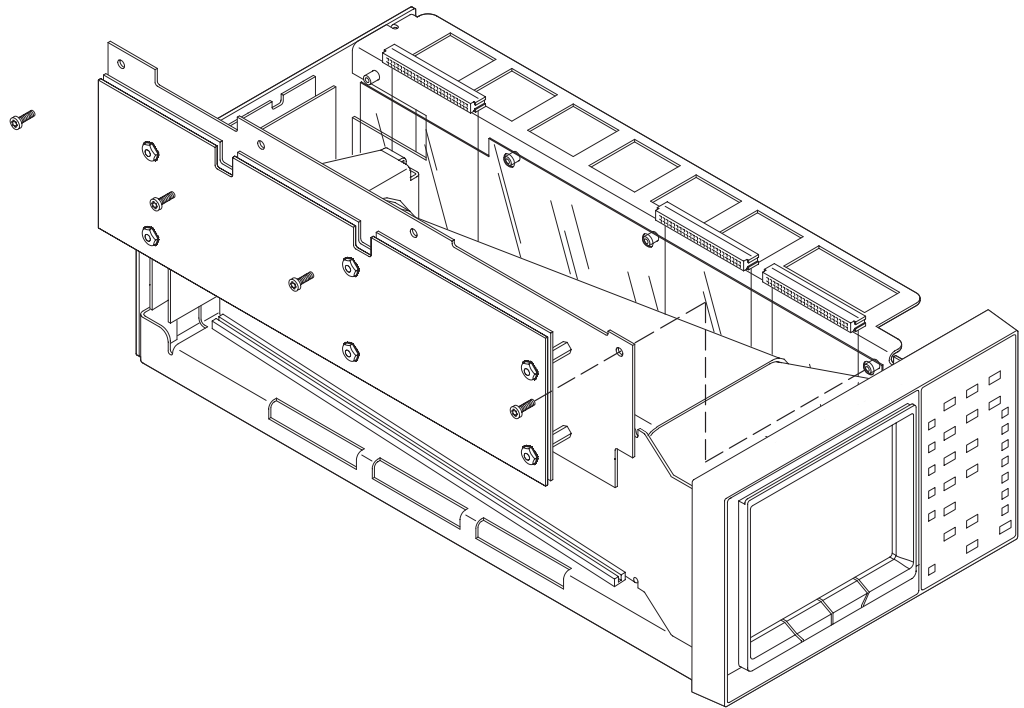


Figure 6–19: Removing the Component and DAC boards

5. Pull the two-board assembly up and out of the chassis.
6. To separate the DAC and Component boards, use the following procedure:
 - a. Disconnect the cable connecting the two boards, A8J4 to A7J14.
 - b. Use a $\frac{5}{16}$ -inch nut driver to remove the six nuts securing the DAC board to the Component board. See Figure 6–20.

- c. Use a $\frac{5}{16}$ -inch nut driver to remove the six nuts securing the shield to the Component board.
- d. Use a $\frac{5}{16}$ -inch nut driver to remove the six standoffs from the Component board.

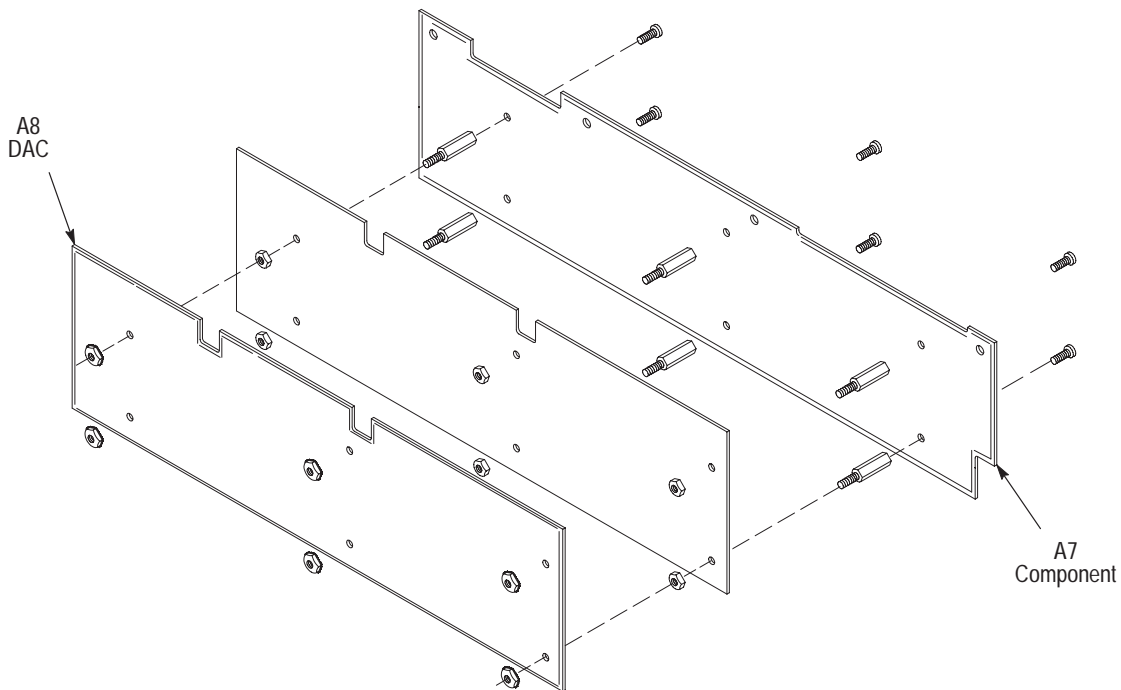


Figure 6-20: Separating the DAC and Component boards

- 7. To reinstall the two boards, reverse these steps. When inserting the two-board assembly, ensure that the Component board fits into the plastic board guide in the chassis.

Troubleshooting

This section describes the how to troubleshoot the waveform monitor. Following a general discussion of techniques, specific procedures are given for replacing the fuse, troubleshooting the Power Supply and configuring the Component and DAC boards for troubleshooting.

General Troubleshooting Techniques

The following procedure is designed to help you isolate problems, which expedites repairs and minimizes down time.

1. Determine if the malfunction exists in the waveform monitor or in another system component. Make sure that the waveform monitor is being correctly operated as intended by Tektronix (see Operating Instructions). Check that an instrument upstream from the waveform monitor is not malfunctioning.
2. Determine and evaluate all trouble symptoms. Isolate the problem to a functional block, assembly, or circuit board. Use the Theory of Operation in section 3 and the block diagrams in section 9 for tracing signals and isolating circuits.



CAUTION. To avoid damaging components, use care when probing with meter leads or probes. Misplacing leads or a probe could cause a short circuit or transient voltage capable of destroying components.

3. Determine the nature of the problem. Try to determine whether the waveform monitor is out of calibration or if there has been a component failure. Once the type of failure has been determined, identify the functional area most likely at fault.
4. Inspect the suspect assembly for physical defects. Most commonly these will be components that are broken or loose, improperly seated, or overheated or burned. Chafed insulation is also a common physical defect. Refer to the Power Supply troubleshooting procedure on page 6–26. Repair or replace obvious defects. In the case of overheated components, determine the cause of overheating and correct the cause before re-applying power.
5. Use successive electrical checks to locate the source of the problem. The best tool for isolating problems is the oscilloscope. Use the *Performance Verification* procedure to check if a circuit is operating within specifications.
6. If the waveform monitor is operating, you should attempt to save the calibration information into an NVDATA.TXT file using the Upgrade program described on page 6–42. This is especially if you may need to repair the Main board. Saving this information means you can simply load this NVDATA.TXT file into Main board and avoid running the entire Adjustment Procedure. If you exchange the Main board for another, you must run the full Adjustment Procedure described on page 5–1.

NOTE. At times it may be necessary to change a calibration adjustment to determine if a circuit is operational; however, because making this kind of adjustment can destroy instrument calibration, you should exercise care. Before changing an adjustment, note its position so you can return its original setting.

7. Determine the extent of the repair. If the necessary repair is complex, you may want to contact your local Tektronix field office or representative before continuing. If the repair is minor, such as replacing a component, see the parts lists in sections 8 and 10 for replacement information. Procedures for removing and replacing assemblies are described in this section.

NOTE. Use a 2% RMA flux content solder when making repairs. Cleaning off rosin residue is not recommended. Cleaning solvents may reactivate the rosin and spread it under components where it can cause corrosion. The initial rosin residue is not corrosive.

8. Refer to Table 6–9 on page 6–35 to determine the adjustments necessary following the replacement or repair of any circuit board

Circuit Board Locations

The instrument electrical circuits consist of circuit boards connected by various types of cables. All of the circuit boards are designated as assemblies. Each assembly has an alphanumeric designation (A1 through A9). The assemblies are listed here and at the beginning of the Replaceable Electrical Parts list in this manual.

Figure 6–21 shows the locations of all circuit board assemblies for the waveform monitor. Table 6–2 lists the functional names and numbers of the circuit boards.

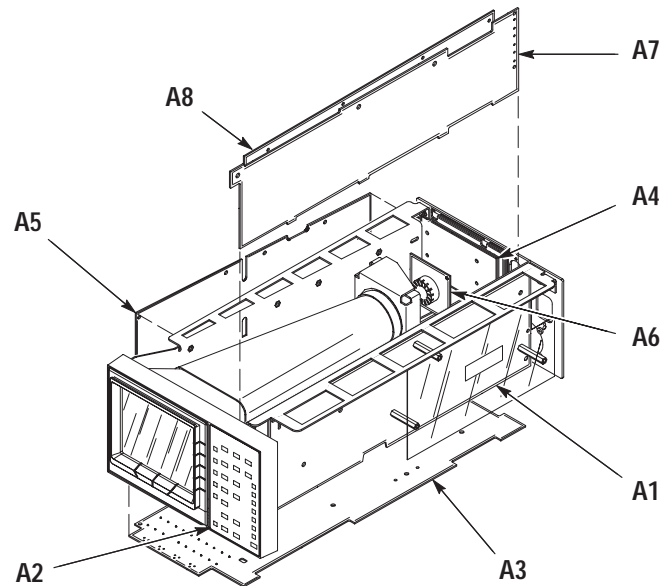


Figure 6-21: Location of circuit board assemblies

Table 6-2: Circuit board functional names

Circuit board assembly number	Assembly name
A1	Power Supply
A2	Front Panel
A3	Main
A4	BNC/Input
A4A1	BNC
A6	CRT Socket
A5	Serial
A7	Component
A8	Digital-to-Analog Converter (DAC)

Line Fuse Replacement

The waveform monitor is protected with an F-type cartridge fuse. Figure 6–22 shows the fuse location on the Power Supply (A1) circuit board. Replace the fuse with the correct type and value. The correct type and value is silk screened on the circuit board, adjacent to the fuse holder. Using a higher rated or slower acting fuse can damage a circuit.

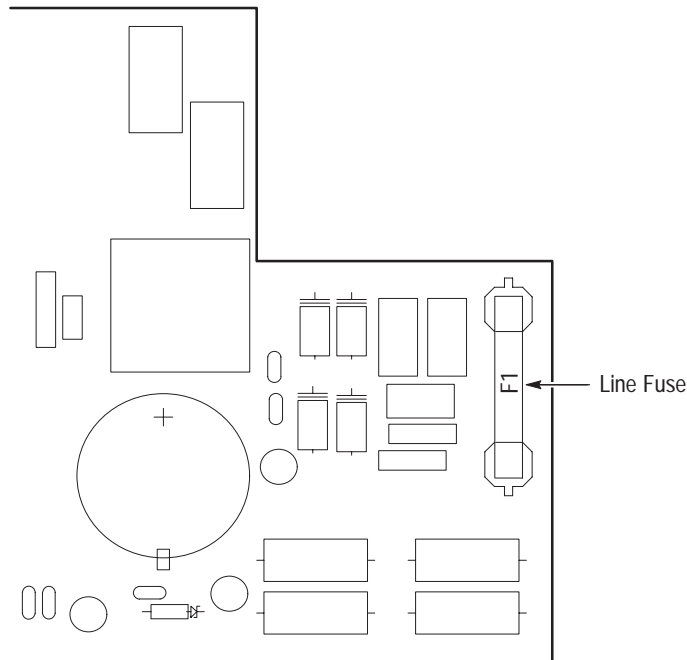


Figure 6–22: Location of the line fuse on Power Supply board

Power Supply Troubleshooting

The Power Supply is a switching power supply and requires a specific troubleshooting procedure to avoid personal danger or instrument damage.



WARNING. Dangerous voltage levels exist in the Power Supply even after the line cord is removed from the main AC supply. Read the instructions in this section before beginning to troubleshoot this Power Supply.

The Power Supply presents special troubleshooting problems. The Troubleshooting procedure that follows will help you isolate a problem to a specific circuit. Analyze the circuit using the schematics to find the defective component(s), or try part substitution in the suspect circuit.

Equipment Required. The equipment needed to troubleshoot the Power Supply:

- Digital Multimeter (DMM), with a diode check function
- Oscilloscope
- 20 V_{DC} Variable Power Supply
- 5 V_{DC} Power Supply
- High Voltage Probe, $\geq 1 \text{ G}\Omega$ input resistance

The Troubleshooting procedure for the Power Supply (Assembly A1) is in two sections: the Low Volts Supply and High Volts Supply. Start the procedure by isolating the problem to one of these two power supplies.

With the Power Supply installed in the instrument, apply AC power and press the front-panel POWER switch until the POWER switch LED is lighted. From Table 6–3, determine which symptom the Power Supply exhibits and refer to the corresponding procedure(s).

Table 6–3: Power supply fault symptoms

Symptom	Procedure
Line fuse open	Rectifier/Switcher/Snubber Check
Power Supply cycles OFF/ON Note: Check instrument for shorts.	Output Check Error Amplifier Check Shut Down Logic Check
Does not power up	Controller/Gate Drive Check Error Amplifier Check Shut Down Logic Check Rectifier/Switcher/Snubber Check
+5 V not regulating	Error Amplifier Check
Improper CRT display	High Volts Supply Checks

Troubleshooting the Low Volts Supply. To troubleshoot the low voltage circuits on the Power Supply board, follow these steps:

1. Preliminary Checks

- a. A properly functioning and loaded Low Volts Supply will output the voltages listed in Table 6–4. Use the DMM to measure the voltages between TP1 (GND) and the voltage test points. Figure 5–5 on page 5–15 shows the locations of these test points. If the supply is not regulating properly, continue with the procedure to determine the problem.

Table 6–4: Low volts supply voltages

Test point	Voltage range
TP4 (+5 V)	+5.0 V
TP5 (–5.2 V)	–5.2 V
W1 (+11 V)	+10.5 to +12.0 V
W2 (–11 V)	–10.5 to –12.0 V
R69 (+40 V)	+39.0 to +41.0 V

NOTE. No AC power is necessary to perform the Low Volts Power Supply troubleshooting.

- b. Disconnect AC power from the instrument. Disconnect the instrument from the Power Supply by removing the jumper from J7.
- c. Use the digital multimeter to measure the voltage between TP2 and the tab (drain) of Q14. Check that the voltage is near 0 V.



WARNING. Do not proceed until the drain of Q14 is near 0 V. Dangerous voltage potentials are present in the circuit until the capacitors discharge.

2. Rectifier/Switcher/Snubber Check

- a. Use the digital multimeter to measure the voltage between TP2 and TP3. Be sure the voltage is near 0 V before proceeding.
- b. Remove jumper P7.
- c. With the negative lead of the digital multimeter connected to TP3 (line common) and the positive lead connected to TP2, measure the circuit resistance. A resistance of less than 20 k Ω indicates a shorted MOSFET (Q14). If the MOSFET is shorted, replace it and perform the Control Circuit Check.
- d. Using the digital multimeter diode test function, test CR32, CR33, CR34, and CR35 for shorts. Diode replacement parts must be fast reverse recovery (300 ns) types to reduce conducted noise.
- e. Using the digital multimeter diode test function, test the snubber diodes CR23 and CR25 for shorts.
- f. Replace jumper P7.

3. Output Check (Supply Secondary)

- a. Connect the negative output from the 20 V_{DC} Power Supply to TP1 and its positive output to W3 (+11 V). The circuit should draw less than 20 mA. Excessive current draw may indicate a fault in CR16 or U2 (High Volts Power Supply).

NOTE. The variable power supply used in the following checks must have a current limit of 1 ampere or less.

- b. Connect the negative output from the 20 V_{DC} Power Supply to TP1 and the positive output to R69 (+40 V). The circuit should draw less than 20 mA. Excessive current draw may indicate a fault in CR19 or Q7 (High Volts Power Supply).
- c. Connect the positive output from the 20 V_{DC} Power Supply to TP1 and the negative output to W2 (−11 V). The circuit should draw less than 20 mA. Excessive current draw may indicate a fault in CR18.
- d. Connect the negative output from the 5 V_{DC} Power Supply to TP1 and the positive output to TP4 (+5 V). The circuit should draw less than 20 mA. Excessive current draw may indicate a fault in CR17 or Q11 and VR1 in the High Volts section of the Power Supply.

4. Controller/Gate Drive Check

- a. Remove jumper P6.
- b. Connect +20 V_{DC} to the left end of R122 or R120 and connect the common lead to TP3.
- c. Short together pins 1 and 2 of U6.
- d. Table 6–5 shows the signals present when the control circuit functions properly.

Table 6–5: Control circuit test points

Circuit location	Signal
U6, pin 3	0 V
U6, pin 4	sawtooth wave, 2 V p-p, 200 kHz
U6, pin 6	80 kHz square wave, 18 V p-p, 100 kHz

- e. Use the oscilloscope to observe the signal at the anode of CR26. It should be a 100 kHz square wave, switching between 0 V and 12 V. The fall time is 0.2 μ s and the rise time is 1 μ s.
- f. Remove the short between pins 1 and 2 of U6.

5. Power Switch and Shutdown Logic

- a. Connect the negative output from the +20 V_{DC} Power Supply to TP3. Connect the positive output to a 0.25 W, 150 Ω resistor and connect the other end of the resistor to the left end of R119 or R121. This connection should provide 6 V at 10 mA to run the switching circuit.
- b. Connect the oscilloscope probe ground to TP3.
- c. Listen for the Maglatch to click when J3 is shorted and unshorted.
- d. Using the oscilloscope, observe the signal at the collector of Q13 with J3 unshorted. This point should have a 1 V, 170 kHz sine wave riding on 5 V_{DC}. With J3 shorted this point should be at 5 V_{DC}.
- e. Short pin 2 of U6 to GND (TP3).
- f. Check that pin 6 of U9 is high.

6. Error Amplifier, Voltage Reference and Over Voltage Check

- a. Set the variable Power Supply to 4.6 V_{DC}. Connect the negative lead to TP1 and the positive output to TP4 (+5 V).
- b. Connect the digital multimeter common lead to TP1.
- c. Using the digital multimeter measure the voltage at U8, pin 6. It should be at TTL high.
- d. Using the digital multimeter, measure the voltage at U8, pin 3. It should be 2.5 V.
- e. Set the variable Power Supply to 5.4 V.
- f. Using the digital multimeter, measure the voltage at U8, pin 6. It should be 0 V.
- g. Slowly increase the voltage of the variable Power Supply. Before the voltage reaches 6 V, the over-voltage protection circuit should fire and pull it below 1 V.

7. 5.2 V Buck Circuit

- a. When the circuit is running correctly, measure the parameters listed in Table 6–6.

Table 6–6: Shut down logic levels

Circuit location	Approximate voltage
U10, pin 6	100 kHz square
U10, pin 4	100 kHz ramp
TP5	–5.2 V
U10, pin 5	–11 V
U11, pin 2	0 V _{DC}

Troubleshooting the High Volts Supply. To troubleshoot the high voltage circuits on the Power Supply board, follow these steps:



WARNING. Dangerous potentials exist on this circuit board. Use extreme care when troubleshooting these circuits.

1. Preliminary Checks

- a. Table 6–7 lists the High Volts Supply fault symptoms and procedures. Determine which symptom the power supply exhibits and refer to the corresponding procedure(s).

Table 6–7: High volts supply fault symptoms

Symptom	Procedure
Unable to focus CRT using the front-panel control	Focus Amplifier Check
Unable to adjust CRT intensity using the front-panel control	Z-Axis Amplifier Check Grid Drive Check
No CRT display	High Voltage Oscillator Check CRT Voltage Check

2. Focus Amplifier Check

- a. Using the digital multimeter, measure the voltage between TP1 and the collector of Q2.
- b. Rotate the front-panel FOCUS control and verify that the voltage varies from 0 V_{DC} to -300 V_{DC}.

3. Z-Axis Amplifier Check

- a. Use the digital multimeter to measure the voltage between TP1 and the collector of Q6.
- b. Short together the base and emitter of Q3. The collector of Q6 should be near 0 V.
- c. Short together the base and emitter of Q4. The collector of Q6 should be near 100 V.

4. Grid Drive Check

- a. Turn the Power to Standby. Use the diode check on the digital multimeter to test CR2, CR4, CR5, CR6, CR8, and CR9 for shorts.
- b. Turn the Power On.
- c. Using the digital multimeter, measure the voltage between TP1 and the cathode of CR8. It should vary between approximately +40 and +170 V as R53 (CRT Bias) is adjusted.

5. High Voltage Oscillator Check

- a. Connect the oscilloscope probe to T1 pin 3 (Q6 collector) and the probe ground to TP1. The signal should be a +70 V p-p, 22 kHz sine wave.
- b. Check the voltages listed in Table 6-8 using the digital multimeter:

Table 6-8: High-voltage oscillator test points

Circuit location	Voltage
T1, pin 4	Approximately +40 V
T1, pin 13	Less than +2 V
U2, pin 2	Approximately +4.8 V
U2, pin 6	+4 to +11 V
CR9, cathode	Approximately +100 V

6. CRT Voltage Check

NOTE. This check requires a high-voltage probe having an input resistance of $1\text{ G}\Omega$ or more.

- a. Connect the high-voltage probe ground to TP1.
- b. Use the high-voltage probe to measure the voltage at the cathode of VR5. It should be approximately -2530 V .
- c. Measure the voltage at the anode end of CR6. It should be 50 to 150 V more negative than the reading from the cathode of VR5.

Configuring the DAC and Component Boards for Troubleshooting

The DAC and Component boards are located within the frame of the waveform monitor, which makes them difficult to troubleshoot. Refer to Figure 6–21 on page 6–25 for their location. By removing the boards, positioning them correctly, and reconnecting the cables, you can troubleshoot both boards in their operating configuration. You will need the Extender Cable described in the Options and Accessories list located on page 7–1.

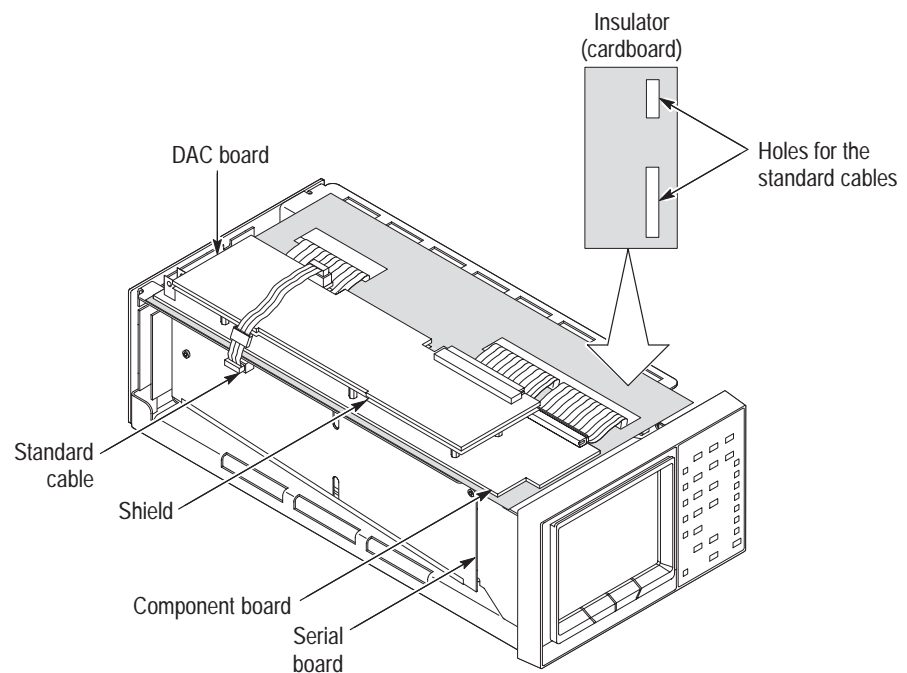


Figure 6–23: Configuration to troubleshoot the DAC board

To remove the boards, refer to the procedure on page 6–21. Figure 6–23 shows how to place both boards on an insulating card to troubleshoot the DAC board. Create an insulator like that shown in Figure 6–23 from card stock. The insulator keeps the Component board from shorting to the frame.

To troubleshoot the Component board, separate the boards and remove the shield from the back of the DAC board. Place the insulator down then connect all cables through the insulator. Use the Extender Cable described in the Options and Accessories list that starts on page 7–1. Ensure that pin 1 of the cable matches pin 1 on the connector at each end.

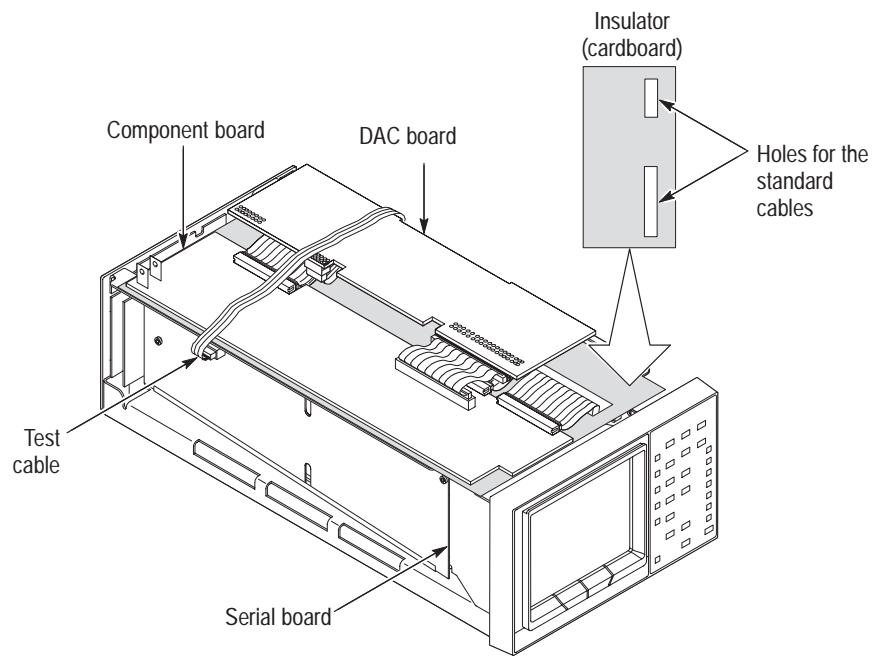


Figure 6–24: Configuration to troubleshoot the Component board

After Repair Adjustments

Adjustment and performance checks are necessary following the repair or replacement of many waveform monitor circuit boards. The required adjustments may include the preliminary checks in the Adjustment Procedures section and the automated Adjustment Procedures. Different circuit boards will require different adjustment procedures.

The automated Adjustment Procedure offers selections at start up to adjust each circuit board or module. Table 6–9 lists the circuit boards and the adjustments.

Table 6–9: Adjustment required after repairing circuit boards

Circuit board	Selection in adjustment procedure
A1 Power Supply board	Perform the initial checks on page 6–26. In the Adjustment Procedure Software, described on page 5–5, at the Calibration Procedure prompt, select Power Supply . Perform all steps.
A7 Component board	In the Adjustment Procedure Software, described on page 5–5, at the Calibration Procedure prompt, select Component . Perform all steps.
A6 Serial board	In the Adjustment Procedure Software, described on page 5–5, at the Calibration Procedure prompt, select Serial . Perform all steps.
A3 Main board	
Replace EPROM	Load new software using the Software Upgrade instructions on page 6–36.
Replace Boot ROM	Do the Performance Verification Procedure on page 4–1.
Replace minor component	Do the Performance Verification Procedure on page 4–1. Perform Adjustment Procedures as necessary.
Replace Main board	Configure the new board using the Software Upgrade instructions on page 6–36. Do the Adjustment Procedure on page 5–5. At the Calibration Procedure prompt, select Full . At the prompt Main board is new , enter Yes . Perform all steps.

Performance Verification

Perform the Performance Verification procedure after replacing any instrument circuit board. This procedure can identify any new problems introduced during repair or replacement of a circuit board.

Installing Upgrade Software

The waveform monitor stores its main operating software in EPROM located on the Main (A3) circuit board. You can replace the EPROM software with a newer version through the Serial port on the rear panel. The instructions in this section describe how to use the Upgrade program to upgrade the software in a WFM 601A, WFM 601E, or WFM 601M waveform monitor. New software upgrades are released as kits, which give details of the requirements and results of the upgrade.

NOTE. *Adjustment is required following the software upgrade.*

If you load new software, adjustment is necessary. Adjustment is required for the display mode intensities and Arrowhead and Lightning graticules. For more details, refer to page 6–46.

The Software Upgrade disk included with this manual contains the upgrade utility software and the latest version of instrument software at the time of publication.

NOTE. *Check the version of the waveform monitor boot ROM before installing new software. The boot ROM is the socketed IC U13 on the Main board (A3). See Figure 6–26. The A3 Main board is the large board on the bottom of the waveform monitor. Read the last two digits from the part number label on the boot ROM to determine the version. If the boot ROM version is 00 or 01, you need to replace it with the 02 boot ROM before loading new software. Contact your Tektronix Service Representative for more information.*

Please read all these instructions before starting the upgrade procedure. This procedure includes the following parts:

- *Getting Started*
- *Replacing the Boot ROM*
- *Upgrade Procedure*
- *Configuration after Repairing or Replacing the Main Board*
- *Using NVDATA.TXT*
- *Recovering from a Failed or Interrupted Upgrade*
- *Reloading NVDATA.TXT*
- *Adjustment and Verification after an Upgrade*

Getting Started

The Upgrade program overwrites the instrument software contained in Flash EPROM with a newer software version. The Upgrade program can also load software after replacement of the Flash EPROM.

Determining the Current Software Version. Before performing an upgrade, confirm that your current version of operating software is older than the upgrade version.

To determine the software version on your waveform monitor follow these steps:

1. Press the CONFIG menu button.
2. Select the CALIBRATE submenu.
3. Find the software version number located in the lower right corner of the CALIBRATE submenu. It is preceded by the letter V. The coprocessor code, preceded by the letter C, is not important here.
4. The software version number for the upgrade is printed on the diskette label. If the version number on the diskette is newer (higher) than the version number on your waveform monitor, you may benefit from an upgrade.

NOTE. Check the version of the waveform monitor boot ROM before installing new software. The boot ROM is the socketed IC U13 on the Main board (A3). See Figure 6–26. The A3 Main board is the large board on the bottom of the waveform monitor. Read the last two digits from the part number label on the boot ROM to determine the version. If the boot ROM version is 00 or 01, you need to replace it with the 02 boot ROM before loading new software. Contact your Tektronix Service Representative for more information.

Configure the PC. For better file security and execution speed, you should copy the contents of the 3.5 inch disk to your hard drive and run the program from there. You also need to configure your PC for remote communications before running the Upgrade program. You can run the Upgrade program from the floppy drive on your PC, if necessary. To prepare the PC, follow these steps:

1. Insert the upgrade disk into the 3.5 inch floppy drive on the PC and copy the contents to a directory on your hard drive.
2. Connect the rear-panel RS-232 connector of the waveform monitor to the COM 1, 2, 3, or 4 connector on the PC using a cable wired as shown in Figure 6–25.
3. Set the serial port communication parameters for the PC as shown in Table 6–10.

Table 6-10: Remote communication parameters

Parameter	Setting
Baud	9600
Data bits	8
Stop bits	1
Parity	None
Flow control	Xon/Xoff

For more information on configuring your waveform monitor for remote communications, refer to the *Remote Operation* section in the User manual for your model.

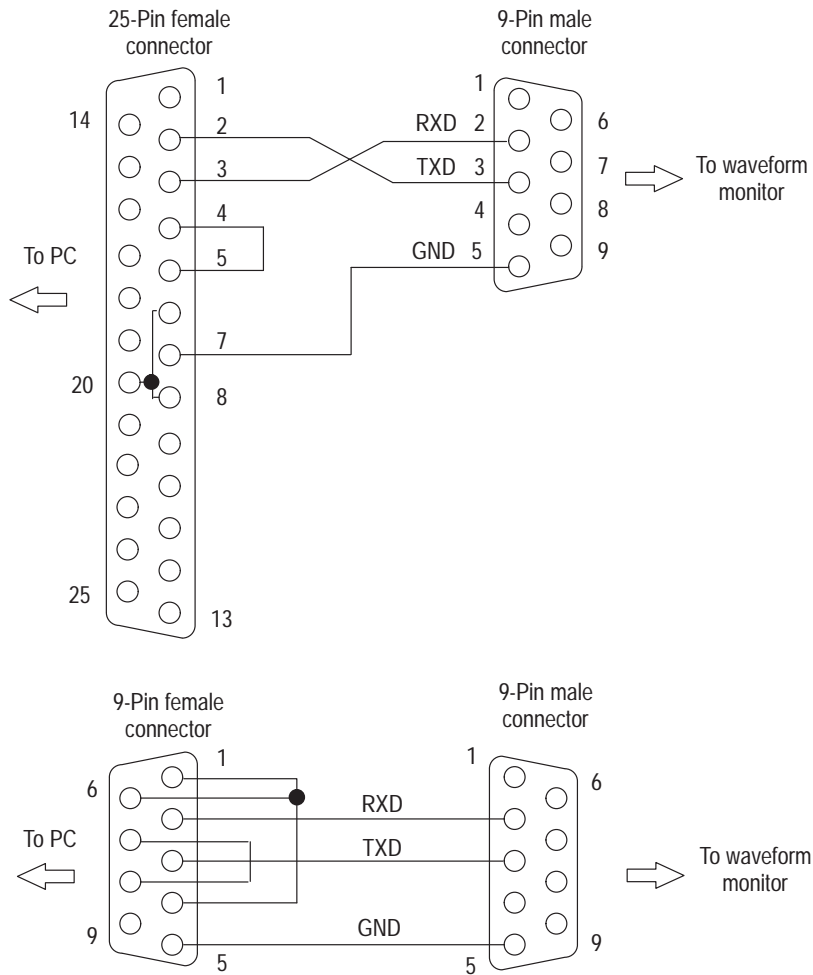


Figure 6-25: Configuration for RS-232 communications

NOTE. For remote communications to function properly for the upgrade, valid software must be running in the waveform monitor.

Replacing the Boot ROM

This procedure replaces the boot ROM on the A3 Main board with the new version. You should replace the boot ROM if you have an older instrument with a -00 or -01 version of the boot ROM. The main advantage of changing the boot ROM from -01 to -02 is the ability to configure the waveform monitor to work in other compatible models. The -00 boot ROM must be changed to be compatible with the software versions 2.0 and above.

To access the boot ROM, you need to remove the cover and turn the instrument over. The A3 Main board is the large board on the bottom as shown on page 6-25.

To replace the boot ROM, follow these steps:

1. Remove the instrument from the cabinet as described on page 6-7.
2. Position the instrument with the bottom up and the front panel to your left.
3. Replace socketed U13 with the IC Tektronix part number 163-0653-02 provided in the kit. Refer to Figure 6-26 for the component location.
4. Install the instrument in the cabinet.
5. Install new software following the instructions beginning on page 6-40.

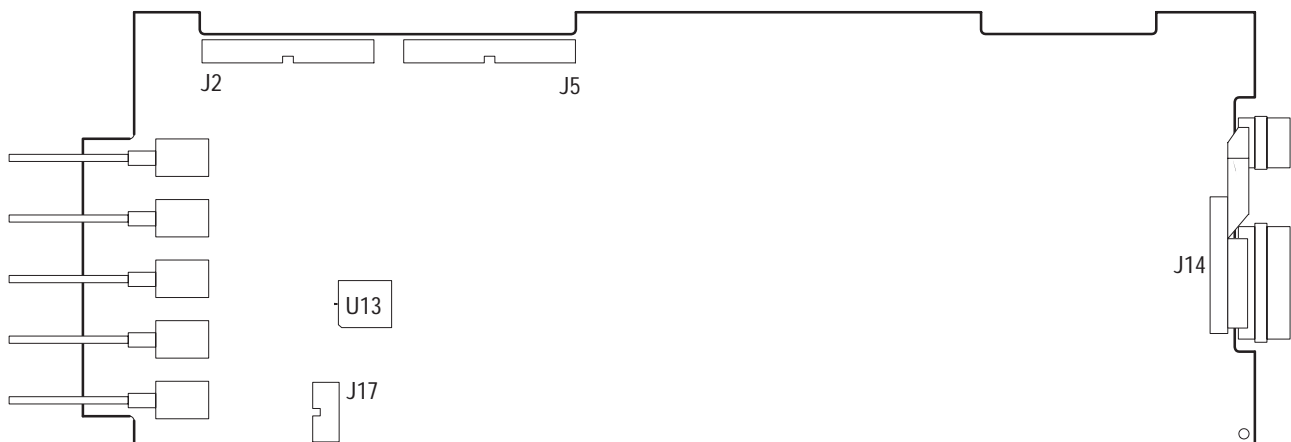


Figure 6-26: Main board showing location of U13

Upgrading the Software

Use the following procedure to upgrade the software on your waveform monitor. The procedure takes about 35 minutes to complete.



CAUTION. *Interrupting the Upgrade program before normal completion will corrupt the Flash EPROM. To prevent this, ensure that your PC and waveform monitor are not used or interrupted while the Upgrade program is running. To recover from an unsuccessful upgrade attempt, see Recovering from an Interrupted or Failed Upgrade on page 6–45. If this recovery procedure is not successful, return the waveform monitor to Tektronix for repair.*

1. Ensure that the file NVDATA.TXT is *not* located in the same directory as the Upgrade program files. NVDATA.TXT is a temporary file created by the Upgrade program to hold user presets and calibration information during the upgrade. If NVDATA.TXT is present, move it to another directory or rename it. For more information about NVDATA.TXT, see *Using NVDATA.TXT* on page 6–43.
2. Exit from all applications on your PC.
3. From the DOS prompt, change to the directory containing the upgrade files.
4. Type UPGRADE and press ENTER.
5. When asked for the COM port, enter the number of the port you are using. If you enter an incorrect port number, you are prompted to retry the same port or quit. You must quit to select a different COM port.
6. If the file NVDATA.TXT is detected in your working directory, you are prompted to make the following choice:
 - To use the current calibration constants in your waveform monitor NVRAM, type N. This is the normal selection. It lets you to use the existing cal constants to avoid recalibration following the upgrade.
 - To use the NVDATA.TXT file already in your directory to reload calibration constants, type Y.

NOTE. *If you use the pre-existing file to restore calibration constants, the program deletes NVDATA.TXT after loading it into NVRAM.*

7. If you typed N, you are prompted to make the following choice:
 - To overwrite the existing NVDATA.TXT file with the calibration constants currently in the NVRAM and to continue the upgrade, type Y.
 - To exit the Upgrade program without changing your waveform monitor, type N.

8. The program asks you to confirm the upgrade to a new version of software.
 - To upgrade your software, type Y.
 - To exit the Upgrade program without changing your waveform monitor, type N.
9. The program displays status messages as the upgrade progresses. The program saves NVRAM to NVDATA.txt, then erases both NVRAM and flash EPROM. The program then loads new software into the EPROM, then loads NVDATA.txt back into NVRAM. After approximately 35 minutes, the program completes and displays a message indicating that the upgrade was successful.

If the error message “Failed to restore CAL Constants” appears, try reloading the NVDATA.TXT file using the instructions on page 6–45.

You have successfully loaded the new software.

Configuration After Replacing or Repairing the Main Board

Use the following procedure to configure the Main board in a waveform monitor. You may need to configure the Main board after replacing or repairing it. You must always run the Upgrade program following replacement of the Main board. With the Upgrade program (UPGRADE –C), you configure the Main board with the current Model type, Serial number, and date.

Applying Power After Installing a Main Board. To check a replacement Main board, connect the completely assembled waveform monitor to AC power and press the power switch. The waveform monitor will either power up and display the usual Display mode window or show the following error message:

CONFIGURATION ERROR

CONTACT TEKTRONIX SERVICE

This error indicates that you need to use the Upgrade program to configure the Main board and, possibly, load software. If this error occurs after you have performed the configuration procedure, it could indicate that you entered incorrect information during the upgrade. Disconnect power and check that all circuit boards and connecting cables are properly seated.



CAUTION. *Interrupting the Upgrade program before normal completion will corrupt the Flash EPROM. Ensure that your PC and waveform monitor are not used or interrupted while the Upgrade program is running. To recover from an unsuccessful upgrade attempt, see Recovering from an Interrupted or Failed Upgrade on page 6–45. If this recovery procedure is not successful, return the waveform monitor to Tektronix for repair.*

Configuration Procedure

Follow these steps to configure a replacement Main board or to load new firmware in a repaired Main board.

1. Ensure that the file NVDATA.TXT is not located in the same directory as the upgrade application files. NVDATA.TXT is a temporary file created by the Upgrade program to hold user presets and calibration information. If NVDATA.TXT is present, move it to another directory or rename it. For more information about NVDATA.TXT, see *Using NVDATA.TXT* on page 6-43.
2. Exit from all applications on your PC before running the Upgrade program.
3. From the DOS prompt, change to the directory containing the upgrade files.
4. Type `UPGRADE -C` and press ENTER.
5. When asked for the COM port, enter the number of the port you are using. If you enter an incorrect port number, you are prompted to retry the same port or quit. You must quit to select a different COM port.
6. The Upgrade program prompts you to supply the following information:
 - Model type, either WFM 601A, WFM 601E, or WFM 601M
 - Instrument serial number from the rear panel, such as B012345
 - Current date in the form MM/DD/YY, such as 03/18/97 for March 18, 1997
7. The program asks whether you want to proceed with the changes. Type Y to confirm your entries or N to discard your entries.
8. The program checks the current instrument model and compares it against the model type you entered. The program then stores the new configuration in NVRAM. The program asks whether to install new software.
 - If the Main board is a replacement from Tektronix, it has the latest version of software installed. Type N to exit the Upgrade program and proceed to step 10 in this procedure.
 - If you have repaired the EPROM on the Main board, you should proceed to load new software. Type Y to load the new version of the software.
9. The program displays status messages as the upgrade progresses. After approximately 35 minutes, the program displays a message indicating that the upgrade was successful.
10. If you were able to save the calibration information before repairing the Main board, reload this information now by following the instructions on page 6-44.

11. If you replaced the Main board or were not able to save the calibration information before repair, perform the procedures in the *Adjustment Procedures* section of this manual.

When you load software into the empty EPROM, the program loads default calibration information into NVRAM. You must perform the full Adjustment Procedure in order to adjust the default calibration information. This adjustment will ensure that your waveform monitor meets the advertised specifications. You can choose to return the waveform monitor to your Tektronix Service Center for a complete calibration.

12. After repairing or replacing the Main board, verify that the waveform monitor still performs to specifications by performing the procedures in the *Performance Verification* section of this manual.

This completes the configuration procedure.

Using NVDATA.TXT

During the upgrade process, the Upgrade program saves user presets and calibration information from your waveform monitor NVRAM to a temporary file named NVDATA.TXT. After the program loads the new software, it automatically reloads the presets and calibration information from NVDATA.TXT back into NVRAM. This process configures your waveform monitor with the operating parameters it had before you ran the Upgrade program. Before exiting the upgrade, and after ensuring that NVDATA.TXT was loaded correctly, the program deletes NVDATA.TXT.

If the NVDATA.TXT file is lost, you can recalibrate the waveform monitor by using the Adjustment Procedures in this manual. Alternatively, if you have saved a copy of the NVDATA.TXT file, you can load the contents of NVDATA.TXT into the waveform monitor using the UPGRADE -R option described in *Reloading NVDATA.TXT* on page 6-45. Each waveform monitor has unique calibration information in its NVRAM. Loading the NVDATA.TXT saved from one instrument into another instrument will result in second instrument being uncalibrated.

Backing up Calibration Information and Presets. If NVRAM fails, your waveform monitor can lose calibration information and stored presets. To ensure that you retain the calibration information, you can copy the NVRAM data into the NVDATA.TXT file using the following procedure. This procedure takes about two minutes.

1. Exit from all applications on your PC.
2. From the DOS prompt, change to the directory containing the upgrade files.
3. Type UPGRADE -S and press ENTER.

The `-S` option saves the current front-panel settings, presets, and calibration information into the working directory in the file `NVDATA.TXT` and exits.

4. Rename `NVDATA.TXT` or move it into another directory to prevent the Upgrade program from overwriting it.

Calibration information is unique to each waveform monitor. Make a separate backup of the `NVDATA.TXT` file for each waveform monitor.

Loading `NVDATA.TXT` into `NVRAM`. To load an existing `NVDATA.TXT` file into `NVRAM`, use the following procedure. Loading the data file takes about two minutes to complete. Loading the `NVDATA.TXT` saved from one instrument into another instrument will result in second instrument being uncalibrated.

1. Ensure that the `NVDATA.TXT` file from your waveform monitor is in the same directory as the Upgrade program files.
2. Verify the RS-232 configuration as shown in Figure 6–25 on page 6–38 and Table 6–10, on page 6–38.
3. Exit from all applications on your PC.
4. From the DOS prompt, change to the directory containing the upgrade files.
5. Type `UPGRADE -R` and press `ENTER`.

The `-R` option attempts to reload the `NVDATA.TXT` file, but makes no other changes to your waveform monitor.

6. When asked for the COM port, enter the number of the port you are using.

The Upgrade program now attempts to restore the information from `NVDATA.TXT` to `NVRAM`.

Recovering from an Interrupted or Failed Upgrade

In rare cases, the Upgrade program may quit prematurely; for example, if power to the PC or the waveform monitor is interrupted, the RS-232 connection is broken, or the Upgrade program is significantly delayed by another application.

If the Upgrade program quits prematurely, use the following procedure.

1. Save a copy of `NVDATA.TXT` into another file or location.

Saving a copy now will back up your presets and calibration information. Leave a copy of `NVDATA.TXT` in the directory with the upgrade files. You can use this copy to restore the settings to your waveform monitor.

2. Verify the RS-232 configuration as shown in Figure 6–25 on page 6–38 and Table 6–10, on page 6–38.

3. Cycle the power on the waveform monitor by pressing the POWER button twice.
4. Exit from all applications on your PC.
5. From the DOS prompt, change to the directory containing the upgrade files.
6. Type UPGRADE and press ENTER.
7. When asked for the COM port, enter the number of the port you are using.
8. When asked if you want to use the detected NVDATA.TXT file to reload the calibration information, choose one of the following options:
 - To use the existing file to reload calibration information, type Y.
 - To quit the Upgrade program without making any changes to the waveform monitor, type N.
9. If you typed Y, the Upgrade program prompts you to confirm that you want to upgrade the current software to the new version. Choose one of the following options:
 - To continue with the upgrade, type Y.
 - To quit the Upgrade program without making any changes to the waveform monitor, type N.
10. The program displays status messages as the upgrade progresses. After approximately 35 minutes, the program displays a message indicating that the upgrade was successful.

Reloading NVDATA.TXT

In some cases, the Upgrade program will fail to reload the NVDATA.TXT file. See *Using NVDATA.TXT* on page 6–43 for more information about this file. If this occurs during a normal upgrade, an error message will inform you that the file was not reloaded.

If the NVDATA.TXT file was not reloaded, use the following procedure to recover the data and restore the waveform monitor to normal operation. This procedure takes about two minutes to complete.

1. Ensure that the NVDATA.TXT file from your waveform monitor is in the same directory as the Upgrade program files.
2. Verify the RS-232 configuration as shown in Figure 6–25 on page 6–38 and Table 6–10, on page 6–38.
3. Exit from all applications on your PC.
4. From the DOS prompt, change to the directory containing the upgrade files.

5. Type `UPGRADE -R` and press `ENTER`.

The `-R` option attempts to reload the `NVDATA.TXT` file, but makes no other changes to your waveform monitor.

6. When asked for the COM port, enter the number of the port you are using.

The Upgrade program now attempts to restore the information from `NVDATA.TXT` to `NVRAM`.

Adjustment and Verification Following an Upgrade or Configuration

After completing any of the upgrade or configuration procedures, adjustment may be required. All procedures require performance of the procedures in the *Performance Verification* section to ensure operation to the advertised specifications. Table 6–11 lists the procedures required following each type of upgrade or configuration. If a software upgrade kit indicates different adjustment requirements than those listed in Table 6–11, follow the kit instructions.

Table 6–11: Adjustment and verification required after an upgrade or configuration

Upgrade procedure	Performance verification	Limited adjustments (see following topic)	Full adjustment procedures
Load V2.23 software only	Yes	Yes	No
Replace -00 or -01 boot ROM and load V2.23 software	Yes	Yes	No
Configure A3 Main board for new model ¹	Yes	No	Yes
Replace A3 Main board and configure for current model ¹	Yes	No	Yes

¹ The calibration information stored in the replacement A3 Main board is not optimized for the circuitry in the new model or instrument. You must perform the full Adjustment Procedures to ensure correct and specified operation.

Limited Adjustments

Following the upgrade to V2.23 software, you must adjust the Arrowhead display offset and the 1H and 15H Intensities using the included Adjustment Procedures Software disk. To make the required adjustment, follow these steps:

1. Connect the serial output of a television signal generator to the waveform monitor SER A input. Terminate the loop-through input with a high-frequency (HF) 75 ohm terminator. Select a 100% Color Bar signal.
2. Load the Adjustment Procedures Software disk and run the `cal.exe` program. Refer to section 5 of this manual for more information on running the `cal.exe` application.

3. Select your model, such as WFM 601A.
4. Once the main adjustment window appears, press F6 and select the adjustment titled CRT Intensities.
5. In this procedure, check and adjust 1H and 15H intensities in all display modes. Use the arrow keys for adjustments.
6. At the end of the CRT Intensities procedure, press F6 and select the adjustment titled Arrowhead Graticule Offset & Gain.
7. In this procedure, adjust ARROW YOFF and ARROW XOFF using the arrow keys. This completes the necessary adjustments.

Run the complete procedures in section 4, *Performance Verification*, to ensure operation within the advertised specifications.

Verifying the Performance of the Waveform Monitor

After running the Upgrade program, you will need to verify that the waveform monitor still performs to specifications. Perform the procedures in the *Performance Verification* section.

Repackaging

If the instrument is to be shipped to a Tektronix Service Center for service or repair, attach a tag to the instrument showing the following information:

- Owner with complete address
- Name of the person at your firm to contact
- Instrument serial number
- Description of the service required

Repackaging for Shipment

If possible, repackage the instrument in the original shipping container to provide adequate protection as shown in Figure 6–27.

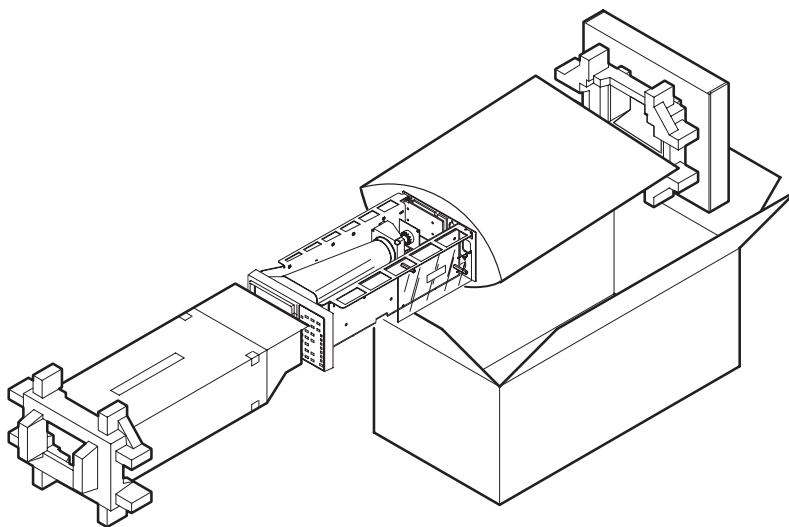


Figure 6–27: Repackaging a waveform monitor

If the original packaging is not available, repackage the instrument as follows:

1. Obtain a sturdy cardboard carton with dimensions at least six inches greater than the dimensions of the instrument to allow room for cushioning.
2. Surround the instrument with polyethylene sheeting to protect the finish.
3. Cushion the instrument on all sides with tightly packed dunnage or urethane foam. Ensure three inches of cushioning on all sides.
4. Seal the carton with shipping tape or an industrial stapler.

Options

The waveform monitors are shipped with several standard accessories. These standard accessories and any optional accessories are listed in this section.

Standard Accessories

The following accessory items are included with this product:

- 1 User Manual, provides operating information for the products
WFM 601A, WFM 601E, & WFM 601M User manual (Tektronix part number 071-0103-XX)
- 1 Power Cord: United States and Japan only (161-0216-XX)
- 1 Replacement Fuse Cartridge: 3AG, 2A, 250V, fast-blow (159-0021-00)
- 3 Replacement Graticule Light Bulbs (150-0168-00)
- 3 Replacement Air Filters for Fan (378-0415-00)
- 2 75 Ω End-line Terminations: 26 dB to 300 MHz (011-0163-00)
- 1 Smoke Grey CRT Filter, installed on instrument (378-0258-00)

Options

The following options are available when ordering a waveform monitor.

Power Cord Options. If you do not specify a power cord option, the waveform monitor is shipped with a North American 125 V power cord and one replacement fuse. The following power cord options are available when purchasing your waveform monitor.

Power cords for use in North America are UL listed and CSA certified. Cords for use in areas other than North America are approved by at least one test house acceptable in the country to which the product is shipped.

- **Option A1.** Power, Universal Europe, 220 V/16 A (Locking Power Cord)
- **Option A2.** Power, United Kingdom, 240 V/15 A (Power Cord)
- **Option A3.** Power, Australia, 240 V/10 A (Power Cord)
- **Option A4.** Power, North America, 250V/10 A (Power Cord)
- **Option A5.** Power, Swiss, 240 V/6 A (Power Cord)

Optional Accessories

The following items can be ordered with the monitor or purchased through a Tektronix field office or distributor. When ordering, include both the name and part number (if available) of the option.

WFM 601A, WFM 601E, & WFM 601M Service Manual. (070-9836-XX) This manual.

Extender Cable. A 14 inch cable (Tektronix part 174-3285-00) that connects the DAC board to the Serial board while troubleshooting.

Viewing Hood. A viewing hood blocks ambient light, allowing you to view dim waveform traces.

Front Panel Cover. The front panel cover protects the display face from damage and dust.

Camera, C9 Option 20. Use the camera to document displayed information for later use.

1700F00 Plain Cabinet. This rack mount cabinet is half-rack width, made of durable metal and painted silver-gray. Ventilating holes in the top, bottom, and sides of the cabinet help dissipate heat.

1700F02 Carrying Case. This portable cabinet is similar to the 1700F00, but it has rubber feet, a carrying handle, a flip-up stand, and a front cover.

1700F05 Side-by-Side Rack Adapter. The 1700F05 allows you to mount two half-rack width instruments in a standard 19-inch rack.

1700F06 Blank Panel. When you use only one side of a 1700F05 enclosure, insert a 1700F06 Blank Panel in the unused side to improve appearance and air flow.

1700F07 Utility Drawer. When you use only one side of a 1700F05, install the 1700F07 utility drawer in the unused side to provide storage and improve appearance and air flow. The drawer opens and closes freely, unless latched for transport.

Replaceable Electrical Parts

This section contains a list of the electrical components for the waveform monitors. Use this list to identify and order replacement parts.

Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order.

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix field office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Using the Replaceable Electrical Parts List

The tabular information in the Replaceable Electrical Parts List is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replacement parts. The following table describes each column of the electrical parts list.

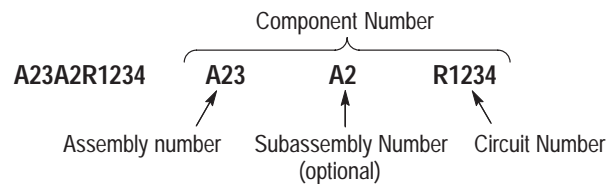
Parts list column descriptions

Column	Column name	Description
1	Component Number	<p>The component number appears on diagrams and circuit board illustrations, located in the diagrams section. Assembly numbers are clearly marked on each diagram and circuit board illustration in the <i>Diagrams</i> section, and on the mechanical exploded views in the <i>Replaceable Mechanical Parts</i> list section. The component number is obtained by adding the assembly number prefix to the circuit number (see Component Number illustration following this table).</p> <p>The electrical parts list is arranged by assemblies in numerical sequence (A1, with its subassemblies and parts, precedes A2, with its subassemblies and parts).</p> <p>Chassis-mounted parts have no assembly number prefix, and they are located at the end of the electrical parts list.</p>
2	Tektronix Part Number	Use this part number when ordering replacement parts from Tektronix.
3 and 4	Serial Number	Column three indicates the serial number at which the part was first effective. Column four indicates the serial number at which the part was discontinued. No entry indicates the part is good for all serial numbers.
5	Name & Description	An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.
6	Mfr. Code	This indicates the code number of the actual manufacturer of the part.
7	Mfr. Part Number	This indicates the actual manufacturer's or vendor's part number.

Abbreviations

Abbreviations conform to American National Standard ANSI Y1.1–1972.

Component Number



Read: Resistor 1234 (of Subassembly 2) of Assembly 23

Mfr. Code to Manufacturer Cross Index

The table titled *Manufacturers Cross Index* shows codes, names, and addresses of manufacturers or vendors of components listed in the parts list.

List of Assemblies

A list of circuit board assemblies is located in Table 1–1 at the beginning of the electrical parts list. The assemblies are listed in numerical order. When you know the complete component number of a part, use this list to identify which assembly contains the part.

Manufacturers cross index

Mfr. code	Manufacturer	Address	City, state, zip code
0LUA3	PHILIPS COMPONENTS	100 PROVIDENCE PIKE	SLATERSVILLE, RI 02876
00779	AMP INC.	CUSTOMER SERVICE DEPT PO BOX 3608	HARRISBURG, PA 17105-3608
01295	TEXAS INSTRUMENTS INC	SEMICONDUCTOR GROUP 13500 N CENTRAL EXPRESSWAY PO BOX 655303	DALLAS, TX 75272-5303
02111	SPECTROL ELECTRONICS CORP	4051 GREYSTONE DRIVE	ONTARIO, CA 91761
02113	COILCRAFT, INC.	1102 SILVER LAKE RD.	CARY, IL 60013
04222	AVX/KYOCERA	PO BOX 867	MYRTLE BEACH, SC 29577
04713	MOTOROLA INC	SEMICONDUCTOR PRODUCTS SECTOR 5005 E MCDOWELL ROAD	PHOENIX, AZ 85008-4229
05292	ITT COMPONENTS		CLIFTON, NJ
09023	CORNELL-DUBILIER CORPORATION	C/O EARL & BROWN CO INC 7185 SW SANDBURG RD	TIGARD, OR 97223
09969	DALE ELECTRONIC COMPONENTS	EAST HWY 50 P.O. BOX 180	YANKTON, SD 57078
0B0A9	DALLAS SEMICONDUCTOR	4350 BELTWOOD PKWY S	DALLAS, TX 75244
0GZV8	HUBER & SUHNER INC	ONE ALLEN MARTIN DRIVE	ESSEX, VT 05451
0J260	COMTEK MANUFACTURING OF OREGON	P O BOX 4200 M/S 16-207	BEAVERTON, OR 970764200
0J9R2	HARISON ELECTRIC CO LTD	2-1 ASAHIMACHI 5-CHOME IMARARI	EMINE, JAPAN 527R
0JR03	ZMAN MAGNETICS INC	7633 S 180TH	KENT, WA 98032
0JR04	TOSHIBA AMERICA INC.	ELECTRONICS COMPONENTS DIV 9775 TOLEDO WAY	IRVINE, CA 92718
0K6N4	PARADIGM TECHNOLOGY INC	71 VISTA MONTANA	SAN JOSE, CA 95134
0LUA3	PHILIPS COMPONENTS	100 PROVIDENCE PIKE	SLATERSVILLE, RI 02876
1CH66	PHILIPS SEMICONDUCTORS	811 E ARQUES AVE PO BOX 3409	SUNNYVALE, CA 94086-3409
1ES66	MAXIM INTEGRATED PRODUCTS INC	120 SAN GABRIEL DR	SUNNYVALE, CA 94086
12697	CLAROSTAT SENSORS & CONTROLS INC	12055 ROJAS DR SUITE K	EL PASO, TX 79936
12969	MICROSEMI CORP	WATERTOWN DIVISION 530 PLEASANT STREET	WATERTOWN, MA 02172
13103	THERMALLOY INC	2021 W. VALLEY VIEW LN PO BOX 810839	DALLAS, TX 75381-5381
13919	BURR-BROWN CORPORATION	CORP OFFICE 6730 S TUCSON BLVD PO BOX 11400	TUCSON, AZ 85706
14301	ANDERSON ELECTRONICS INC	PO BOX 89	HOLLIDAYSBURG, PA 16648-0089
14552	MICROSEMI CORP	2830 S FAIRVIEW	SANTA ANA, CA 92704-5948
15454	KETEMA INC	RODAN DIVISION 2900 BLUE STAR ST	ANAHEIM, CA 92806-2591

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
17554	AVX/KYOCERA CORP	69 LANDRY ST AIRPORT INDUSTRIAL PK	BIDDEFORD, ME 04005-4319
17856	TEMIC NORTH AMERICA	(SILICONIX & MATRA MHS) 2201 LAURELWOOD RD	SANTA CLARA, CA 95954-1516
18796	MURATA ELECTRONICS N AMERICA	1900 WEST COLLEGE AVE.	STATE COLLEGE, PA 16801-2723
22526	BERG ELECTRONICS INC	857 OLD TRAIL ROAD	ETTERS, PA 17319
24165	SPRAGUE ELECTRIC CO	267 LOWELL ROAD	HUDSON, NH 03051
24226	GOWANDA ELECTRONICS CORP	1 INDUSTRIAL PLACE	GOWANDA, NY 14070-1409
24355	ANALOG DEVICES	1 TECHNOLOGY DRIVE	NORWOOD, MA 02062
24546	DALE ELECTRONICS INC	550 HIGH ST	BRADFORD, PA 16701
24931	BERG ELECTRONICS INC	BERG ELECTRONICS RF/COAXIAL DIV 2100 EARLYWOOD DR PO BOX 547	FRANKLIN, IN 46131
26364	COMPONENTS CORPORATION	6 KINSEY PLACE	DENVILLE, NJ 07834
26769	PHILIPS COMPONENTS	CHIP TANTALUM FACILITY 5900 AUSTRALIAN AVE	WEST PALM BEACH, FL 33407-2330
27014	NATIONAL SEMICONDUCTOR CORP	2900 SEMICONDUCTOR DR PO BOX 58090 MS 30-115	SANTA CLARA, CA 95051-0606
29454	JOHANSON DIELECTRICS INC	15191 BLEDSOE STREET	SYLMAR, CA 91342
32997	BOURNS INC	TRIMPOT DIVISION 1200 COLUMBIA AVE	RIVERSIDE, CA 92507-2114
34335	ADVANCED MICRO DEVICES INC	ONE AMD PLACE PO BOX 3453	SUNNYVALE, CA 94088-3453
34371	HARRIS SEMICONDUCTORS	SEMICONDUCTOR SECTOR MS 58-71 PO BOX 883	MELBOURNE, FL 32902-0883
37942	NORTH AMERICAN CAPACITOR CO	INDIANAPOLIS ROAD, HWY 240 PO BOX 240	GREEN CASTLE, IN 46135
37964	GENNUM CORPORATION	STATION A PO BOX 489	BURLINGTON, CA A7R3Y3
48726	UNITRODE INTEGRATED CIRCUITS	7 CONTINENTAL BLVD	MERRIMACK, MN 03054
50139	ALLEN-BRADLEY COMPANY INC	ELECTRONIC COMPONENTS DIVISION 1414 ALLEN BRADLEY DRIVE	EL PASO, TX 79936
50434	HEWLETT PACKARD	370 W TRIMBLE ROAD	SAN JOSE, CA 95131-1008
51406	MURATA ELECTRONICS N AMERICA	2200 LAKE PARK DR	SMYRNA, GA 30080
52769	SPRAGUE-GOODMAN ELECT INC	1700 SHAMES DRIVE	WESTBURY, NY 11590
53387	3M COMPANY	ELECTRONICS PRODUCTS DIV 3M AUSTIN CENTER	AUSTIN, TX 78769-2963
54893	HEWLETT PACKARD	350 W TRIMBLE	SAN JOSE, CA 95131-1008
55335	JKL COMPONENTS	13343 PAXTON ST	PACOIMA, CA 91331
55680	NICHICON (AMERICA) CORP	927 E STATE PARKWAY	SCHAUMBURG, IL 60195-4526
56845	DALE ELECTRONIC COMPONENTS	2300 RIVERSIDE BLVD PO BOX 74	NORFOLK, NE 68701

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
57668	ROHM CORPORATION	15375 BARRANCA PARKWAY SUITE B207	IRVINE, CA 92718
57924	BOURNS INC	INTEGRATED TECHNOLOGY DIV. 1400 NORTH 1000 WEST	LOGAN, UT 84321
58050	TEKA INTERCONNECTION SYSTEMS	45 SALEM ST	PROVIDENCE, RI 02907
59124	KOA SPEER ELECTRONICS INC	BOLIVAR DRIVE PO BOX 547	BRADFORD, PA 16701
59660	TUSONIX INC	7741 N BUSINESS PARK DR PO BOX 37144	TUCSON, AZ 85740-7144
60705	CERA-MITE CORP	CORPORATE OFFICE 1327 6TH AVE	GRAFTON, WI 53024
61058	MATSUSHITA ELECTRIC CORP OF AMERICA	PANASONIC INDUSTRIAL CO DIV TWO PANASONIC WAY	SECAUCUS, NJ 07094
61429	FOX ELECTRONICS	DIV OF FOX ENTERPRISED INC 5842 CORPORATION CIRCLE	FORT MEYERS, FL 33905
61529	AROMAT CORPORATION	629 CENTRAL AVENUE	NEW PROVIDENCE, NJ 07974
62104	CALIFORNIA EASTERN LABS INC	4590 PATRICK HENRY DR	SANTA CLARA, CA 95054-3309
62643	UNITED CHEMI-CON INC	9801 W HIGGINS RD	ROSEMONT, IL 60018-4771
62703	MICRO QUALITY SEMICONDUCTOR	1000 N SHILOH RD PO BOX 6676	GARLAND, TX 75040
62839	COMLINEAR	4800 WHEATON DR PO BOX 20600	FT COLLINS, CO 80525
64762	ELANTEC INC	1996 TAROB COURT	MILPITAS, CA 95035-6824
66958	SGS THOMSON MICROELECTRONICS INC	1000 E BELL ROAD	PHOENIX, AZ 85022-2649
68994	XILINX INC	2100 LOGIC DR	SAN JOSE, CA 95124
71400	BUSSMANN	DIVISION COOPER INDUSTRIES INC PO BOX 14460	ST LOUIS, MO 63178
75498	MULTICOMP INC	3005 SW 154TH TERRACE SUITE #3	BEAVERTON, OR 97006
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON, OR 97077-0001
84411	AMERICAN SHIZUKI CORP	301 WEST O STREET	OGALLALA, NE 69153-1844
91637	DALE ELECTRONIC COMPONENTS	1122 23RD ST	COLUMBUS, NE 68601
95263	LIGHTING COMPONENTS & DESIGN INC	692 S MILITARY TRAIL	DEERFIELD BEACH, FL 33442
98739	AT&T TECHNOLOGIES INC	555 UNION BLVD	ALLENTOWN, PA 18103-1229
98978	INTERNATIONAL ELECTRONIC RESEARCH CORP	135 W MAGNOLIA BLVD	BURBANK, CA 91502
TK0198	HAMILTON HALLMARK	9750 SW NIMBUS AVE	BEAVERTON, OR 97005
TK0515	EVOX/RIFA INC	300 TRI-STATE INTERNATIONAL SUITE 375	LINCOLNSHIRE, IL 60069
TK1913	WIMA	DIV OF INTER-TECHNICAL GROUP INC 175 CLEARBROOK RD PO BOX 535	ELMSFORD, NY 10523-0535

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
TK1947	NORTHWEST ETCH TECHNOLOGY	2601 S HOOD ST PO BOX 110610	TACOMA, WA 98411-0610
TK2058	TDK CORPORATION OF AMERICA	1600 FEEHANVILLE DRIVE	MOUNT PROSPECT, IL 60056
TK2073	TOKYO COSMOS AMERICA INC	1177 E TOWER ROAD	SCHAUMBURG, IL 60173
TK2441	INTERNATIONAL MICROELECTRONIC PRODUCTS	2830 NORTH 1ST ST	SAN JOSE, CA 95134
TK2469	UNITREK CORPORATION	3000 LEWIS & CLARK HWY SUITE 2	VANCOUVER, WA 98661
TK2519	ALLIANCE SEMICONDUCTOR CORP	3099 N FIRST ST	SAN JOSE, CA 95134-2006
TK2598	MAXIM - ASICS	14150 SW KARL BRAUN DRIVE M/S 59-420	BEAVERTON, OR 97077

Table 8-1: List of circuit board assemblies

Assembly number	Assembly part number	Assembly description
A1	671-3616-XX	Power Supply board
A2	671-3164-XX	Front Panel board
A3	671-3158-XX	Main board
A4	671-3613-XX	BNC/Input board
A4A1	671-3615-XX	BNC Subassembly board
A5	671-3614-XX WFM601M 671-4025-XX WFM601A 671-4026-XX WFM601E	Serial board
A6	671-3637-XX	CRT Socket board
A7	671-3612-XX	Component board
A8	671-3157-XX	DAC board

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1	671-3616-00		B010278	CKT BD ASSY:POWER SUPPLY WFM 601A	80009	671-3616-00
A1	671-3616-00		B010169	CKT BD ASSY:POWER SUPPLY WFM 601E	80009	671-3616-00
A1	671-3616-00		B010558	CKT BD ASSY:POWER SUPPLY WFM 601M	80009	671-3616-00
A1	671-3616-01	B010279		CKT BD ASSY:POWER SUPPLY WFM 601A	80009	671-3616-01
A1	671-3616-01	B010170		CKT BD ASSY:POWER SUPPLY WFM 601E	80009	671-3616-01
A1	671-3616-01	B010559		CKT BD ASSY:POWER SUPPLY WFM 601M	80009	671-3616-01
A1C1	283-0429-00			CAP,FXD,CER DI:270PF,20%,2000V	18796	DHR12-Z5U271M-2KM 6514-013
A1C2	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C3	283-0021-00			CAP,FXD,CER DI:0.001UF,20%,5000V	18796	DE1310B102K6KV
A1C4	283-0639-01			CAP,FXD,MICA DI:56PF,1%,500V	09023	CDA15ED560F03
A1C5	283-0339-01			CAP,FXD,CERAMIC:MLC,0.22UF,10%,50V	04222	SR305C224KAAAP2
A1C6	283-0261-00			CAP,FXD,CER DI:0.01UF,20%,4000V	04222	5742-0001
A1C7	283-0261-00			CAP,FXD,CER DI:0.01UF,20%,4000V	04222	5742-0001
A1C8	283-0261-00			CAP,FXD,CER DI:0.01UF,20%,4000V	04222	5742-0001
A1C9	285-1341-01			CAP,FXD,PLASTIC:METALIZED FILM,0.1UF,20%,100V	84411	X674L .1 20 100
A1C10	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C11	283-0000-04			CAP,FXD,CER DI:0.001UF,+100-0X,500V	18796	DD05-90HAY5U102P5 00V
A1C12	283-0021-00			CAP,FXD,CER DI:0.001UF,20%,5000V	18796	DE1310B102K6KV
A1C13	283-0189-00			CAP,FXD,CER DI:0.1UF,20%,400V	04222	SR508C104MAA
A1C14	285-1341-01			CAP,FXD,PLASTIC:METALIZED FILM,0.1UF,20%,100V	84411	X674L .1 20 100
A1C15	290-1311-00			CAP,FXD,ALUM:10UF,20%,50V	55680	UPL1H100MDH1TD
A1C16	283-0084-02			CAP,FXD,CER DI:270PF,5%,1000V	60705	562CRE102EF271JAO 7
A1C17	285-1341-01			CAP,FXD,PLASTIC:METALIZED FILM,0.1UF,20%,100V	84411	X674L .1 20 100
A1C18	283-0189-00			CAP,FXD,CER DI:0.1UF,20%,400V	04222	SR508C104MAA
A1C19	285-1341-01			CAP,FXD,PLASTIC:METALIZED FILM,0.1UF,20%,100V	84411	X674L .1 20 100
A1C20	283-0189-00			CAP,FXD,CER DI:0.1UF,20%,400V	04222	SR508C104MAA
A1C21	290-1311-00			CAP,FXD,ALUM:10UF,20%,50V	55680	UPL1H100MDH1TD
A1C22	290-0939-00			CAP,FXD,ELCTLT:10UF,+100-10%,100V	62643	672D106H100CG2C
A1C23	285-1189-00			CAP,FXD,MTLZD:0.1 UF,5%,100 V	05292	PMT 3R .1J 100
A1C24	285-1328-00			CAP,FXD,PLASTIC:METALIZED FILM,0.01UF,5%,2000V	TK1913	FKP1 .01/2000/5
A1C25	290-1310-00			CAP,FXD,ALUM:10UF,20%,160V	62643	CEJSM2C100M
A1C26	290-1311-00			CAP,FXD,ALUM:10UF,20%,50V	55680	UPL1H100MDH1TD
A1C27	283-0339-01			CAP,FXD,CERAMIC:MLC,0.22UF,10%,50V	04222	SR305C224KAAAP2
A1C28	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C29	290-1302-00			CAP,FXD,ALUM:1000UF,20%,35V	62643	CEEFM1V102M7
A1C30	290-1310-00			CAP,FXD,ALUM:10UF,20%,160V	62643	CEJSM2C100M

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1C31	290-1302-00			CAP,FXD,ALUM:1000UF,20%,35V	62643	CEEFM1V102M7
A1C32	290-1309-00			CAP,FXD,AL:100UF,20%,63V	55680	UPL1J101MPH1TD
A1C33	290-1309-00			CAP,FXD,AL:100UF,20%	55680	UPL1J101MPH1TD
A1C34	290-1309-00			CAP,FXD,AL:100UF,20%,63V	55680	UPL1J101MPH1TD
A1C35	290-1314-00			CAP,FXD,ALUM:330UF,20%	55680	UPL1J331MHH
A1C36	290-1302-00			CAP,FXD,ALUM:1000UF,20%,35V	62643	CEEFM1V102M7
A1C37	290-1309-00			CAP,FXD,AL:100UF,20%,63V	55680	UPL1J101MPH1TD
A1C40	290-1309-00			CAP,FXD,AL:100UF,20%,63V	55680	UPL1J101MPH1TD
A1C41	290-1302-00			CAP,FXD,ALUM:1000UF,20%,35V	62643	CEEFM1V102M7
A1C44	285-1420-00			CAP,FXD,PLASTIC:FILM&FOIL,4700PF,63V,5%	TK1913	FKP2 4700/63/5
A1C45	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C47	281-0813-00			CAP,FXD,CERAMIC:MLC,0.047UF,20%,50V	04222	SA105E473MAA
A1C49	281-0813-00			CAP,FXD,CERAMIC:MLC,0.047UF,20%,50V	04222	SA105E473MAA
A1C51	285-1421-00			CAP,FXD,PLASTIC:1.0UF,10%,400V	TK1913	MKS4 1.0/400/10
A1C52	285-1421-00			CAP,FXD,PLASTIC:1.0UF,10%,400V	TK1913	MKS4 1.0/400/10
A1C53	281-0788-00			CAP,FXD,CERAMIC:MLC,470PF,10%,100V	04222	SA102C471KAA
A1C54	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C55	281-0820-00			CAP,FXD,CERAMIC:MLC,680 PF,10%,50V	04222	SA101C681KAA
A1C59	285-1470-00			CAP,FXD,PLASTIC:,330PF, 1600VDC/500VAC	TK1913	FKP1 330/1600/5
A1C60	285-1345-00			CAP,FXD,PLASTIC:2200PF,5%,100V	37942	185(2200PF)
A1C62	290-1314-00			CAP,FXD,ALUM:330UF,20%,63V	55680	UPL1J331MHH
A1C63	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C64	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C65	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C66	285-1246-00			CAP,FXD,PPR DI:0.022UF,20%,250VAC	TK0515	PME 265 MB 522
A1C71	290-1275-00			CAP,FXD,ALUM:330UF,20%,400V	55680	LGQ2G331MHSC
A1C74	285-1246-00			CAP,FXD,PPR DI:0.022UF,20%,250VAC	TK0515	PME 265 MB 522
A1C75	285-1222-00			CAP,FXD,PLASTIC:0.068UF,20%,250V	37942	158/.068/M/250/H
A1C77	283-0339-01			CAP,FXD,CERAMIC:MLC,0.22UF,10%,50V	04222	SR305C224KAAAP2
A1C100	285-1222-00			CAP,FXD,PLASTIC:0.068UF,20%,250V	37942	158/.068/M/250/H
A1C101	281-0812-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,100V	04222	SA101C102KAA
A1C102	290-1302-00			CAP,FXD,ALUM:1000UF,20%,35V	62643	CEEFM1V102M7
A1C104	290-1311-00			CAP,FXD,ALUM:10UF,20%,50V	55680	UPL1H100MDH1TD
A1C107	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C108	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C109	281-0909-00			CAP,FXD,CERAMIC:MLC,0.022UF,20%,50V	04222	SA105C223MAA
A1C110	290-1311-00			CAP,FXD,ALUM:10UF,20%,50V	55680	UPL1H100MDH1TD
A1C111	290-1349-00			CAP,FXD,ALUM:220UF,20%,25V	62643	KME25VB221M8X11LL

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1C112	290-1349-00			CAP,FXD,ALUM:220UF,20%,25V	62643	KME25VB221M8X11LL
A1C113	290-1303-00			CAP,FXD,ALUM:1000UF,20%,16V	62643	CEBSM1C102M
A1C114	290-1309-00			CAP,FXD,AL:100UF,20%,63V	55680	UPL1J101MPH1TD
A1C115	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C116	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C117	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C118	281-0812-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,100V	04222	SA101C102KAA
A1C119	285-1345-00			CAP,FXD,PLASTIC:2200PF,5%,100V	37942	185(2200PF)
A1C120	281-0820-00			CAP,FXD,CERAMIC:MLC,680 PF,10%,50V	04222	SA101C681KAA
A1C121	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C122	281-0814-00			CAP,FXD,CERAMIC:MLC,100 PF,10%,100V	04222	SA102A101KAA
A1C123	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C124	281-0273-00			CAP,FXD,CER DI:5600PF,10%,50V	04222	SA101C562KAA
A1C125	290-1309-00			CAP,FXD,AL:100UF,20%,63V	55680	UPL1J101MPH1TD
A1C126	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y422M
A1C127	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y422M
A1C128	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1C129	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A1CR1	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF	01295	1N4152R
A1CR2	152-0061-00			DIODE,SIG:200V,0.1A,700NS,4.0PF	01295	PV120 FAMILY
A1CR3	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF	01295	1N4152R
A1CR4	152-0061-00			DIODE,SIG:200V,0.1A,700NS,4.0PF	01295	PV120 FAMILY
A1CR5	152-0061-00			DIODE,SIG:200V,0.1A,700NS,4.0PF	01295	PV120 FAMILY
A1CR6	152-0061-00			DIODE,SIG:200V,0.1A,700NS,4.0PF	01295	PV120 FAMILY
A1CR7	152-0409-00			DIODE,RECT:FAST RCVRY,12KV,10MA,250NS	62703	VG12X-1
A1CR8	152-0061-00			DIODE,SIG:200V,0.1A,700NS,4.0PF	01295	PV120 FAMILY
A1CR9	152-0061-00			DIODE,SIG:200V,0.1A,700NS,4.0PF	01295	PV120 FAMILY
A1CR10	152-0400-00			DIODE,RECT:FAST RCVRY,400V,1A,200NS,1N4936	04713	1N4936RL
A1CR11	152-0400-00			DIODE,RECT:FAST RCVRY,400V,1A,200NS,1N4936	04713	1N4936RL
A1CR12	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR13	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR14	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR15	152-0400-00			DIODE,RECT:FAST RCVRY,400V,1A,200NS,1N4936	04713	1N4936RL
A1CR16	152-0720-00			DIODE,RECT:ULTRA FAST,200V,8A,25NS,100A	0LUA3	BYW29-200
A1CR17	152-0884-00			DIODE,RECT:SCHTKY,35V,16A	04713	MBR1635
A1CR18	152-0720-00			DIODE,RECT:ULTRA FAST,200V,8A	0LUA3	BYW29-200
A1CR19	152-0863-00			DIODE,RECT:ULTRA FAST,600V,1A	0LUA3	BYV26C
A1CR22	152-0400-00			DIODE,RECT:FAST RCVRY,400V,1A,200NS,1N4936	04713	1N4936RL

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1CR23	152-0897-00			DIODE,RECT:FAST RCVRV,1000V,1.5A,300NS	0LUA3	BYV96E
A1CR24	152-0601-01			DIODE,RECT:ULTRA FAST,150V	12969	UES1103
A1CR25	152-0897-00			DIODE,RECT:FAST RCVRV,1000V	0LUA3	BYV96E
A1CR26	152-0601-01			DIODE,RECT:ULTRA FAST,150V	12969	UES1103
A1CR32	152-1165-00			DIODE,RECT:ULTRA FAST,600V,4A	04713	MUR460RL
A1CR33	152-1165-00			DIODE,RECT:ULTRA FAST,600V,4A	04713	MUR460RL
A1CR34	152-1165-00			DIODE,RECT:ULTRA FAST,600V,4A	04713	MUR460RL
A1CR35	152-1165-00			DIODE,RECT:ULTRA FAST,600V,4A	04713	MUR460RL
A1CR38	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR39	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR40	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR41	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR42	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR44	152-0884-00			DIODE,RECT:SCHTKY,35V,16A	04713	MBR1635
A1CR45	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR46	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1CR47	152-0141-02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152	01295	1N4152R
A1DS1	150-0050-00			LAMP,GLOW:135V MAX,1.9MA	0J9R2	NE-2Q-11R-T
A1DS2	150-0050-00			LAMP,GLOW:135V MAX,1.9MA	0J9R2	NE-2Q-11R-T
A1DS3	150-0050-00			LAMP,GLOW:135V MAX,1.9MA	0J9R2	NE-2Q-11R-T
A1DS4	150-0050-00			LAMP,GLOW:135V MAX,1.9MA	0J9R2	NE-2Q-11R-T
A1DS5	150-0050-00			LAMP,GLOW:135V MAX,1.9MA	0J9R2	NE-2Q-11R-T
A1DS6	150-1152-00			DIODE,OPTO:LED,HIGH EF RED,INTEGRAL RESISTOR	50434	HLMP-1600-002
A1DS7	150-0050-00			LAMP,GLOW:135V MAX,1.9MA	0J9R2	NE-2Q-11R-T
A1F1	159-0021-00			FUSE,CARTRIDGE:3AG,2A,250V,FAST BLOW	71400	AGC-2
A1J1	131-5338-00			CONN,HDR:PCB/WIREWRAP,MALE	22526	65561-107
A1J2	131-5337-00			CONN,HDR:PCB/WIREWRAP,MALE	22526	65561-104
A1J3	131-4794-00			CONN,HDR:PCB,MALE	53387	2402-6112 UB
A1J4	131-3392-00			CONN,HDR:PCB,MALE	00779	1-102844-1
A1J5	131-4794-00			CONN,HDR:PCB,MALE	53387	2402-6112 UB
A1J6	131-4794-00			CONN,HDR:PCB,MALE	53387	2402-6112 UB
A1J7	131-4794-00			CONN,HDR:PCB,MALE	53387	2402-6112 UB
A1K1	148-0255-00			RELAY,ARMATURE:5V COIL,139 OHM CONTACT,220VDC SW VOLT	61529	DS2YE-SL2-DC5V-TB
A1L1	108-1262-00			INDUCTOR,FXD:POWER,100UH,10%,	TK2058	TSL0807-101KR75
A1L2	108-1262-00			INDUCTOR,FXD:POWER,100UH,10%	TK2058	TSL0807-101KR75
A1L3	108-1412-00			INDUCTOR,FXD:POWER,4.7UH,20%	TK2058	TSL0807-4R7M3R0
A1L4	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94
A1L5	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A1L6	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94
A1L7	108-1412-00			INDUCTOR,FXD:POWER,4.7UH,20%	TK2058	TSL0807-4R7M3R0
A1L9	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94
A1L10	108-1587-00			INDUCTOR,FXD:CUSTOM,POWER,100UH	OJR03	Z-94507A
A1MCR16	214-3841-00			HEAT SINK,SEMIC:TRANSISTOR,TO-220	13103	6021PB
A1MCR17	214-3841-00			HEAT SINK,SEMIC:TRANSISTOR,TO-220	13103	6021PB
A1MCR17A	214-1914-00			HEAT SINK,SEMIC:TRANSISTOR,(2)TO-220	98978	PB1-2CB
A1MCR18	214-3841-00			HEAT SINK,SEMIC:TRANSISTOR,TO-220	13103	6021PB
A1MQ7	214-3841-00			HEAT SINK,SEMIC:TRANSISTOR,TO-220	13103	6021PB
A1MQ14	214-4197-00			HEAT SINK,SEMIC:TRANSISTOR,TO-218	13103	6298B MODIFIED
A1P6	131-0993-00			CONN,BOX:SHUNT,FEMALE,BLACK,JUMPER	00779	530153-2
A1P7	131-0993-00			CONN,BOX:SHUNT,FEMALE,BLACK,JUMPER	00779	530153-2
A1Q1	151-0190-09			TRANSISTOR,SIG:NPN,40V,200MA,300MHZ	04713	2N3904RLRA
A1Q2	151-0749-00			TRANSISTOR,SIG:PNP,400V,500MA,50MHZ	04713	MPSA94
A1Q3	151-0188-05			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	2N3906RLRA
A1Q4	151-0190-09			TRANSISTOR,SIG:NPN,40V,200MA,300MHZ	04713	2N3904RLRA
A1Q5	151-0350-03			TRANSISTOR,SIG:PNP,150V,600MA,100MHZ	04713	2N5401RLRA
A1Q6	151-0347-02			TRANSISTOR,SIG:NPN,160V,600MA,100MHZ	04713	2N5551RLRA
A1Q7	151-0476-00			TRANSISTOR,PWR:NPN,100V,3.0A,3.0MHZ,TO-220	04713	TIP31C
A1Q8	151-0216-04			TRANSISTOR,SIG:PNP,25V,100MA,170MHZ	04713	MPS6523RLRA
A1Q9	151-0188-05			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	2N3906RLRA
A1Q10	151-0190-09			TRANSISTOR,SIG:NPN,40V,200MA,300MHZ	04713	2N3904RLRA
A1Q11	151-0528-00			THYRISTOR,PWR:BIPOLAR,SCR,50V,16A RMS,PHASE CONTROL,TO-220	04713	2N6400
A1Q12	151-0188-05			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	2N3906RLRA
A1Q13	151-0190-09			TRANSISTOR,SIG:NPN,40V,200MA,300MHZ	04713	2N3904RLRA
A1Q14	151-1300-00			TRANSISTOR,PWR:MOS,N-CH,800V,8.0A,1.2 OHM	66958	STH8N80FI
A1Q15	151-0188-05			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	2N3906RLRA
A1Q16	151-0188-05			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	2N3906RLRA
A1Q17	151-0710-02			TRANSISTOR,SIG:BIPOLAR,NPN,40V,1.0A,50MHZ	04713	MPS6715RLRA
A1Q18	151-1179-00			TRANSISTOR,PWR:MOS,N-CH,50V,15A,0.10 OHM	04713	MTP15N05EL
A1Q19	151-0188-05			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	2N3906RLRA
A1Q20	151-0188-05			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	2N3906RLRA
A1Q21	151-0622-01			TRANSISTOR,SIG:PNP,40V,1.0A,50MHZ	04713	MPS6727RLRA
A1R1	301-0225-02			RES,FXD,CMPSN:2.2M OHM,5%,0.5W	50139	EB2255
A1R2	303-0155-00			RES,FXD,CMPSN:1.5M OHM,5%,1W	50139	GB1555
A1R3	303-0155-00			RES,FXD,CMPSN:1.5M OHM,5%,1W	50139	GB1555
A1R4	303-0155-00			RES,FXD,CMPSN:1.5M OHM,5%,1W	50139	GB1555
A1R5	322-3331-00			RES,FXD:METAL FILM,27.4K OHM,1%,0.2W	57668	CRB20 FXE 27K4

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1R6	322-3251-00			RES,FXD,FILM:4.02K OHM,1%,0.2W	91637	CCF501G40200F
A1R8	322-3097-00			RES,FXD:METAL FILM,100 OHM,1%,0.2W	91637	CCF501G100R0F
A1R9	311-1256-00			RES,VAR,TRMR:CERMET,2.5M OHM,10%,0.5W	02111	63M-255-T604
A1R10	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R12	322-3097-00			RES,FXD:METAL FILM,100 OHM,1%,0.2W	91637	CCF501G100R0F
A1R13	303-0155-00			RES,FXD,CMPSN:1.5M OHM,5%,1W	50139	GB1555
A1R14	322-3339-00			RES,FXD:METAL FILM,33.2K OHM,1%,0.2W	91637	CCF50-2-G3322FT
A1R15	322-3481-00			RES,FXD,FILM:1M OHM,1%,0.2W	57668	CRB20 FXE 1M00
A1R16	315-0101-03			RES,FXD,CMPSN:100 OHM,5%,0.25W	50139	CB1015
A1R17	322-3254-00			RES,FXD,FILM:4.32K OHM,1%,0.2W	91637	CCF502G4321FT
A1R18	322-3162-00			RES,FXD:METAL FILM,475 OHM,1%,0.2W	91637	CCF50G475R0F
A1R19	315-0223-03			RES,FXD,CMPSN:22K OHM,5%,0.25W	50139	CB2235 ALLEN BRADLEY ONLY
A1R20	315-0102-03			RES,FXD,CMPSN:1K OHM,5%,0.25W	50139	CB1025 (CARD PACK ONLY)
A1R21	322-3306-00			RES,FXD:METAL FILM,15K OHM,1%,0.2W	91637	CCF50-2-G1502F
A1R22	322-3105-00			RES,FXD:METAL FILM,121 OHM,1%,0.2W	57668	CRB20 FXE 121E
A1R23	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R24	322-3222-00			RES,FXD:METAL FILM,2K OHM,1%,0.2W	91637	CCF501G20000F
A1R25	322-3034-00			RES,FXD:METAL FILM,22.1 OHM,1%,0.2W	91637	CCF50-2-G22R10FT
A1R26	315-0470-03			RES,FXD,CMPSN:47 OHM,5%,0.25W	50139	CB4705
A1R27	322-3162-00			RES,FXD:METAL FILM,475 OHM,1%,0.2W	91637	CCF50G475R0F
A1R28	322-3222-00			RES,FXD:METAL FILM,2K OHM,1%,0.2W	91637	CCF501G20000F
A1R29	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R30	315-0226-01			RES,FXD,CMPSN:22 M OHM,5%,0.25W	50139	CB2265
A1R31	315-0471-03			RES,FXD,CMPSN:470 OHM,5%,0.25W	50139	CB4715
A1R32	315-0471-03			RES,FXD,CMPSN:470 OHM,5%,0.25W	50139	CB4715
A1R33	322-3354-00			RES,FXD:METAL FILM,47.5K OHM,1%,0.2W	91637	CCF501G47501F
A1R34	315-0471-03			RES,FXD,CMPSN:470 OHM,5%,0.25W	50139	CB4715
A1R35	322-3273-00			RES,FXD:METAL FILM,6.81K OHM,1%,0.2W	91637	CCF50-2-G68100F
A1R36	322-3367-00			RES,FXD,FILM:64.9K OHM,1%,0.2W	91637	CCF50-2-G64901FT
A1R37	322-3354-00			RES,FXD:METAL FILM,47.5K OHM,1%,0.2W	91637	CCF501G47501F
A1R38	322-3341-00			RES,FXD,FILM:34.8K OHM,1%,0.2W	56845	CCF502G34801F
A1R39	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R40	322-3239-00			RES,FXD,FILM:3.01K OHM,1%,0.2W	91637	CCF501G30100F
A1R41	322-3435-00			RES,FXD:METAL FILM,332K OHM,1%,0.2W	91637	CCF50-2-33202FT
A1R42	311-2240-00			RES,VAR,NONWW:TRMR,200K OHM,20%,0.5W	TK2073	GF06UT2 204 M L20
A1R43	322-3273-00			RES,FXD:METAL FILM,6.81K OHM,1%,0.2W	91637	CCF50-2-G68100F
A1R44	311-2236-00			RES,VAR,TRMR:CERMET,20K OHM,20%,0.5W	TK2073	GF06UT2 203 M L20

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1R45	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R46	322-3322-00			RES,FXD:METAL FILM,22.1K OHM,1%,0.2W	57668	CRB20 FXE 22K1
A1R47	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R48	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R49	322-3024-00			RES,FXD,FILM:17.4 OHM,1%,0.2W	91637	CCF50-2-G17R40FT
A1R50	322-3322-00			RES,FXD:METAL FILM,22.1K OHM,1%,0.2W	57668	CRB20 FXE 22K1
A1R51	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R52	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R53	311-2239-00			RES,VAR,TRMR:CERMET,100K OHM,20%,0.5W	TK2073	GF06UT2 104 M L20
A1R54	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R55	322-3481-00			RES,FXD,FILM:1M OHM.1%,0.2W	57668	CRB20 FXE 1M00
A1R56	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R57	322-3235-00			RES,FXD:METAL FILM,2.74K OHM,1%,0.2W	57668	CRB20 FXE 2K74
A1R58	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R59	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R60	322-3260-00			RES,FXD,FILM:4.99K OHM,1%,0.2W	91637	CCF501G49900F
A1R61	322-3261-00			RES,FXD,FILM:5.11K OHM,1%,0.2W	91637	CCF50G5111FT
A1R62	322-3097-00			RES,FXD:METAL FILM,100 OHM,1%,0.2W	91637	CCF501G100R0F
A1R63	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R64	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R65	322-3201-00			RES,FXD:METAL FILM,1.21K OHM,1%,0.2W	91637	CCF501G12100F
A1R66	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R67	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R68	322-3339-00			RES,FXD:METAL FILM,33.2K OHM,1%,0.2W	91637	CCF50-2-G3322FT
A1R69	307-0106-00			RES,FXD,CMPSN:4.7 OHM,5%,0.25W	50139	CB47G5
A1R70	308-0441-00			RES,FXD,WW:3 OHM,5%,3W	91637	CW-2B-60-3R00-J-T/R
A1R72	322-3481-00			RES,FXD,FILM:1M OHM.1%,0.2W	57668	CRB20 FXE 1M00
A1R73	311-2238-00			RES,VAR,TRMR:CERMET,50K OHM,20%,0.5W	TK2073	GF06UT2 503 M L20
A1R74	322-3367-00			RES,FXD,FILM:64.9K OHM,1%,0.2W	91637	CCF50-2-G64901FT
A1R78	322-3405-00		671-3616-00	RES,FXD,FILM:162K OHM,1%,0.2W	91637	CCF50-1623F-R36
A1R78	322-3389-00	671-3616-01		RES,FXD,FILM:110K OHM,1%,0.2W	56845	CCF50-2-1103F
A1R79	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R81	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R82	322-3322-00			RES,FXD:METAL FILM,22.1K OHM,1%,0.2W	57668	CRB20 FXE 22K1
A1R84	322-3235-00			RES,FXD:METAL FILM,2.74K OHM,1%,0.2W	57668	CRB20 FXE 2K74
A1R86	322-3254-00			RES,FXD,FILM:4.32K OHM,1%,0.2W	91637	CCF502G4321FT
A1R87	322-3289-00			RES,FXD:METAL FILM,10K OHM,1%,0.2W	91637	CCF50G10001F
A1R88	308-0406-00			RES,FXD,WW:1.2K OHM,1%,3W	24165	242EX1K200FQ18

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1R90	308-0793-00			RES,FXD:0.51 OHM,5%,1WTC=150PPM/DEG C	91637	CPF-1-0R51JT1-T/R
A1R91	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R92	322-3481-00			RES,FXD,FILM:1M OHM,1%,0.2W	57668	CRB20 FXE 1M00
A1R93	322-3034-00			RES,FXD:METAL FILM,22.1 OHM,1%,0.2W	91637	CCF50-2-G22R10FT
A1R94	322-3347-00			RES,FXD,FILM:40.2K OHM,1%,0.2W	91637	CCF50-2-G40201F
A1R97	322-3289-00			RES,FXD:METAL FILM,10K OHM,1%,0.2W	91637	CCF50G10001F
A1R98	322-3248-00			RES,FXD,FILM:3.74K OHM,1%,0.2W	57668	CRB20 FXE 3K74
A1R100	322-3431-00			RES,FXD,FILM:301K OHM,1%,0.2W	57668	CRB20 FXE 301K
A1R110	322-3322-00			RES,FXD:METAL FILM,22.1K OHM,1%,0.2W	57668	CRB20 FXE 22K1
A1R114	322-3339-00			RES,FXD:METAL FILM,33.2K OHM,1%,0.2W	91637	CCF50-2-G3322FT
A1R117	322-3393-00			RES,FXD:METAL FILM,121K OHM,1%,0.2W	57668	CRB20 FXE 121K
A1R118	322-3393-00			RES,FXD:METAL FILM,121K OHM,1%,0.2W	57668	CRB20 FXE 121K
A1R119	305-0154-00			RES,FXD,CMPSN:150K OHM,5%,2W	50139	HB1545
A1R120	306-0104-00			RES,FXD,CMPSN:100K OHM,10%,2W	24546	FP42 OR FP2 100 K OHM 10 PERC
A1R121	305-0154-00			RES,FXD,CMPSN:150K OHM,5%,2W	50139	HB1545
A1R122	306-0104-00			RES,FXD,CMPSN:100K OHM,10%,2W	24546	FP42 OR FP2 100 K OHM 10 PERC
A1R123	307-0746-00			RES,THERMAL:5 OHM,10%,7A/DEG C	15454	SG200-S STRAIGHT LEAD
A1R124	322-3322-00			RES,FXD:METAL FILM,22.1K OHM,1%,0.2W	57668	CRB20 FXE 22K1
A1R126	322-3254-00			RES,FXD,FILM:4.32K OHM,1%,0.2W	91637	CCF502G4321FT
A1R127	315-0101-00			RES,FXD,FILM:100 OHM,5%,0.25W	50139	CB1015
A1R132	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R134	322-3201-00			RES,FXD:METAL FILM,1.21K OHM,1%,0.2W	91637	CCF501G12100F
A1R135	322-3367-00			RES,FXD,FILM:64.9K OHM,1%,0.2W	91637	CCF50-2-G64901FT
A1R136	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R137	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R138	322-3218-00			RES,FXD:METAL FILM,1.82K OHM,1%,0.2W	57668	CRB20 FXE 1K82
A1R139	322-3261-00			RES,FXD,FILM:5.11K OHM,1%,0.2W	91637	CCF50G5111FT
A1R140	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R141	322-3268-00			RES,FXD,FILM:6.04K OHM,1%,0.2W	57668	CRB20 FXE 6K04
A1R142	322-3260-00			RES,FXD,FILM:4.99K OHM,1%,0.2W	91637	CCF501G49900F
A1R143	322-3258-00			RES,FXD:METAL FILM,4.75K OHM,1%,0.2W	56845	CCF50-2-G4751FT
A1R144	308-0793-00			RES,FXD:0.51 OHM,5%,1WTC=150PPM/DEG C	91637	CPF-1-0R51JT1-T/R
A1R145	322-3068-00			RES,FXD:METAL FILM,49.9 OHM,1%,0.2W	91637	CCF501G49R90F
A1R146	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R147	322-3154-00			RES,FXD:METAL FILM,392 OHM,1%,0.2W	57668	RB20FX392E
A1R148	322-3260-00			RES,FXD,FILM:4.99K OHM,1%,0.2W	91637	CCF501G49900F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1R149	322-3262-00			RES,FXD,FILM:5.23K OHM,1%,0.2W	57668	CRB20 FXE 5K23
A1R150	322-3289-00			RES,FXD:METAL FILM,10K OHM,1%,0.2W	91637	CCF50G10001F
A1R151	322-3181-00			RES,FXD,FILM:750 OHM,1%,0.2W	91637	CCF501G750ROF
A1R152	322-3193-00			RES,FXD:METAL FILM,1K OHM,1%,0.2W	91637	CCF501G10000F
A1R153	322-3289-00			RES,FXD:METAL FILM,10K OHM,1%,0.2W	91637	CCF50G10001F
A1R154	322-3289-00			RES,FXD:METAL FILM,10K OHM,1%,0.2W	91637	CCF50G10001F
A1R155	322-3034-00			RES,FXD:METAL FILM,22.1 OHM,1%,0.2W	91637	CCF50-2-G22R10FT
A1R156	322-3339-00			RES,FXD:METAL FILM,33.2K OHM,1%,0.2W	91637	CCF50-2-G3322FT
A1R157	322-3357-00			RES,FXD,FILM:51.1K OHM,1%,0.2W	57668	CRB20 FXE 51K1
A1R158	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R159	322-3385-00			RES,FXD:METAL FILM,100K OHM,1%,0.2W	91637	CCF501G10002F
A1R160	322-3001-00			RES,FXD:METAL FILM,10 OHM,1%,0.2W	91637	CCF501G10R00F
A1R161	322-3066-00			RES,FXD:METAL FILM,47.5 OHM,1%,0.2W	09969	CCF502G47R50F
A1R162	322-3165-00			RES,FXD,FILM:511 OHM,1%,0.2W	57668	CRB20 FXE 511E
A1R163	308-0406-00			RES,FXD,WW:1.2K OHM,1%,3W	24165	242EX1K200FQ18
A1R164	307-0106-00			RES,FXD,CMPSN:4.7 OHM,5%,0.25W	50139	CB47G5
A1R165	322-3162-00			RES,FXD:METAL FILM,475 OHM,1%,0.2W	91637	CCF50G475R0F
A1R166	322-3162-00			RES,FXD:METAL FILM,475 OHM,1%,0.2W	91637	CCF50G475R0F
A1T1	120-1986-00			TRANSFORMER,PWR:CUSTOM,L(7-6) = 870UH	0JR03	Z-94167F
A1T2	120-1532-00			TRANSFORMER,RF:TOROID,ISOLATION	24226	51-446
A1T3	120-1695-00			TRANSFORMER,PWR:HIGH VOLTAGE	75498	120-1695-00
A1T8	120-1449-00			TRANSFORMER,RF:COMMON MODE,2.7MH,2A	02113	P104
A1TP1	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A1TP2	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A1TP3	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A1TP4	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A1TP5	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A1U1	152-0900-00			MODULE,HV:7.5KVAC IN,15KVDC OUT	51406	MSL2556
A1U2	156-0067-00			IC,LINEAR:BIPOLAR,OP-AMP,741C,DIP08.3	01295	UA741CP
A1U4	156-0885-00			IC, OPTOCOUPLER:7.5KV ISOL	04713	SOC 123A
A1U6	156-4236-00			IC,LINEAR:BIPOLAR,SW-REGULATOR CONTROL- LER,PWM,CURRENT MODE	48726	UC3844AN
A1U7	156-1631-01			IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,ADJUST- ABLE,SHUNT,100MA	01295	TL431CLPM
A1U8	156-2469-00			IC,LINEAR:CMOS,OP-AMP,SELECTABLE BIAS	01295	TLC271ACP
A1U9	156-2469-00			IC,LINEAR:CMOS,OP-AMP,SELECTABLE BIAS	01295	TLC271ACP
A1U10	156-4104-00			IC,LINEAR:BIPOLAR,SW-REGULATOR CONTROL- LER,PWM,CURRENT MODE	04713	UC3843N
A1U11	156-1191-00			IC,LINEAR:BIFET,OP-AMP,DUAL,TL072CN/LF353N	01295	TL072CP

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontin'd	Name & description	Mfr. code	Mfr. part number
A1VR1	152-0279-00		671-3616-00	DIODE,ZENER:5.1,5%,0.4W,1N751A	04713	1N751ARL
A1VR1	152-0175-00	671-3616-01		DIODE,ZENER:5.6V,5%,0.4W,1N752A	14552	TD3810976
A1VR3	152-0175-00			DIODE,ZENER:5.6V,5%,0.4W,1N752A	14552	TD3810976
A1VR4	152-0287-00			DIODE,ZENER:110V,5%,0.4W,1N986B	04713	1N986BRL
A1VR5	152-0287-00			DIODE,ZENER:110V,5%,0.4W,1N986B	04713	1N986BRL
A1W1	131-0566-00			BUS,CONDUCTOR:DUMMY RES	24546	OMA0207
A1W2	131-0566-00			BUS,CONDUCTOR:DUMMY RES	24546	OMA0207
A1W4	131-0566-00			BUS,CONDUCTOR:DUMMY RES	24546	OMA0207

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A2	671-3164-00			CIRCUIT BD ASSY:FRONT PANEL	80009	671316400
A2J2	174-1168-00			CA ASSY,SP,ELEC:10 PIN,4.25 L,RIBBON	TK1386	174-1168-00
A2U1	156-5304-01			IC,DGTL:HCTCMOS,BUFFER;QUAD BUFFER,/OE	01295	SN74HCT125DR
A2U2	156-5480-01			IC,DGTL:HCMOS,RGTR;8-BIT SHIFTRGTR, WITH OUT LCH	0JR04	TC74HC595AFN(EL
A2U3	156-5480-01			IC,DGTL:HCMOS,RGTR;8-BIT SHIFTRGTR, WITH OUT LCH	0JR04	TC74HC595AFN(EL
A2U4	156-5480-01			IC,DGTL:HCMOS,RGTR;8-BIT SHIFTRGTR, WITH OUT LCH	0JR04	TC74HC595AFN(EL
A2U5	156-5480-01			IC,DGTL:HCMOS,RGTR;8-BIT SHIFTRGTR, WITH OUT LCH	0JR04	TC74HC595AFN(EL
A2U6	156-5358-01			IC,DGTL:HCMOS,RGTR;8-BIT PISO SHIFTRGTR	01295	SN74HC165DR
A2U7	156-5480-01			IC,DGTL:HCMOS,RGTR;8-BIT SHIFTRGTR, WITH OUT LCH	0JR04	TC74HC595AFN(EL
A2U8	156-5358-01			IC,DGTL:HCMOS,RGTR;8-BIT PISO SHIFTRGTR	01295	SN74HC165DR
A2U9	156-5480-01			IC,DGTL:HCMOS,RGTR;8-BIT SHIFTRGTR, WITH OUT LCH	0JR04	TC74HC595AFN(EL
A2U10	156-5074-02			IC,DGTL:HCMOS,FLIP FLOP;DUAL D-TYPE	01295	SN74HC74DR
A2CR1	152-5038-00			DIODE,SIG:30V,1.5PF,VF = 600MV @ 10MA	04713	MMBD301LT1
A2CR2	152-5038-00			DIODE,SIG:30V,1.5PF,VF = 600MV @ 10MA	04713	MMBD301LT1
A2CR3	152-5038-00			DIODE,SIG:30V,1.5PF,VF = 600MV @ 10MA	04713	MMBD301LT1
A2CR4	152-5038-00			DIODE,SIG:30V,1.5PF,VF = 600MV @ 10MA	04713	MMBD301LT1
A2DS1	150-5009-00			DIO,OPTO:LED;HI-EFFIC RED,626NM	50434	HLMP-6305-021
A2DS2	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS3	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS4	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS5	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS6	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS9	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS10	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS11	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS12	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS13	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS14	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS15	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS16	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS17	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS18	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS19	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS20	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A2DS21	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS22	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS23	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS24	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS25	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS26	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS27	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS28	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS29	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS30	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS31	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS32	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS33	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS34	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS35	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS36	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS37	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2DS38	150-5011-00			DIODE,OPTO:LED;HIGH EFF,GRN,569NM	50434	HLMP-P505-T21
A2R2	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R3	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R4	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R5	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R6	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R7	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R10	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R11	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R12	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R13	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R14	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R15	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R16	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R17	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R18	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R19	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R20	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R21	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R22	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R23	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A2R24	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R25	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R26	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R27	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R28	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R29	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R30	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R31	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R32	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R33	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R34	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W	50139	BCK1001FT
A2R35	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W	50139	BCK1001FT
A2R36	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W	50139	BCK1001FT
A2R37	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W	50139	BCK1001FT
A2R38	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W	50139	BCK1002FT
A2R39	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W	50139	BCK1002FT
A2R40	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W	50139	BCK1002FT
A2R41	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W	50139	BCK1002FT
A2R42	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W	50139	BCK1002FT
A2R43	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W	50139	BCK1002FT
A2R44	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W	50139	BCK1002FT
A2R45	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W	50139	BCK1002FT
A2R47	321-5113-00			RES,FXD:THICK FILM;75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A2R48	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R49	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R50	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R51	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT
A2R52	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W	50139	BCD68R1FT

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3	671-3158-00	B010100	B010114	CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-00
A3	671-3158-01	B010100	B010377	CIRCUIT BD ASSY:MAIN, WFM601A	80009	671-3158-01
A3	671-3158-01	B010100	B010214	CIRCUIT BD ASSY:MAIN, WFM601E	80009	671-3158-01
A3	671-3158-01	B010115	B010645	CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-01
A3	671-3158-02	B010378	B010494	CIRCUIT BD ASSY:MAIN, WFM601A	80009	671-3158-02
A3	671-3158-02	B010215	B010247	CIRCUIT BD ASSY:MAIN, WFM601E	80009	671-3158-02
A3	671-3158-02	B010646	B010696	CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-02
A3	671-3158-03	B010495	B010545	CIRCUIT BD ASSY:MAIN, WFM601A	80009	671-3158-03
A3	671-3158-03	B010248	B010255	CIRCUIT BD ASSY:MAIN, WFM601E	80009	671-3158-03
A3	671-3158-03	B010697	B010718	CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-03
A3	671-3158-04	B010546	B011495	CIRCUIT BD ASSY:MAIN, WFM601A	80009	671-3158-04
A3	671-3158-04	B010256	B010714	CIRCUIT BD ASSY:MAIN, WFM601E	80009	671-3158-04
A3	671-3158-04	B010719	B011147	CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-04
A3	671-3158-05	B011496	B011966	CIRCUIT BD ASSY:MAIN, WFM601A	80009	671-3158-05
A3	671-3158-05	B010715	B011006	CIRCUIT BD ASSY:MAIN, WFM601E	80009	671-3158-05
A3	671-3158-05	B011148	B011400	CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-05
A3	671-3158-06	B011967	B012549	CIRCUIT BD ASSY:MAIN, WFM601A	80009	671-3158-06
A3	671-3158-06	B011007	B011354	CIRCUIT BD ASSY:MAIN, WFM601E	80009	671-3158-06
A3	671-3158-06	B011401	B011707	CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-06
A3	671-3158-07	B012550	B014950	CIRCUIT BD ASSY:MAIN, WFM601A	80009	671-3158-07
A3	671-3158-07	B011355	B012398	CIRCUIT BD ASSY:MAIN, WFM601E	80009	671-3158-07
A3	671-3158-07	B011708	B012576	CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-07
A3	671-3158-08	B014951		CIRCUIT BD ASSY:MAIN, WFM601A	80009	671-3158-08
A3	671-3158-08	B012399		CIRCUIT BD ASSY:MAIN, WFM601E	80009	671-3158-08
A3	671-3158-08	B012577		CIRCUIT BD ASSY:MAIN, WFM601M	80009	671-3158-08
A3C1	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A3C2	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C3	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A3C4	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C5	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C6	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A3C7	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C8	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C9	290-5024-00			CAP,FXD,TANT:3.3UF,20%,25V	04222	TAJC335M025
A3C7	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C10	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C11	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C12	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C13	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C14	283-5107-00			CAP,FXD,CERAMIC:MLC,22PF,5%,200V	18796	GRM42-6-COG 220J200V PT
A3C15	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C16	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C17	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C18	283-5107-00			CAP,FXD,CERAMIC:MLC,22PF,5%,200V	18796	GRM42-6-COG 220J200V PT
A3C19	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C20	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A3C21	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C22	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C23	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C24	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C25	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C26	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C27	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C28	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C29	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C30	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C31	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C32	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C33	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C34	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C35	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C36	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C38	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C40	283-5238-00			CAP,FXD,CERAMIC:MLC,150PF,5%,100V	04222	12061A151JAT1A
A3C41	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C44	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C46	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C48	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C49	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C51	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C52	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C53	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C54	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C55	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A3C56	281-0775-01			CAP,FXD,CERAMIC:MCL,0.1UF,20%,50V	04222	SA105E104MAA
A3C57	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C58	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C59	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C60	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C61	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C62	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C63	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C64	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C65	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C66	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C67	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C68	283-5109-00		671-3158-05	CAP,FXD,CERAMIC:MLC,680PF,5%,100V	04222	12061A681JAT1A
A3C68	283-5197-00	671-3158-06		CAP,FXD,CERAMIC:MLC,330PF,5%,100V	04222	12061A331JAT1A
A3C69	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C70	283-5109-00		671-3158-05	CAP,FXD,CERAMIC:MLC,680PF,5%,100V	04222	12061A681JAT1A
A3C70	283-5197-00	671-3158-06		CAP,FXD,CERAMIC:MLC,330PF,5%,100V	04222	12061A331JAT1A
A3C71	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C72	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C73	283-5256-00			CAP,FXD,CERAMIC:MLC,0.1UF,CONTROL +/-10%,200V	04222	18252C104KATRA
A3C74	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C75	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A3C76	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C77	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C78	283-5314-00			CAP,FXD,CERAMIC:MLC,0.7PF,+/-0.1PF,100V	04222	12061K0R7BAWTR
A3C79	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C80	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C81	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C82	283-5109-00			CAP,FXD,CERAMIC:MLC,680PF,5%,100V	04222	12061A681JAT1A
A3C83	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A3C84	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A3C85	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C86	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C87	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C88	283-5259-00			CAP,FXD,CERAMIC:MLC,6.8PF,+/-0.25PF,200V	04222	12062A6R8CAT2A
A3C89	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A3C90	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C91	281-0271-00			CAP,VAR,CER DI:7-50PF,50V	51406	TZBX4R500BA110T02
A3C92	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A3C93	283-5259-00			CAP,FXD,CERAMIC:MLC,6.8PF,+/-0.25PF,200V	04222	12062A6R8CAT2A
A3C94	283-5314-00			CAP,FXD,CERAMIC:MLC,0.7PF,+/-0.1PF,100V	04222	12061K0R7BAWTR
A3C95	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C96	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C97	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C98	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A3C100	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C101	285-1349-00			CAP,FXD,MTLZD:0.1UF,5%,63VDC	TK1913	MKS2. 1/63/5
A3C103	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A3C104	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C105	283-0934-00			CAP,FXD,PLASTIC:0.0022UF,5%,100WVDC	TK1913	FKP2 2200/100/5
A3C106	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C107	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C108	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C111	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%,100V	04222	12061A221JAT1A
A3C112	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C113	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C117	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A3C118	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A3C119	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C120	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C121	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C122	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C123	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C124	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C125	283-0698-01			CAP,FXD,MICA DI:390PF,1%,500V	09023	CDA15FD391F03
A3C127	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C128	283-5201-00			CAP,FXD,CERAMIC:MLC,33PF,5%,100V	04222	12061A330JAT1A
A3C129	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A3C130	283-5107-00			CAP,FXD,CERAMIC:MLC,22PF,5%,200V	18796	GRM42-6-COG 220J200V PT
A3C131	281-5007-00			CAP,VAR,CERAMIC:4.5-20PF,100V,N750+/-300 PPM	52769	GKG20066-##
A3C132	283-0640-01			CAP,FXD,MICA DI:160PF,1%,100V	09023	CDA15FD161F03
A3C136	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C139	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13')
A3C140	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C141	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C142	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C143	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C144	283-0639-01			CAP,FXD,MICA DI:56PF,1%,500V	09023	CDA15ED560F03
A3C150	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C157	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C162	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,SMD	04222	12063G105ZAT4A
A3C163	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C170	290-5036-01		671-3158-02	CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13')
A3C170	283-5267-00	671-3158-03		CAP,FXD,CERAMICMLC;1UF,+80%-20%,25V,SMD	04222	12063G105ZAT4A
A3C171	290-5036-01		671-3158-02	CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13')
A3C171	283-5267-00	671-3158-03		CAP,FXD,CERAMICMLC;1UF,+80%-20%,25V,SMD	04222	12063G105ZAT4A
A3C172	290-5036-01		671-3158-02	CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13')
A3C172	283-5267-00	671-3158-03		CAP,FXD,CERAMICMLC;1UF,+80%-20%,25V,SMD	04222	12063G105ZAT4A
A3C173	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C174	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C175	290-5036-01		671-3158-02	CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13')
A3C175	283-5267-00	671-3158-03		CAP,FXD,CERAMICMLC;1UF,+80%-20%,25V,SMD	04222	12063G105ZAT4A
A3C177	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C178	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A3C180	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C181	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A3C182	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C183	283-0603-01			CAP,FXD,MICA DI:113PF,2%,500V	09023	CDA15FD(113)G03
A3C184	283-0766-01			CAP,FXD,MICA DI:47PF,1%,500V	09023	CDA15ED470D03
A3C185	283-5107-00			CAP,FXD,CERAMIC:MLC,22PF,5%,200V	18796	GRM42-6-COG 220J200V PT
A3C186	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A3C187	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A3C189	290-5036-01			CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13')
A3C190	283-5248-00			CAP,FXD,CERAMIC:MLC,82PF,5%,200V	04222	12062A820JAT1A
A3C191	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C192	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C193	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C194	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C195	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A3C196	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C197	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C198	283-5109-00			CAP,FXD,CERAMIC:MLC,680PF,5%,100V	04222	12061A681JAT1A
A3C199	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C200	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C201	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A3C202	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT2A
A3C203	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A3CR2	152-5062-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1205
A3CR3	152-5062-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1205
A3CR4	152-5062-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1205
A3CR5	152-5062-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1205
A3CR6	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A3CR7	152-5062-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1205
A3CR8	152-5047-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1204
A3CR9	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A3DS1	150-5008-00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA	50434	HLMP-6505-021
A3DS2	150-0168-00			LAMP,INCAND:14V,0.08A,WEDGE BASE	55335	73W
A3DS3	150-0168-00			LAMP,INCAND:14V,0.08A,WEDGE BASE	55335	73W
A3DS4	150-0168-00			LAMP,INCAND:14V,0.08A,WEDGE BASE	55335	73W
A3DS5	150-0168-00			LAMP,INCAND:14V,0.08A,WEDGE BASE	55335	73W
A3HS1	214-2593-00			HEAT SINK,SEMIC:TRANSISTOR/IC,TO-5/TO-39	13103	2257B
A3HS2	214-2593-00			HEAT SINK,SEMIC:TRANSISTOR/IC,TO-5/TO-39	13103	2257B
A3J1	131-3718-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A3J2	131-3323-00			CONN,HDR:PCB,MALE,STR	22526	66506-025
A3J3	131-4752-00			CONN,HDR::PCB,MALE	58050	082-0243-AS10
A3J5	131-3323-00			CONN,HDR:PCB,MALE,STR	22526	66506-025
A3J6	175-9797-00			CA ASSY,SP:FLAT FLEX,FLX,10,27 AWG,2.5 L	00779	487729-1
A3J9	131-3364-00			CONN,HDR:PCB,MALE	53387	N2534-7002UB
A3J13	131-3323-00			CONN,HDR:PCB,MALE	22526	66506-025
A3J14	174-2743-00			CA ASSY SP:RIBBON,IDC,34,28 AWG,2X17,0.1 CTR	53387	174-2743-00
A3J17	131-3718-00			CONN,HDR:PCB,MALE,STR,	53387	2510-6002UB
A3L1	108-5018-00			INDUCTOR,FXD:POWER,4.7UH,20%	TK2058	NL453232T-4R7M
A3L2	108-5018-00			INDUCTOR,FXD:POWER,4.7UH,20%	TK2058	NL453232T-4R7M
A3L5	114-0482-00			INDUCTOR,VAR:SIGNAL,SHIELDED,32-48UH	02113	SLOT TEN-04-11

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3L6	114-0482-00			INDUCTOR,VAR:SIGNAL,SHIELDED,32-48UH	02113	SLOT TEN-04-11
A3L9	114-0447-00			INDUCTOR,VAR:SIGNAL,SHIELDED,0.8-1.2UH	02113	SLOT TEN-4-01
A3L10	108-5002-00			INDUCTOR,FXD:SIGNAL,15UH,5%	61058	ELJ-FB150KE
A3L11	108-5136-00			INDUCTOR,FXD:SIGNAL,3.3UH,5%	TK2058	NL322522T-3R3J-03
A3M14	337-0607-00			PLATE,ELEC SHLD:CIRCUIT BOARD 661	0J260	337-0607-00
A3Q1	151-5021-00			TRANSISTOR,SIG:NPN,40V,600MA,300MHZ,	04713	MMBT2222ALT1
A3Q2	151-5021-00			TRANSISTOR,SIG:NPN,40V,600MA,300MHZ	04713	MMBT2222ALT1
A3Q3	151-5001-00			TRANSISTOR,SIG:NPN,40V,200MA,300MHZ	04713	MMBT3904LT1
A3Q4	151-5000-00			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A3Q5	151-5000-00			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A3Q7	151-5001-00			TRANSISTOR,SIG:NPN,40V,200MA,300MHZ	04713	MMBT3904LT1
A3Q8	151-0350-03			TRANSISTOR,SIG:PNP,150V,600MA,100MHZ	04713	2N5401RLRA
A3Q9	151-5035-00			TRANSISTOR,SIG:NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A3Q10	151-0211-00			TRANSISTOR,SIG:NPN,30V VCEO,55V	04713	2N3866
A3Q11	151-0347-02			TRANSISTOR,SIG:NPN,160V,600MA,100MHZ,	04713	2N5551RLRA
A3Q12	151-5000-00			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A3Q13	151-0347-02			TRANSISTOR,SIG:NPN,160V,600MA,100MHZ	04713	2N5551RLRA
A3Q14	151-5000-00			TRANSISTOR,SIG:PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A3Q15	151-0350-03			TRANSISTOR,SIG:PNP,150V,600MA,100MHZ	04713	2N5401RLRA
A3Q16	151-0211-00			TRANSISTOR,SIG:NPN,30V VCEO	04713	2N3866
A3Q19	151-5000-00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A3Q20	151-5029-00			TRANSISTOR,SIG:BIPOLAR,NPN,15V,500MA	04713	MMBT2369ALT1
A3Q25	151-5001-00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ	04713	MMBT3904LT1
A3Q26	151-5001-00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ	04713	MMBT3904LT1
A3Q28	151-5002-00			TRANSISTOR,SIG:JFET,N-CH,5V,75MA,60 OHM	04713	MMBF4392LT1
A3Q30	151-0710-02			TRANSISTOR,SIG:BIPOLAR,NPN,40V,1.0A,50MHZ	04713	MPS6715RLRA
A3Q31	151-0622-01			TRANSISTOR,SIG:BIPOLAR,PNP,40V,1.0A,50MHZ	04713	MPS6727RLRA
A3R1	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%,0.125W	50139	BCD39R2FT
A3R2	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%,0.125W	50139	BCD39R2FT
A3R3	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%,0.125W	50139	BCD39R2FT
A3R4	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%,0.125W	50139	BCD39R2FT
A3R5	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A3R6	311-2442-02			RES,VAR,PNL:CP,10K OHM,10%,0.5W,	12697	S-1-20629
A3R7	311-2442-02			RES,VAR,PNL:CP,10K OHM,10%,0.5W	12697	S-1-20629
A3R8	311-2442-02			RES,VAR,PNL:CP,10K OHM,10%,0.5W	12697	S-1-20629
A3R9	311-2442-02			RES,VAR,PNL:CP,10K OHM,10%,0.5W	12697	S-1-20629
A3R10	311-2442-02			RES,VAR,PNL:CP,10K OHM,10%,0.5W	12697	S-1-20629
A3R11	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R12	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A3R13	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A3R14	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R15	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R16	321-5034-00			RES,FXD:THICK FILM,22.1K OHM,1%,0.125W	50139	BCK2212FT
A3R17	321-5034-00			RES,FXD:THICK FILM,22.1K OHM,1%,0.125W	50139	BCK2212FT
A3R18	321-5034-00			RES,FXD:THICK FILM,22.1K OHM,1%,0.125W	50139	BCK2212FT
A3R19	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W	50139	BCD10R0FT
A3R21	307-5041-01			RES,NTWK FXD:FILM,15,4.7K OHM,2%,PIN 16 COM	57924	4816P-002-472
A3R23	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W	09969	CRCW1206 JUMPER
A3R24	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R25	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W	09969	CRCW1206 JUMPER
A3R26	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W	09969	CRCW1206 JUMPER
A3R27	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W	09969	CRCW1206 JUMPER
A3R28	307-5041-01			RES,NTWK FXD:FILM,15,4.7K OHM,2%,PIN 16 COM	57924	4816P-002-472
A3R29	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A3R30	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R31	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R32	321-5208-00			RES,FXD:FILM:THICK FILM,10M OHM, 5%, 0.125W	91637	CRCW1206-106JT
A3R33	321-5048-00			RES,FXD:THICK FILM,332K OHM,1%,0.125W	50139	BCK3323FT
A3R34	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R35	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R36	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R37	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R38	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R39	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R40	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R41	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R42	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R43	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R44	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R48	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R49	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R50	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R51	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R52	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R53	321-5169-00			RES,FXD:THICK FILM,475K OHM,1%,0.125W	59124	RK73H2B4753FT
A3R55	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R57	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W	50139	BCK4750FT
A3R58	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R59	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R60	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R61	321-5169-00			RES,FXD:THICK FILM,475K OHM,1%,0.125W	59124	RK73H2B4753FT
A3R62	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%,0.125W	50139	BCK6810FT
A3R63	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W	50139	BCK4750FT
A3R64	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R65	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%,0.125W	50139	BCK1820FT
A3R66	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W	50139	BCK4750FT
A3R67	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%,0.125W	50139	BCD39R2FT
A3R68	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R70	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A3R71	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W	50139	BCK3920FT
A3R72	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R73	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R74	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W	50139	BCK5620FT
A3R75	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R76	321-5090-00			RES,FXD:THICK FILM, 20K OHM,1%,0.125W,100	50139	BCK2002FT
A3R77	321-5027-00			RES,FXD:THICK FILM,5.62K OHM,1%,0.125W	50139	BCK5621FT
A3R80	321-5037-00			RES,FXD:THICK FILM,39.2K OHM,1%,0.125W	50139	BCK3922FT
A3R81	321-5037-00			RES,FXD:THICK FILM,39.2K OHM,1%,0.125W	50139	BCK3922FT
A3R82	307-5041-01			RES,NTWK FXD:FILM,15,4.7K OHM,2%,PIN 16 COM	57924	4816P-002-472
A3R83	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R84	321-5037-00			RES,FXD:THICK FILM,39.2K OHM,1%,0.125W	50139	BCK3922FT
A3R85	321-5037-00			RES,FXD:THICK FILM,39.2K OHM,1%,0.125W	50139	BCK3922FT
A3R86	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R87	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R88	321-5122-00			RES,FXD,FILM:499 OHM,1%,0.125W	91637	CRCW1206-4990FT
A3R89	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W	50139	BCD22R1FT
A3R90	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W	50139	BCD22R1FT
A3R91	321-5166-00			RES,FXD:THICK FILM,150K OHM,1%,0.125W	91637	CRCW1206-1503FT
A3R92	321-5166-00			RES,FXD:THICK FILM,150K OHM,1%,0.125W	91637	CRCW1206-1503FT
A3R93	321-5166-00			RES,FXD:THICK FILM,150K OHM,1%,0.125W	91637	CRCW1206-1503FT
A3R94	321-5166-00			RES,FXD:THICK FILM,150K OHM,1%,0.125W	91637	CRCW1206-1503FT
A3R95	321-5166-00			RES,FXD:THICK FILM,150K OHM,1%,0.125W	91637	CRCW1206-1503FT
A3R96	321-5166-00			RES,FXD:THICK FILM,150K OHM,1%,0.125W	91637	CRCW1206-1503FT
A3R97	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R99	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R100	321-5031-00			RES,FXD:THICK FILM,12.1K OHM,1%,0.125W	50139	BCK1212FT
A3R101	321-5036-00			RES,FXD:THICK FILM,33.2K OHM,1%,0.125W	50139	BCK3322FT
A3R102	321-5035-00			RES,FXD:THICK FILM,27.4K OHM,1%,0.125W	50139	BCK2742FT
A3R103	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R104	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W	50139	BCK6811FT
A3R105	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W	50139	BCK6811FT
A3R106	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R107	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A3R108	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R109	321-5122-00			RES,FXD,FILM:499 OHM,1%,0.125W	91637	CRCW1206-4990FT
A3R110	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W	50139	BCK6811FT
A3R111	321-5021-00			RES,FXD:THICK FILM,1.82K OHM,1%,0.125W	50139	BCK1821FT
A3R112	321-5037-00			RES,FXD:THICK FILM,39.2K OHM,1%,0.125W	50139	BCK3922FT
A3R113	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A3R114	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R115	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R116	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R117	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R118	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R119	321-5017-00			RES,FXD:THICK FILM,825 OHM,1%,0.125W	50139	BCK8250FT
A3R120	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R121	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R122	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W	50139	BCK3920FT
A3R123	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R124	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R125	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W	50139	BCK1502FT
A3R126	321-5036-00			RES,FXD:THICK FILM,33.2K OHM,1%,0.125W	50139	BCK3322FT
A3R128	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R129	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W	50139	BCK3921FT
A3R130	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R131	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R132	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R133	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R134	311-5036-00			RES,VAR,TRMR:CERMET,5K OHM,25%,0.1W	32997	3314J-1-502E
A3R135	311-5036-00			RES,VAR,TRMR:CERMET,5K OHM,25%,0.1W	32997	3314J-1-502E
A3R136	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R137	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R138	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W	50139	BCD10R0FT
A3R139	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W	50139	BCK3920FT
A3R140	321-5027-00			RES,FXD:THICK FILM,5.62K OHM,1%,0.125W	50139	BCK5621FT
A3R141	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R142	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R143	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R144	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R145	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R146	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R147	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R148	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R149	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W	50139	BCK3921FT
A3R150	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R151	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R152	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W	09969	CRCW1206 JUMPER
A3R153	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R154	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R155	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R156	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W	50139	BCK5620FT
A3R157	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R158	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R159	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R160	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R161	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R162	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R163	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R164	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R165	321-5022-00			RES,FXD:THICK FILM,2.21K OHM,1%,0.125W	50139	BCK2211FT
A3R166	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%,0.125W	50139	BCK1820FT
A3R167	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R168	311-5041-00			RES,VAR,TRMR:CERMET,100K OHM,25%,0.25W	32997	3314J-1-104E
A3R169	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A3R170	321-5022-00			RES,FXD:THICK FILM,2.21K OHM,1%,0.125W	50139	BCK2211FT
A3R171	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%,0.125W	50139	BCK1820FT
A3R172	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R173	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R174	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A3R175	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A3R176	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R177	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R178	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R179	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R180	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A3R181	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R182	311-5032-00			RES,VAR,TRMR:CERMET,200 OHM,25%,0.25W	32997	3314J-1-201G
A3R183	311-5032-00			RES,VAR,TRMR:CERMET,200 OHM,25%,0.25W	32997	3314J-1-201G
A3R184	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R185	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R186	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W	50139	BCD10R0FT
A3R187	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W	91637	CRCW1206-2001FT
A3R188	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W	91637	CRCW1206-2001FT
A3R189	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R190	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R191	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R192	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R193	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R194	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R195	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R196	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R197	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R198	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R200	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R201	321-5087-00			RES,FXD,FILM:620 OHM,5%,0.125W	50139	BCK6200JT
A3R202	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A3R203	321-5019-00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W	50139	BCK1211FT
A3R204	321-5029-00			RES,FXD:THICK FILM,8.25K OHM,1%,0.125W	50139	BCK8251FT
A3R205	321-5027-00			RES,FXD:THICK FILM,5.62K OHM,1%,0.125W	50139	BCK5621FT
A3R206	307-0250-00			RES,THERMAL:390 OHM,10%,0.125W	01295	TG1/8 391K
A3R210	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R211	321-5021-00			RES,FXD:THICK FILM,1.82K OHM,1%,0.125W	50139	BCK1821FT
A3R212	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R213	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R216	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A3R217	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%,0.125W	59124	RK73H2B1102FT
A3R218	321-5087-00			RES,FXD,FILM:620 OHM,5%,0.125W	50139	BCK6200JT
A3R219	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R220	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W	50139	BCK5620FT
A3R221	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W	50139	BCK5620FT
A3R224	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R225	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R226	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A3R227	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A3R228	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%,0.125W	59124	RK73H2B1102FT
A3R229	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%,0.125W	59124	RK73H2B1102FT
A3R230	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A3R231	321-5041-00			RES,FXD:THICK FILM,82.5K OHM,1%,0.125W	50139	BCK8252FT
A3R234	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W	50139	BCD10R0FT
A3R235	321-5055-00			RES,FXD:THICK FILM,681K OHM,1%,0.125W	91637	CRCW120668102FT
A3R242	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R244	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A3R245	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A3R246	321-5022-00			RES,FXD:THICK FILM,2.21K OHM,1%,0.125W	50139	BCK2211FT
A3R247	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R248	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R249	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W	50139	BCK4750FT
A3R250	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R252	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W	50139	BCD10R0FT
A3R253	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W	50139	BCK1502FT
A3R254	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R255	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R258	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W	50139	BCK3921FT
A3R259	321-5021-00			RES,FXD:THICK FILM,1.82K OHM,1%,0.125W	50139	BCK1821FT
A3R260	321-5021-00			RES,FXD:THICK FILM,1.82K OHM,1%,0.125W	50139	BCK1821FT
A3R261	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R262	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R268	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R271	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A3R272	321-5212-00			RES,FXD:THICK FILM,4.99K OHM,1%,0.125W	91637	CRCW-1206-4991FR T1
A3R273	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A3R274	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R275	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A3R276	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R282	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%,0.125W	59124	RK73H2B1102FT
A3R283	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R284	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R285	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%,0.125W	59124	RK73H2B1102FT
A3R286	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A3R287	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%,0.125W	59124	RK73H2B1102FT
A3R289	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R290	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R293	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W	50139	BCD10R0FT
A3R294	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W	50139	BCK1502FT
A3R302	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W	50139	BCK4750FT
A3R310	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R311	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R312	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R321	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R322	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R323	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R324	321-5090-00			RES,FXD:THICK FILM, 20K OHM,1%,0.125W,100	50139	BCK2002FT
A3R325	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R326	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R327	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R328	321-5090-00			RES,FXD:THICK FILM, 20K OHM,1%,0.125W,100	50139	BCK2002FT
A3R329	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R330	321-5090-00			RES,FXD:THICK FILM, 20K OHM,1%,0.125W,100	50139	BCK2002FT
A3R336	321-5169-00			RES,FXD:THICK FILM,475K OHM,1%,0.125W	59124	RK73H2B4753FT
A3R337	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R338	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R339	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A3R340	321-5031-00			RES,FXD:THICK FILM,12.1K OHM,1%,0.125W	50139	BCK1212FT
A3R341	321-5029-00			RES,FXD:THICK FILM,8.25K OHM,1%,0.125W	50139	BCK8251FT
A3R342	321-5090-00			RES,FXD:THICK FILM, 20K OHM,1%,0.125W,100	50139	BCK2002FT
A3R343	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R344	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A3R345	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R346	321-5090-00			RES,FXD:THICK FILM, 20K OHM,1%,0.125W,100	50139	BCK2002FT
A3R347	321-5027-00			RES,FXD:THICK FILM,5.62K OHM,1%,0.125W	50139	BCK5621FT
A3R348	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R352	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R353	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R354	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R355	321-5090-00			RES,FXD:THICK FILM, 20K OHM,1%,0.125W,100	50139	BCK2002FT
A3R356	307-5041-01			RES,NTWK FXD:FILM,15,4.7K OHM,2%,PIN 16 COM	57924	4816P-002-472
A3R357	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R358	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W	50139	BCK5620FT
A3R361	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W	50139	BCK3920FT
A3R364	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%,0.125W	50139	BCK221FT
A3R365	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%,0.125W	50139	BCK221FT
A3R366	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A3R367	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R376	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%,0.125W	50139	BCK221FT
A3R377	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R378	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W	50139	BCK4750FT
A3R379	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W	50139	BCK4750FT
A3R380	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R382	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R383	321-5029-00			RES,FXD:THICK FILM,8.25K OHM,1%,0.125W	50139	BCK8251FT
A3R384	321-5017-00			RES,FXD:THICK FILM,825 OHM,1%,0.125W	50139	BCK8250FT
A3R392	321-5021-00			RES,FXD:THICK FILM,1.82K OHM,1%,0.125W	50139	BCK1821FT
A3R393	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A3R394	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A3R406	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A3R407	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W	50139	BCK1003FT
A3R408	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W	50139	BCD10R0FT
A3R410	321-5044-00			RES,FXD:THICK FILM,56.2 OHM,1%,0.125W	50139	BCD56R2FT
A3R411	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R412	321-5044-00			RES,FXD:THICK FILM,56.2 OHM,1%,0.125W	50139	BCD56R2FT
A3R413	321-5044-00			RES,FXD:THICK FILM,56.2 OHM,1%,0.125W	50139	BCD56R2FT
A3R414	321-5044-00			RES,FXD:THICK FILM,56.2 OHM,1%,0.125W	50139	BCD56R2FT
A3R415	321-5017-00			RES,FXD:THICK FILM,825 OHM,1%,0.125W	50139	BCK8250FT
A3R416	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W	50139	BCK5620FT
A3R417	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W	50139	BCK2741FT
A3R418	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R419	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R420	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R421	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W	50139	BCK6811FT
A3R423	321-5488-00			RES,FXD:THICK FILM,2.4 OHM,5%,SMD,1206,T&R	09969	CRCW12062R4JRT1
A3R425	321-5488-00			RES,FXD:THICK FILM,2.4 OHM,5%,SMD,1206,T&R	09969	CRCW12062R4JRT1
A3R427	321-5488-00			RES,FXD:THICK FILM,2.4 OHM,5%,SMD,1206,T&R	09969	CRCW12062R4JRT1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R428	321-5017-00			RES,FXD:THICK FILM,825 OHM,1%,0.125W	50139	BCK8250FT
A3R429	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R430	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R431	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R432	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R433	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R434	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R435	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R436	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R437	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R438	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R439	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R440	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R441	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R442	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R443	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R444	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R445	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R446	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R447	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R448	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R449	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R450	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R451	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R452	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R453	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R454	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R455	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R456	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R457	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R458	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R459	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R460	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R461	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R462	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R463	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R464	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R465	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R466	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R467	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R468	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R469	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R470	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A3R471	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R472	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A3R473	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A3R474	307-0250-00			RES,THERMAL:390 OHM,10%,0.125W	01295	TG1/8 391K
A3R475	307-0250-00			RES,THERMAL:390 OHM,10%,0.125W	01295	TG1/8 391K
A3R476	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%,0.125W	59124	RK73H2B1102FT
A3R477	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W	50139	BCK5620FT
A3R478	321-5026-00	671-3158-06		RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R479	321-5026-00	671-3158-06		RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A3R480	322-3289-00	671-3158-02	671-3158-06	RES,FXD:METAL FILM,10K OHM,1%,AXIAL	57668	CRB20T29EFX1002
A3S1	260-1965-00			SWITCH,ROCKER:DIP,4 POSITION,150MA 30VDC	00779	435166-2
A3SKT1	136-1185-00			SOCKET,LPHLDR:PCB,WEDGE BASE,FEMALE,RTANG	95263	53-35XP11
A3SKT2	136-1185-00			SOCKET,LPHLDR:PCB,WEDGE BASE,FEMALE,RTANG	95263	53-35XP11
A3SKT3	136-1185-00			SOCKET,LPHLDR:PCB,WEDGE BASE,FEMALE,RTANG	95263	53-35XP11
A3SKT4	136-1185-00			SOCKET,LPHLDR:PCB,WEDGE BASE,FEMALE,RTANG	95263	53-35XP11
A3TP7	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A3U1	156-2051-01			MICROCKT,LINEAR:OPERATIONAL AMPLIFIER	01295	LF347DR
A3U2	160-8970-00			IC,DIGITAL:CMOS,PLD,EEPLD,16V8,15NS,90MA	TK0198	160897000
A3U3	156-6007-00			IC,CONVERTER:CMOS,A/D,8-BIT,13US,11 CHAN MUX	01295	TLC540IFN
A3U4	156-6007-00			IC,CONVERTER:CMOS,A/D,8-BIT,13US,11 CHAN MUX	01295	TLC540IFN
A3U5	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002/TL072	01295	TL072CDR
A3U6	156-5058-01			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3-STATE	1CH66	N74F245D
A3U7	156-5489-01			IC,MISC:BIPOLAR,PWR SUPPLY SUPERVISOR	01295	TL7705ACDR
A3U8	156-5058-01			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3-STATE	1CH66	N74F245D
A3U9	156-5358-01			IC,DIGITAL:HCMOS,REGISTER,8-BIT PISO	01295	SN74HC165DR
A3U10	156-6869-00			IC,MEMORY:CMOS,EPROM,512K X 8,120NS	34335	AM29F040-120JC
A3U11	156-6502-01			IC,MEMORY:CMOS,SRAM,128K X 8,25NS	0K6N4	PDM41024S25T50
A3U12	156-5058-01			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3-STATE	1CH66	N74F245D
A3U13	163-0653-00		671-3158-00	IC,MEMORY:CMOS,EPROM,128Kx8,PROGRAMMED	80009	163-0653-00
A3U13	163-0653-01	671-3158-01	671-3158-03	IC,MEMORY:CMOS,EPROM,128Kx8,PROGRAMMED	80009	163-0653-01
A3U13	163-0653-02	671-3158-04		IC,MEMORY:CMOS,EPROM,128Kx8,PROGRAMMED	80009	163-0653-02
A3U14	156-4435-00			IC,MEMORY:CMOS,NVRAM,8K X 8,120NS	0B0A9	DS1643-120
A3U15	156-5058-01			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3-STATE	1CH66	N74F245D

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3U16	156-6869-00			IC, MEMORY: CMOS, EPROM, 512K X 8, 120NS	34335	AM29F040-120JC
A3U17	156-6502-01			IC, MEMORY: CMOS, SRAM, 128K X 8, 25NS	0K6N4	PDM41024S25TSO
A3U18	156-6454-00			IC, PROCESSOR: HCMOS, MICROCONTROLLER, 32-BIT	04713	MC68332ACFC16
A3U19	156-5058-01			IC, DIGITAL: FTTL, TRANSCEIVER, OCTAL, 3-STATE	1CH66	N74F245D
A3U21	156-5190-01			IC, DIGITAL: FTTL, DECODER, 1-OF-8, ACTIVE LOW	01295	SN74F138DR
A3U22	156-5304-01			IC, DIGITAL: HCTCMOS, BUFFER, QUAD, 3-STATE	01295	SN74HCT125DR
A3U23	156-5819-00			IC, DIGITAL: ACTCMOS, BUFFER, OCTAL, 3-STATE	04713	MC74ACT244DW
A3U24	156-5123-01			IC, DIGITAL: HCTCMOS, DECODER, 1-OF-16	1CH66	74HCT154DT
A3U25	156-5304-01			IC, DIGITAL: HCTCMOS, BUFFER, QUAD, 3-STATE	01295	SN74HCT125DR
A3U26	156-5801-01			IC, DIGITAL: ECL, GATE, QUAD 2-INPUT NOR	04713	MC10H102FNR2
A3U27	156-6147-00			IC, DIGITAL: CMOS, PLD, FPGA, XC3000 FAMILY	68994	XC3030-70PC84C0090
A3U28	156-5052-01			IC, DIGITAL: FTTL, GATE, HEX INVERTER	01295	SN74F04DR
A3U29	156-5304-01			IC, DIGITAL: HCTCMOS, BUFFER, QUAD, 3-STATE	01295	SN74HCT125DR
A3U30	156-5304-01			IC, DIGITAL: HCTCMOS, BUFFER, QUAD, 3-STATE	01295	SN74HCT125DR
A3U31	156-6224-01			IC, CONVERTER: CMOS, D/A, 12-BIT	TK2441	I10412-04
A3U32	156-5480-01			IC, DIGITAL: HCMOS, REGISTER, 8-BIT SHIFT	01295	SN74HC595ADR
A3U33	156-5299-01			IC, LINEAR: BIPOLAR, VOLT REG, NEG, -5V, 100MA, 5%	01295	MC79L05ACDR
A3U34	156-6194-00			IC, DIGITAL: CMOS, PLD, FPGA, XC3000 FAMILY	34335	AM3042-7084J
A3U35	156-6224-01			IC, CONVERTER: CMOS, D/A, 12-BIT	TK2441	I10412-04
A3U36	156-5011-01			IC, MEMORY: CMOS, SRAM, 8K X 8, 150NS	0JR04	TC5565AFL-15(EL)
A3U37	156-6425-01			IC, CONVERTER: CMOS, D/A, DUAL, 12 BIT	24355	AD7237JR-REEL
A3U38	156-5480-01			IC, DIGITAL: HCMOS, REGISTER, 8-BIT SHIFT	01295	SN74HC595ADR
A3U39	156-2051-01			MICROCKT, LINEAR: OPERATIONAL AMPLIFIER	01295	LF347DR
A3U40	156-6619-01			IC, MEMORY: CMOS, FIFO, 512 X 9, 35NS	34335	AM7201-35JCTR
A3U41	156-5571-00			IC, MISC: CMOS, ANALOG MUX, TRIPLE, 2 CHAN	04713	MC14053BD
A3U42	156-5289-01			IC, DIGITAL: HCTCMOS, FLIP FLOP, OCTAL THRU	04713	MC74HCT574ADWR2
A3U43	156-5289-01			IC, DIGITAL: HCTCMOS, FLIP FLOP, OCTAL D-TYPE	04713	MC74HCT574ADWR2
A3U44	156-5289-01			IC, DIGITAL: HCTCMOS, FLIP FLOP, OCTAL D-TYPE	04713	MC74HCT574ADWR2
A3U45	156-5138-01			IC, LINEAR: BIFET, OP-AMP, DUAL, MC34002/TL072	01295	TL072CDR
A3U46	156-5571-00			IC, MISC: CMOS, ANALOG MUX, TRIPLE, 2 CHAN	04713	MC14053BD
A3U47	156-2051-01			MICROCKT, LINEAR: OPERATIONAL AMPLIFIER	01295	LF347DR
A3U48	156-2051-01			MICROCKT, LINEAR: OPERATIONAL AMPLIFIER	01295	LF347DR
A3U49	156-6059-01			IC, MISC: CMOS, ANALOG SWITCH	17856	DG444DY-T1
A3U50	156-5571-00			IC, MISC: CMOS, ANALOG MUX, TRIPLE, 2 CHAN	04713	MC14053BD
A3U51	156-5289-01			IC, DIGITAL: HCTCMOS, FLIP FLOP, OCTAL	04713	MC74HCT574ADWR2
A3U52	156-5289-01			IC, DIGITAL: HCTCMOS, FLIP FLOP, OCTAL THRU, 3-STATE	04713	MC74HCT574ADWR2
A3U53	156-4234-00			IC, LINEAR: BIPOLAR, VOLTAGE REGULATOR	04713	MC7908ACT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontinued	Name & description	Mfr. code	Mfr. part number
A3U54	156-6446-01			IC,MISC:CMOS,SAMPLE/HOLD,QUAD,9US TO 0.01%	24355	SMP04ES-REEL
A3U55	234-0739-22			IC,ASIC:BIPOLAR,VIDEO DISPLAY OUTPUT AMP	TK2598	234-0739-22
A3U56	234-0739-22			IC,ASIC:BIPOLAR,VIDEO DISPLAY OUTPUT AMP	TK2598	234-0739-22
A3U57	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002	01295	TL072CDR
A3U59	156-6059-01			IC,MISC:CMOS,ANALOG SWITCH,QUAD	17856	DG444DY-T1
A3U60	156-5088-01			IC,DIGITAL:HCTCMOS,DECODER,1-OF-8,ACTIVE LOW	01295	SN74HCT138DR
A3U62	156-5854-01			IC,LINEAR:BIFET,OP-AMP,DUAL,AD712JR	24355	AD712JR-REEL7
A3U63	156-6059-01			IC,MISC:CMOS,ANALOG SWITCH	17856	DG444DY-T1
A3U64	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002	01295	TL072CDR
A3U65	156-5853-01			IC,LINEAR:BIPOLAR,OP-AMP,35MHZ	27014	LM6361MX
A3U66	156-6059-01			IC,MISC:CMOS,ANALOG SWITCH	17856	DG444DY-T1
A3U67	234-0728-22			IC,ASIC:BIPOLAR,VIDEO MULTIPLEXER	TK2598	234-0728-22
A3U68	156-5694-01			IC,MISC:BIPOLAR,VIDEO SUBSYSTEM,SYNC SEP	27014	LM1881MX
A3U70	156-6059-01			IC,MISC:CMOS,ANALOG SWITCH	17856	DG444DY-T1
A3U72	156-6716-01			IC,LINEAR:BIFET,OP-AMP,DUAL,20MHZ	13919	OPA2604AU-TR
A3U77	156-5480-01			IC,DIGITAL:HCMOS,REGISTER,8-BIT SHIFT	01295	SN74HC595ADR
A3U78	156-2959-00			IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR	04713	MC7808ACT
A3U79	234-0728-22			IC,ASIC:BIPOLAR,VIDEO MULTIPLEXER	TK2598	234-0728-22
A3U84	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002	01295	TL072CDR
A3U85	156-5299-01			IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR	01295	MC79L05ACDR
A3U86	156-6224-01			IC,CONVERTER:CMOS,D/A,I10412	TK2441	I10412-04
A3U87	156-5304-01			IC,DIGITAL:HCTCMOS,BUFFER,QUAD,3-STATE	01295	SN74HCT125DR
A3U88	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002	01295	TL072CDR
A3U90	156-5358-01			IC,DIGITAL:HCMOS,REGISTER,8-BIT PISO SHIFT	01295	SN74HC165DR
A3U91	156-5358-01			IC,DIGITAL:HCMOS,REGISTER,8-BIT PISO SHIFT	01295	SN74HC165DR
A3U92	156-5776-01			IC,MISC:CMOS,INTERFACE,DUAL RS-232	1ES66	MAX232CWE-T
A3U93	158-5024-00			OSCILLATOR,RF:CRYSTAL CONTROL,6MHZ,+/-0.01%	61429	FSO-2 6.0MHZ
A3U94	156-5571-00			IC,MISC:CMOS,ANALOG MUX,TRIPLE,2 CHAN	04713	MC14053BD
A3U95	156-5298-01			IC,LINEAR:BIPOLAR,VOLT REG,POS,5V,100MA,5%	01295	UA78L05ACDR
A3U98	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A3U99	156-5571-00			IC,MISC:CMOS,ANALOG MUX,TRIPLE,2 CHAN	04713	MC14053BD
A3U100	156-6502-01			IC,MEMORY:CMOS,SRAM,128K X 8,25NS	0K6N4	PDM41024S25TSO
A3U101	156-6502-01			IC,MEMORY:CMOS,SRAM,128K X 8,25NS	0K6N4	PDM41024S25TSO
A3U102	156-5297-01			IC,LINEAR:BIPOLAR,VOLT REG,ADJ,SHUNT,100MA,2%	01295	TL431CDR
A3VR4	152-5002-00			DIODE,ZENER:3.6V,5%,225MW,SOT-23	04713	MMBZ5227BLT1
A3Y1	158-5013-00			CRYSTAL,QTZ:32.768 KHZ,20 PPM,ESR 50K OHMS	61429	FSM327

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A4	671-3637-00			CIRCUIT BD ASSY:CRT SOCKET BD	80009	671-3637-00
A4C1	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4C2	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A4C3	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A4C4	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4C5	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A4C6	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4C7	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A4C8	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A4C9	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4C10	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A4C11	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A4C12	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4C13	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A4C14	283-5005-00			CAP,FXD,CERAMIC:MLC,4PF,+/-0.25PF,50V	04222	12065A4R0CAT1A
A4C15	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4C16	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A4C17	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4C18	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4C19	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A4CR1	152-5045-00			DIODE,SIG:SCHTKY,20V,1.2PF,24 OHM	50434	HSMS-2810-T31
A4CR2	152-5045-00			DIODE,SIG:SCHTKY,20V,1.2PF,24 OHM	50434	HSMS-2810-T31
A4CR3	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A4CR4	152-5045-00			DIODE,SIG:SCHTKY,20V,1.2PF,24 OHM	50434	HSMS-2810-T31
A4CR5	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A4CR6	152-5045-00			DIODE,SIG:SCHTKY,20V,1.2PF,24 OHM	50434	HSMS-2810-T31
A4CR7	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A4CR8	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A4J1	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A4J2	131-0265-00			CONN,RF JACK:SMB,MALE,RTANG,50 OHM	0GZV8	85SMB-50-0-1
A4J3	131-3718-00			CONN,HDR:MALE,STR	53387	2510-6002UB
A4J4	131-0265-00			CONN,RF JACK:SMB,MALE,RTANG,50 OHM	0GZV8	85SMB-50-0-1
A4J5	174-3134-00			CA ASSY,SP:RIBBON,IDC,10,28 AWG,1.75 L	TK2469	174-3134-00
A4L1	108-5101-00			INDUCTOR,FXD:SIGNAL,100NH,5%	TK2058	NL322522T-R10J
A4L2	108-5101-00			INDUCTOR,FXD:SIGNAL,100NH,5%	TK2058	NL322522T-R10J
A4Q1	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A4Q2	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A4Q3	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A4Q4	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A4Q5	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A4Q6	151-5000-00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A4Q7	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A4Q8	151-5012-00			TRANSISTOR,SIG:BIPOLAR,PNP,15V,10MA,2.0GHZ	04713	MMBTH69LT1
A4Q9	151-5000-00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A4Q10	151-5000-00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A4Q11	151-5000-00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A4R1	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A4R2	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A4R3	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W	50139	BCK1500FT
A4R5	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W	50139	BCK3920FT
A4R6	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A4R7	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R8	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A4R9	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W	50139	BCK4751FT
A4R10	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A4R11	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W	50139	BCK1500FT
A4R12	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W	50139	BCK3920FT
A4R14	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A4R15	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W	50139	BCD47R5FT
A4R16	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R17	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R18	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A4R19	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R20	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W	50139	BCK2740FT
A4R21	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R22	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W	50139	BCD47R5FT
A4R23	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R24	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A4R25	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A4R26	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A4R27	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R28	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A4R29	321-5044-00			RES,FXD:THICK FILM,56.2 OHM,1%,0.125W	50139	BCD56R2FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A4R30	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R31	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R32	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R33	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W	50139	BCK1822FT
A4R34	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R35	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W	50139	BCK3320FT
A4R36	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A4R37	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R38	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W	50139	BCD10R0FT
A4R39	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W	56845	CRCW1206-75ROFT
A4R40	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A4R41	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W	50139	BCK3321FT
A4R42	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W	50139	BCK6811FT
A4R43	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W	50139	BCK1501FT
A4R44	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W	50139	BCK1001FT
A4R45	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A4R46	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W	50139	BCK1000FT
A4R47	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W	50139	BCK2740FT
A4R48	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W	50139	BCK1002FT
A4U1	156-5299-01			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-5V,100MA,5%	01295	MC79L05ACDR

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A4A1	671-3615-00			CIRCUIT BD ASSY:BNC	80009	671-3615-00
A4A1J1	131-5647-00			CONN,RF,JACK:BNC,75 OHM,FEMALE,STR	24931	28JR469-1
A4A1J2	131-5647-00			CONN,RF,JACK:BNC,75 OHM,FEMALE,STR	24931	28JR469-1
A4A1J3	131-5647-00			CONN,RF,JACK:BNC,75 OHM,FEMALE,STR	24931	28JR469-1
A4A1J4	131-5647-00			CONN,RF,JACK:BNC,75 OHM,FEMALE,STR	24931	28JR469-1
A4A1J5	131-5436-00			CONN,RF JACK:BNC,50 OHM,FEMALE,STR	24931	28JR299-3
A4A1J6	131-5436-00			CONN,RF JACK:BNC,50 OHM,FEMALE,STR	24931	28JR299-3
A4A1J7	131-5436-00			CONN,RF JACK:BNC,50 OHM,FEMALE,STR	24931	28JR299-3
A4A1J7	131-5647-00			CONN,RF,JACK:BNC,75 OHM,FEMALE,STR	24931	28JR469-1
A4A1J8	131-5436-00			CONN,RF JACK:BNC,50 OHM,FEMALE,STR	24931	28JR299-3
A4A1J9	131-5436-00			CONN,RF JACK:BNC,50 OHM,FEMALE,STR	24931	28JR299-3
A4A1J10	131-5436-00			CONN,RF JACK:BNC,50 OHM,FEMALE,STR	24931	28JR299-3
A4A1J11	131-5436-00			CONN,RF JACK:BNC,50 OHM,FEMALE,STR	24931	28JR299-3

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5	671-3614-00		B010179	CIRCUIT BD ASSY:SERIAL WFM601M	80009	671-3614-00
A5	671-3614-01	B010180		CIRCUIT BD ASSY:SERIAL WFM601M	80009	671-3614-01
A5SH	337-3551-00			SHIELD,ELEC:OSCILLATOR	TK1947	337-3551-00
A5C1	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%,100V	04222	12061A221JAT1A
A5C2	283-5050-00			CAP,FXD,CER DI:560PF,5%,50V	04222	12065A561JAT1A
A5C3	283-5106-00			CAP,FXD,CERAMIC:MLC,470PF,5%,100V	04222	12061A471JAT1A
A5C4	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C5	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C6	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C7	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C8	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C9	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C10	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C11	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C12	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C13	283-5017-00			CAP,FXD,CERAMIC:MLC,1PF,+/-0.25PF,50V	04222	12065A1R0CAT1A
A5C14	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C15	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C16	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C17	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C18	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C19	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C20	283-5238-00			CAP,FXD,CERAMIC:MLC,150PF,5%,100V	04222	12061A151JAT1A
A5C21	283-5238-00			CAP,FXD,CERAMIC:MLC,150PF,5%,100V	04222	12061A151JAT1A
A5C22	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C23	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C24	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C25	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C26	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C27	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C28	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C29	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C30	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontin'd	Name & description	Mfr. code	Mfr. part number
A5C31	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A
A5C32	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A
A5C33	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C34	283-5238-00			CAP,FXD,CERAMIC:MLC,150PF,5%,100V	04222	12061A151JAT1A
A5C35	283-5239-00			CAP,FXD,CERAMIC:MLC,1200PF,5%,100V	04222	12061A122JAT1A
A5C36	283-5239-00			CAP,FXD,CERAMIC:MLC,1200PF,5%,100V	04222	12061A122JAT1A
A5C37	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C38	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C39	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C40	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C41	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C42	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C43	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C44	283-5187-00			CAP,FXD,CERAMIC:MLC,15PF,5%,100V	04222	12061A150JAT1A
A5C45	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C46	283-5282-00			CAP,FXD,CERAMIC:MLC,2.2UF,+80%-20%,16V	04222	1206YG225ZAT2A
A5C47	283-5282-00			CAP,FXD,CERAMIC:MLC,2.2UF,+80%-20%,16V	04222	1206YG225ZAT2A
A5C48	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C49	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C50	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C51	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C52	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C53	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C54	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C55	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C56	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C57	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C58	283-5203-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,100V	04222	12061C102KAT1A
A5C59	283-5026-00			CAP,FXD,CERAMIC:MLC,390PF,5%,50V	04222	12065A391JAT1A
A5C60	283-5026-00			CAP,FXD,CERAMIC:MLC,390PF,5%,50V	04222	12065A391JAT1A
A5C61	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C62	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C63	283-5026-00			CAP,FXD,CERAMIC:MLC,390PF,5%,50V	04222	12065A391JAT1A
A5C64	283-5026-00			CAP,FXD,CERAMIC:MLC,390PF,5%,50V	04222	12065A391JAT1A
A5C65	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13')

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C66	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C67	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C68	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C69	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C70	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C71	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A
A5C72	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A
A5C73	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C74	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C75	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C76	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C77	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C78	283-5017-00			CAP,FXD,CERAMIC:MLC,1PF,+/-0.25PF,50V	04222	12065A1R0CAT1A
A5C79	281-5006-00			CAP,VAR,CERAMIC:1.7-3.0PF,100V	52769	GKG3R066-XX
A5C80	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C81	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C82	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C83	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C84	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C85	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C86	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C87	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C88	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C89	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C90	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C91	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C92	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C93	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C94	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C95	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C96	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C97	283-5203-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,100V	04222	12061C102KAT1A
A5C98	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C99	283-5197-00			CAP,FXD,CERAMIC:MLC,330PF,5%,100V	04222	12061A331JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C100	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C101	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C102	290-5009-00			CAP,FXD,TANT:15UF,20%,25V	04222	TAJD156M025R
A5C103	283-5113-00			CAP,FXD,CERAMIC:MLC,0.047UF,10%,50V	04222	12065C473KAT1A
A5C104	283-5066-00			CAP,FXD,CERAMIC:MLC,150PF,10%,100V	04222	12061A151KAT1A
A5C105	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C106	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C107	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C108	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C109	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C110	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C111	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C112	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C113	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C114	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C115	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C116	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C117	283-5106-00			CAP,FXD,CERAMIC:MLC,470PF,5%,100V	04222	12061A471JAT1A
A5C118	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C119	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C120	290-5036-01			CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13")
A5C121	290-5036-01			CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13")
A5C122	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C123	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C124	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C125	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%,100V	04222	12061A221JAT1A
A5C126	283-5187-00			CAP,FXD,CERAMIC:MLC,15PF,5%,100V	04222	12061A150JAT1A
A5C127	283-5203-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,100V	04222	12061C102KAT1A
A5C128	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C129	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C130	290-5008-00			CAP,FXD,TANT:1UF,20%,35V	04222	TAJB105M035
A5C131	290-5034-01			CAP,FXD,ALUM:33UF,20%,10V	62643	MVK10VC33RME60T PX (13")
A5C132	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C133	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C134	290-5027-00			CAP,FXD,TANT:2.2UF,20%,20V	26769	49MC225B020MOASF T
A5C135	283-5113-00			CAP,FXD,CERAMIC:MLC,0.047UF,10%,50V	04222	12065C473KAT1A
A5C136	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13*)
A5C137	290-5034-01			CAP,FXD,ALUM:33UF,20%,10V	62643	MVK10VC33RME60T PX (13*)
A5C138	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C139	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C140	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C141	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C142	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C143	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C144	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C145	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C146	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C147	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C148	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C149	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C150	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C151	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C152	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C153	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C154	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C155	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C156	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C157	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C158	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C159	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C160	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C161	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C162	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C163	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C164	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C165	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C166	283-5203-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,100V	04222	12061C102KAT1A
A5C167	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C168	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C169	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C170	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C171	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C172	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C173	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C174	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C175	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C176	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C177	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C178	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C179	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C180	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C181	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C182	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C183	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C184	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C185	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C186	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C187	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C188	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C189	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C190	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C191	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C192	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C193	283-5107-00			CAP,FXD,CERAMIC:MLC,22PF,5%,200V	18796	GRM42-6-COG 220J200V PT
A5C194	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%,100V	04222	12061A221JAT1A
A5C195	283-5201-00			CAP,FXD,CERAMIC:MLC,33PF,5%,100V	04222	12061A330JAT1A
A5C196	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%,100V	04222	12061A221JAT1A
A5C197	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C198	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C199	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C200	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5C201	290-5034-01			CAP,FXD,ALUM:33UF,20%,10V	62643	MVK10VC33RME60T PX (13")
A5C202	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%,100V	04222	12061A221JAT1A
A5C203	283-5106-00			CAP,FXD,CERAMIC:MLC,470PF,5%,100V	04222	12061A471JAT1A
A5C204	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C205	290-5048-00			CAP,FXD,ALUM:150UF,20%,10V	62643	MVF10VC151M8TP
A5C206	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C207	290-5048-00			CAP,FXD,ALUM:150UF,20%,10V	62643	MVF10VC151M8TP
A5CR1	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR2	152-0269-01			DIODE,SIG:VVC,C4=33PF,5%,C4/C20=2	04713	SMV1263-1
A5CR3	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR4	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR5	152-0269-01			DIODE,SIG:VVC,C4=33PF,5%,C4/C20=2	04713	SMV1263-1
A5CR6	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR7	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR8	152-5047-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1204
A5CR9	152-5047-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1204
A5CR10	152-5047-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1204
A5CR11	152-5047-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1204
A5CR12	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR13	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR14	152-5010-00			DIODE,SIG:VVC,30V,29PF,C3/25=5.75	04713	MMBV109LT1
A5CR15	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR16	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR17	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR18	152-5042-00			DIODE,SIG:SCHTKY,70V,35 OHMS,2.0PF	50434	HSMS-2802-T31
A5CR19	152-5042-00			DIODE,SIG:SCHTKY,70V,35 OHMS,2.0PF	50434	HSMS-2802-T31
A5E1	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E2	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E3	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E4	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E5	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E6	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5J1	131-3520-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A5J2	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J3	131-3520-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A5J4	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J5	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J6	131-0265-00			CONN,RF JACK:SMB,PCB,MALE,RTANG,50 OHM	0GZV8	85SMB-50-0-1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontin'd	Name & description	Mfr. code	Mfr. part number
A5J7	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J10	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J11	131-0265-00			CONN,RF JACK:SMB,MALE,RTANG	0GZV8	85SMB-50-0-1
A5J12	174-2744-00			CA ASSY,SP,ELEC:34,28 AWG, 3.25 L,RIBBON	53387	174-2744-00
A5J13	131-4530-00			CONN,HDR:PCB,MALE,STR	00779	104344-1
A5K1	148-0173-01			RELAY,ARMATURE:1 FM C, 50 & 75 OHM	61529	RK1E-12V-H10
A5L1	108-5046-00			INDUCTOR,FXD:POWER,1.2UH,5%	TK2058	NL453232T-1R2J
A5L2	108-5109-00			INDUCTOR,FXD:SIGNAL,3.3UH,5%	02113	1008CS-332-XJBC
A5L3	108-5024-00			INDUCTOR,FXD:POWER,39UH,5%	TK2058	NL453232T-390J
A5L4	108-5072-00			INDUCTOR,FXD:SIGNAL,1UH,5%	02113	1008CS-102XJBC
A5L5	108-5072-00			INDUCTOR,FXD:SIGNAL,1UH,5%	02113	1008CS-102XJBC
A5L6	108-5037-00			INDUCTOR,FXD:POWER,22UH,5%	TK2058	NL453232T-220J
A5L7	108-5051-00			INDUCTOR,FXD:SIGNAL,10UH,10%	TK2058	NL453232T-100K
A5L8	108-5004-00			INDUCTOR,FXD:SIGNAL,1.8UH,10%	02113	1008CS-182XKBC
A5L9	108-5024-00			INDUCTOR,FXD:POWER,39UH,5%	TK2058	NL453232T-390J
A5L10	108-5136-00			INDUCTOR,FXD:SIGNAL,3.3UH,5%	TK2058	NL322522T-3R3J-03
A5L11	108-5136-00			INDUCTOR,FXD:SIGNAL,3.3UH,5%	TK2058	NL322522T-3R3J-03
A5L12	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94
A5L13	108-5051-00			INDUCTOR,FXD:SIGNAL,10UH,10%	TK2058	NL453232T-100K
A5L14	108-5015-00			INDUCTOR,FXD:SIGNAL,100UH,10%	TK2058	NL453232T-101K
A5L15	108-5020-00			INDUCTOR,FXD:SIGNAL,270NH,5%	02113	1008CS-271XJBC
A5L16	108-5020-00			INDUCTOR,FXD:SIGNAL,270NH,5%	02113	1008CS-271XJBC
A5L17	108-5015-00			INDUCTOR,FXD:SIGNAL,100UH,10%	TK2058	NL453232T-101K
A5L18	108-5015-00			INDUCTOR,FXD:SIGNAL,100UH,10%	TK2058	NL453232T-101K
A5L19	108-5015-00			INDUCTOR,FXD:SIGNAL,100UH,10%	TK2058	NL453232T-101K
A5L20	108-5080-00			INDUCTOR,FXD:SIGNAL,560NH,10%	TK2058	NL322522T-R56K-03
A5L21	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94
A5L22	108-1485-00			INDUCTOR,FXD:POWER,220UH,10%	TK2058	TSL0707-221KR44
A5L23	108-1485-00			INDUCTOR,FXD:POWER,220UH,10%	TK2058	TSL0707-221KR44
A5L24	108-5124-01			INDUCTOR,FXD:POWER,1.0UH,10%	TK2058	NLC453232T-1R0K
A5L25	108-5080-00			INDUCTOR,FXD:SIGNAL,560NH,10%	TK2058	NL322522T-R56K-03
A5Q1	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A5Q2	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A5Q3	151-5066-00			TRANSISTOR,SIG:MOS,N-CH,60V,0.115A,7.5 OHM	04713	2N7002LT1
A5Q4	151-5021-00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,600MA,300MHZ	04713	MMBT2222ALT1
A5Q5	151-5058-00			TRANSISTOR,SIG:BIPOLAR,PNP,12V,80MA	04713	MMBT3640LT1
A5R1	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%	50139	BCK6810FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5R2	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%	50139	BCD39R2FT
A5R3	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%	50139	BCD39R2FT
A5R4	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R5	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R6	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R7	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R8	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R9	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R10	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R11	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R12	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R13	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%	91637	CRCW-1206-49R-90-FT
A5R14	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R15	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R16	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R17	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R18	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%	09969	CRCW1206 JUMPER
A5R19	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R20	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R21	311-5040-00			RES,VAR,TRMR:CERMET,10K OHM,25%,0.1W	32997	3314J-1-103E
A5R22	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R23	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R24	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R25	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R26	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R27	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R28	321-5045-00			RES,FXD:THICK FILM,68.1 OHM,1%	50139	BCD68R1FT
A5R29	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R30	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R31	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R32	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R33	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R34	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%	50139	BCK1820FT
A5R35	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R36	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R37	321-5045-00			RES,FXD:THICK FILM,68.1 OHM,1%	50139	BCD68R1FT
A5R38	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%	50139	BCK221FT
A5R39	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%	50139	BCK221FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R40	321-5039-00			RES,FXD:THICK FILM,56.2K OHM,1%	50139	BCK5622FT
A5R41	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%	50139	BCK1003FT
A5R42	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R43	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R44	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R45	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R46	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R47	321-5019-00			RES,FXD:THICK FILM,1.21K OHM,1%	50139	BCK1211FT
A5R48	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R49	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R50	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R51	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R52	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%	50139	BCK1820FT
A5R53	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%	50139	BCK1501FT
A5R54	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%	50139	BCK5620FT
A5R55	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%	09969	CRCW1206 JUMPER
A5R56	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R57	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%	50139	BCK5620FT
A5R58	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R59	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R60	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R61	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R62	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%	50139	BCK221FT
A5R63	321-5093-00			RES,FXD,FILM:200 OHM,1%,0.125W	57668	T/R MCR18EZHF200E
A5R64	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%	59124	RK73H2B1102FT
A5R65	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R67	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%	50139	BCK1502FT
A5R68	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R69	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R70	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R71	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%	50139	BCD39R2FT
A5R72	321-5050-00			RES,FXD:THICK FILM,33.2 OHM,1%	50139	BCD33R2FT
A5R73	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R74	321-5034-00			RES,FXD:THICK FILM,22.1K OHM,1%	50139	BCK2212FT
A5R75	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R76	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%	50139	BCK1501FT
A5R78	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R79	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%	50139	BCK3921FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5R80	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%	50139	BCK1501FT
A5R81	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R82	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R83	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%	50139	BCK1003FT
A5R84	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R85	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R86	321-5166-00			RES,FXD:THICK FILM,150K OHM,1%	91637	CRCW1206-1503FT
A5R87	321-5007-00			RES,FXD:THICK FILM,121 OHM,1%	50139	BCK1210FT
A5R88	321-5003-00			RES,FXD:THICK FILM,18.2 OHM,1%	50139	BCD18R2FT
A5R89	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R90	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%	09969	CRCW1206 JUMPER
A5R91	321-5044-00			RES,FXD:THICK FILM,56.2 OHM,1%	50139	BCD56R2FT
A5R92	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%	50139	BCK5620FT
A5R94	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R95	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%	50139	BCK1820FT
A5R96	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%	50139	BCK5620FT
A5R97	321-5045-00			RES,FXD:THICK FILM,68.1 OHM,1%	50139	BCD68R1FT
A5R98	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R99	321-5041-00			RES,FXD:THICK FILM,82.5K OHM,1%	50139	BCK8252FT
A5R100	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R101	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R102	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R103	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R104	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R105	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%	50139	BCK1003FT
A5R106	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%	50139	BCD47R5FT
A5R107	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R108	321-5039-00			RES,FXD:THICK FILM,56.2K OHM,1%	50139	BCK5622FT
A5R109	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%	50139	BCK1502FT
A5R110	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R111	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R112	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R113	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R114	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R115	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R116	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R117	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%	91637	CRCW-1206-49R-90-FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R118	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%	91637	CRCW-1206-49R-90-FT
A5R119	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R120	321-5046-00			RES,FXD:THICK FILM,82.5 OHM,1%	50139	BCK82R5FT
A5R121	321-5122-00			RES,FXD,FILM:499 OHM,1%,0.125W	91637	CRCW1206-4990FT
A5R122	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%	50139	BCK4751FT
A5R123	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R124	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R125	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R126	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R127	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R128	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%	50139	BCK3320FT
A5R129	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%	50139	BCK3320FT
A5R130	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R131	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R132	321-5005-00			RES,FXD:THICK FILM,27.4 OHM,1%	50139	BCD27R4JT
A5R133	321-5005-00			RES,FXD:THICK FILM,27.4 OHM,1%	50139	BCD27R4JT
A5R134	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R135	321-5005-00			RES,FXD:THICK FILM,27.4 OHM,1%	50139	BCD27R4JT
A5R136	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%	50139	BCK3320FT
A5R137	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%	50139	BCK3320FT
A5R138	321-5005-00			RES,FXD:THICK FILM,27.4 OHM,1%	50139	BCD27R4JT
A5R139	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R140	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R141	321-5049-00			RES,FXD:THICK FILM,1M OHM,1%	50139	BCA1004FT
A5R142	321-5049-00			RES,FXD:THICK FILM,1M OHM,1%	50139	BCA1004FT
A5R143	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R144	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%	50139	BCK6811FT
A5R145	321-5049-00			RES,FXD:THICK FILM,1M OHM,1%	50139	BCA1004FT
A5R146	321-5049-00			RES,FXD:THICK FILM,1M OHM,1%	50139	BCA1004FT
A5R147	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R148	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%	50139	BCK6811FT
A5R149	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%	50139	BCK2741FT
A5R150	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R151	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%	50139	BCK2741FT
A5R152	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R153	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%	50139	BCK1003FT
A5R154	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%	50139	BCK2741FT
A5R155	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R156	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%	50139	BCK2741FT
A5R157	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%	50139	BCK1003FT
A5R158	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R159	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R160	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R161	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R162	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R163	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R165	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%	50139	BCK6810FT
A5R166	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%	50139	BCK6810FT
A5R167	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%	50139	BCK6810FT
A5R168	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R169	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A5R170	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%	50139	BCK6810FT
A5R171	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%	50139	BCK1501FT
A5R173	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R177	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R178	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R179	321-5166-00			RES,FXD:THICK FILM,150K OHM,1%	91637	CRCW1206-1503FT
A5R180	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%	50139	BCK1003FT
A5R181	321-5029-00			RES,FXD:THICK FILM,8.25K OHM,1%	50139	BCK8251FT
A5R182	321-5358-00			RES,FXD,FILM:49.9K OHM,+/-1%	91637	CRCW12064992FT
A5R183	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R184	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R185	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R186	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R187	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R188	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R189	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R190	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R191	321-5014-00		671-3614-00	RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R191	321-5013-00	671-3614-01		RES,FXD:THICK FILM,392 OHM,1%	50139	BCK3920FT
A5R192	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R193	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%	50139	BCK4752FT
A5R194	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R195	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R196	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%	50139	BCK4752FT
A5R197	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R198	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R199	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R200	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R201	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R202	321-5055-00			RES,FXD:THICK FILM,681K OHM,1%	91637	CRCW120668102FT
A5R203	321-5066-00			RES,FXD:THICK FILM,121K OHM,1%	91637	CRCW1206-1213FT
A5R204	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%	50139	BCK4752FT
A5R205	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R206	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%	50139	BCK1822FT
A5R207	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R208	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R209	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R210	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R211	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R212	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%	50139	BCK6811FT
A5R213	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R214	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R215	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT
A5R216	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R217	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%	50139	BCK1003FT
A5R218	321-5046-00			RES,FXD:THICK FILM,82.5 OHM,1%	50139	BCK82R5FT
A5R219	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R220	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R221	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%	50139	BCK6811FT
A5R222	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%	50139	BCK3321FT
A5R223	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R224	321-5021-00			RES,FXD:THICK FILM,1.82K OHM,1%	50139	BCK1821FT
A5R225	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R226	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R227	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R228	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R229	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R230	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%	50139	BCK221FT
A5R231	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%	50139	BCK6811FT
A5R232	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%	50139	BCK1002FT
A5R233	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%	91637	CRCW1206-2001FT
A5R234	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%	50139	BCK6811FT
A5R235	321-5049-00			RES,FXD:THICK FILM,1M OHM,1%	50139	BCA1004FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5R236	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R237	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%	50139	BCK5620FT
A5R238	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R239	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%	50139	BCK3921FT
A5R240	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%	50139	BCD47R5FT
A5R241	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%	50139	BCK2740FT
A5R242	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R243	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R244	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R245	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R246	321-5093-00			RES,FXD,FILM:200 OHM,1%,0.125W	57668	T/R MCR18EZHFX200E
A5R247	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%	91637	CRCW-1206-49R-90-FT
A5R248	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%	09969	CRCW1206 JUMPER
A5R249	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R250	321-5122-00			RES,FXD,FILM:499 OHM,1%,0.125W	91637	CRCW1206-4990FT
A5R251	321-5122-00			RES,FXD,FILM:499 OHM,1%,0.125W	91637	CRCW1206-4990FT
A5R252	321-5014-00		671-3614-00	RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R252	321-5013-00	671-3614-01		RES,FXD:THICK FILM,392 OHM,1%	50139	BCK3920FT
A5R253	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%	50139	BCD10R0FT
A5R254	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R255	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5R256	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%	50139	BCK3920FT
A5R257	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%	50139	BCK3920FT
A5R258	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%	50139	BCK3320FT
A5R259	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%	50139	BCK3320FT
A5R260	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%	50139	BCK1502FT
A5R261	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R262	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%	50139	BCK1500FT
A5R263	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%	50139	BCK1000FT
A5R264	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%	50139	BCD47R5FT
A5R265	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R266	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%	50139	BCK3321FT
A5R267	321-5029-00			RES,FXD:THICK FILM,8.25K OHM,1%	50139	BCK8251FT
A5R268	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%	50139	BCK2741FT
A5R269	311-5040-00			RES,VAR,TRMR:CERMET,10K OHM,25%,0.1W	32997	3314J-1-103E
A5R270	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%	50139	BCK1820FT
A5R271	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%	50139	BCD22R1FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R272	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R273	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R274	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%	50139	BCK1003FT
A5R275	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%	50139	BCK6811FT
A5R276	321-5090-00			RES,FXD:THICK FILM, 20K OHM,1%,0.125W,100	50139	BCK2002FT
A5R277	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%	50139	BCK4751FT
A5R278	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%	91637	CRCW-1206-49R-90-FT
A5R279	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R280	321-5039-00			RES,FXD:THICK FILM,56.2K OHM,1%	50139	BCK5622FT
A5R281	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%	50139	BCK4752FT
A5R282	311-5038-00			RES,VAR,TRMR:CERMET,20K OHM,20%,0.25W	32997	3314J-001-203E
A5R283	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R284	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R285	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R286	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%	50139	BCK1001FT
A5R287	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%	50139	BCK4750FT
A5T2	120-5011-00			TRANSFORMER,SIG-WIDEBAND,1:1	02113	1812WBT-4
A5U1	156-7184-01			IC,MISC:BIPOLAR,MISC	34371	HFA3101B96
A5U2	156-6668-00			IC,MISC:ECL,MISC,GENLINX CABLE DRIVER	37964	GS9008-CKA
A5U3	156-5978-00			IC,LINEAR:ECL,PRESALER	04713	MC12013FN
A5U4	156-5221-01			IC,DIGITAL:ECL,FLIP FLOP,DUAL D-TYPE	04713	MC10H131FNR2
A5U5	156-5973-00			IC,DIGITAL:ECL,GATE,TRIPLE 2-INPUT XOR/XNOR	04713	MC10H107FN
A5U6	156-5299-01			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-5V,100MA,5%	01295	MC79L05ACDR
A5U7	156-5382-01			IC,DIGITAL:ECL,GATE,TRIPLE 2-3-2 INPUT OR/NOR	04713	MC10H105FNR2
A5U8	156-6647-00			IC,LINEAR:BIPOLAR,OP-AMP,200MHZ	62839	CLC410AJE
A5U9	156-6647-00			IC,LINEAR:BIPOLAR,OP-AMP,200MHZ	62839	CLC410AJE
A5U10	156-5298-01			IC,LINEAR:BIPOLAR,VOLTAGE REG,POS,5V,100MA,5%	01295	UA78L05ACDR
A5U11	234-0727-21			IC,ASIC:BIPOLAR,PROBE SAMPLER	TK2598	234-0727-21
A5U12	156-6894-00			IC,LINEAR:BIPOLAR,AMPLIFIER,LOGARITHMIC	24355	AD606JR
A5U13	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL	01295	TL072CDR
A5U14	156-7075-00			IC,MISC:BIPOLAR,MISC,SERIAL DIGITAL RECEIVER	37964	GS9005ACPJ
A5U15	156-5280-00			IC,LINEAR:BIPOLAR,AMP,RF AMP,20DB GAIN,600MHZ	1CH66	NE5205AD
A5U16	156-7118-00			IC,MISC:BIPOLAR,MISC,SERIAL DIGITAL	37964	GS9010ACKC
A5U17	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP	24355	AD810AR-REEL
A5U18	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A5U19	156-5587-01			IC,LINEAR:BIFET,OP-AMP,QUAD	01295	TL074BCDR
A5U20	156-5221-01			IC,DIGITAL:ECL,FLIP FLOP,DUAL D-TYPE	04713	MC10H131FNR2
A5U21	156-5382-01			IC,DIGITAL:ECL,GATE,TRIPLE 2-3-2 INPUT OR/NOR	04713	MC10H105FNR2

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5U22	156-5587-01			IC,LINEAR:BIFET,OP-AMP,QUAD,3.0MV	01295	TL074BCDR
A5U23	156-7068-01			IC,LINEAR:BIPOLAR,COMPARATOR,DUAL,12NS,2MV	1ES66	MAX912CSE-T
A5U24	156-7068-01			IC,LINEAR:BIPOLAR,COMPARATOR,DUAL,12NS,2MV	1ES66	MAX912CSE-T
A5U25	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A5U26	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A5U27	156-6059-01			IC,MISC:CMOS,ANALOG SWITCH	17856	DG444DY-T1
A5U28	163-0652-00			IC,DIGITAL:CMOS,PLD,EEPLD,16V8,15NS,90MA	TK0198	163065200
A5U29	156-5480-01			IC,DIGITAL:HCMOS,REGISTER,8-BIT SHIFT	01295	SN74HC595ADR
A5U30	156-5299-01			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-5V,100MA,5%	01295	MC79L05ACDR
A5U31	156-5269-01			IC,DIGITAL:ECL,RECEIVER,TRIPLE LINE	04713	MC10H116FNR2
A5U32	160-9945-00			IC,DIGITAL:CMOS,PLD,OTP,22V10,25NS,55MA	TK0198	160994500
A5U33	156-5019-01			IC,LINEAR:BIPOLAR,COMPARATOR,DUAL	01295	LM393DR
A5U34	156-5973-00			IC,DIGITAL:ECL,GATE,TRIPLE 2-INPUT XOR/XNOR	04713	MC10H107FN
A5U35	156-6072-01			IC,LINEAR:BIPOLAR,AMPLIFIER,MICROWAVE 12DB	54893	MSA-0386-TR
A5U36	156-2959-00			IC,LINEAR:BIPOLAR,VOLT REG,POS,8.0V,1.0A,2%	04713	MC7808ACT
A5U37	156-4234-00			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-8.0V,1.0A,2%	04713	MC7908ACT
A5U38	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002	01295	TL072CDR
A5U39	156-7047-01			IC,LINEAR:BIPOLAR,COMPARATOR,TTL OUT,9NS	1ES66	MAX9686BCSA-T
A5U40	156-6007-00			IC,CONVERTER:CMOS,A/D,8-BIT,13US,11 CHAN MUX	01295	TLC540IFN
A5U41	156-5517-01			IC,MISC:CMOS,PLL,SO16.300	04713	MC14046BDWR2
A5U42	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002	01295	TL072CDR
A5U43	160-9946-00			IC,DIGITAL:CMOS,PLD,EEPLD,16V8,25NS,45MA	TK0198	160994600
A5U44	156-6059-01			IC,MISC:CMOS,ANALOG SWITCH	17856	DG444DY-T1
A5U45	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A5W1	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%	09969	CRCW1206 JUMPER
A5Y1	158-0458-00			CRYSTAL:13.49294 MHZ,5 PPM,PARALLEL	14301	017-038-00067
A5Y2	158-0457-00			CRYSTAL:13.49215,5 PPM,PARALLEL	14301	017-038-00080
A5Y3	158-0475-00			CRYSTAL:13.50000 MHZ,2 PPM,PARALLEL	14301	038-00176 13.50000 MHZ

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5	671-4025-00			CIRCUIT BD ASSY: SERIAL (WFM 601A)	80009	671-4025-00
A5C1	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%,100V	04222	12061A221JAT1A
A5C2	283-5050-00			CAP,FXD,CER DI:560PF,5%,50V	04222	12065A561JAT1A
A5C4	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C6	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C7	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C8	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX
A5C9	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C10	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C11	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C12	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C13	283-5017-00			CAP,FXD,CERAMIC:MLC,1PF,+/-0.25PF,50V	04222	12065A1R0CAT1A
A5C41	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C42	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C43	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C44	283-5187-00			CAP,FXD,CERAMIC:MLC,15PF,5%,100V	04222	12061A150JAT1A
A5C46	283-5282-00			CAP,FXD,CERAMIC:MLC,2.2UF,+80-20%,16V	04222	1206YG225ZAT2A
A5C47	283-5282-00			CAP,FXD,CERAMIC:MLC,2.2UF,+80-20%,16V	04222	1206YG225ZAT2A
A5C48	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C49	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C50	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C51	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C53	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C54	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C55	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C56	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C98	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX
A5C120	290-5036-01			CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX
A5C121	290-5036-01			CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX
A5C122	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C123	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX
A5C141	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C142	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C151	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A

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Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5C152	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C153	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C154	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C155	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C156	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C174	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C175	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C180	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C181	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C183	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C184	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C187	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C188	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C189	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C190	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C192	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C200	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C207	290-5048-00			CAP,FXD,ALUM:150UF,20%,10V	62643	MVF10VC151M8TP
A5CR13	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR16	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR17	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5E2	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5J1	131-3520-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A5J2	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J3	131-3520-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A5J4	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J12	174-2744-00			CA ASSY,SP,ELEC:34,28 AWG, 3.25 L,RIBBON	53387	174-2744-00
A5J13	131-4530-00			CONN,HDR:PCB,MALE,STR	00779	104344-1
A5L1	108-5046-00			INDUCTOR,FXD:POWER,1.2UH,5%	TK2058	NL453232T-1R2J
A5L2	108-5109-00			INDUCTOR,FXD:SIGNAL,3.3UH,5%	02113	1008CS-332-XJBC
A5L21	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94
A5L22	108-1485-00			INDUCTOR,FXD:POWER,220UH,10%	TK2058	TSL0707-221KR44
A5L23	108-1485-00			INDUCTOR,FXD:POWER,220UH,10%	TK2058	TSL0707-221KR44
A5P13	131-0993-00			CONN,BOX:SHUNT,FEMALE,STR	00779	530153-2
A5Q1	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A5Q2	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A5Q3	151-5066-00			TRANSISTOR,SIG:MOS,N-CH,60V,0.115A,7.5 OHM	04713	2N7002LT1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R8	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A5R9	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R10	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A5R11	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R12	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R14	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R15	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R16	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R17	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R18	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A5R19	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R20	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W,TC=100	50139	BCK1500FT
A5R21	311-5040-00			RES,VAR,TRMR:CERMET,10K OHM,25%,0.1W,TC=100	32997	3314J-1-103E
A5R22	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W,TC=100	50139	BCK1500FT
A5R23	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R28	321-5045-00			RES,FXD:THICK FILM,68.1 OHM,1%,0.125W,TC=100	50139	BCD68R1FT
A5R69	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R70	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R73	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R74	321-5034-00			RES,FXD:THICK FILM,22.1K OHM,1%,0.125W,TC=100	50139	BCK2212FT
A5R75	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R76	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W,TC=100	50139	BCK1501FT
A5R77	321-5169-00			RES,FXD:THICK FILM,475K OHM,1%,0.125W,TC=100	59124	RK73H2B4753FT
A5R78	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R79	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100	50139	BCK3921FT
A5R80	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W,TC=100	50139	BCK1501FT
A5R82	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R83	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W,TC=100	50139	BCK1003FT
A5R221	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100	50139	BCK6811FT
A5R222	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100	50139	BCK3321FT
A5R224	321-5021-00			RES,FXD:THICK FILM,1.82K OHM,1%,0.125W,TC=100	50139	BCK1821FT
A5R225	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R238	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R239	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100	50139	BCK3921FT
A5R240	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM,1206,T&R	50139	BCD47R5FT
A5R241	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A5R248	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A5R253	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R256	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W,TC=100	50139	BCK3920FT
A5R257	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W,TC=100	50139	BCK3920FT
A5R258	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100	50139	BCK3320FT
A5R259	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100	50139	BCK3320FT
A5R260	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W,TC=100	50139	BCK1502FT
A5R266	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM,1206,T&R	50139	BCK3321FT
A5R267	321-5029-00			RES,FXD:THICK FILM,8.25K OHM,1%,0.125W,TC=100	50139	BCK8251FT
A5R268	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W,TC=100	50139	BCK2741FT
A5R269	311-5040-00			RES,VAR,TRMR:CERMET,10K OHM,25%,0.1W,4MM SQ,TOP ADJ,SMD,T&R	32997	3314J-1-103E
A5R287	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100 PPM,1206,T&R,	50139	BCK3921FT
A5R288	321-5037-00			RES,FXD:THICK FILM,39.2K OHM,1%,0.125W,TC=100 PPM,1206,T&R	50139	BCK3922FT
A5R290	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM,1206,T&R	50139	BCK1001FT
A5U2	156-6668-00			IC,MISC:ECL,MISC,GENLINX CABLE DRIVER	37964	GS9008-CKA
A5U14	156-7075-00			IC,MISC:BIPOLAR,MISC,SERIAL DIGITAL RECEIVER	37964	GS9005ACPJ
A5U16	156-7118-00			IC,MISC:BIPOLAR,MISC,SERIAL DIGITAL	37964	GS9010ACKC
A5U30	156-5299-01			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-5V,100MA,5%	01295	MC79L05ACDR
A5U36	156-2959-00			IC,LINEAR:BIPOLAR,VOLT REG,POS,8.0V,1.0A,2%	04713	MC7808ACT
A5U37	156-4234-00			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-8.0V,1.0A,2%	04713	MC7908ACT
A5U39	156-7047-01			IC,LINEAR:BIPOLAR,COMPARATOR,TTL OUT,9NS	1ES66	MAX9686BCSA-T
A5U40	156-6007-00			IC,CONVERTER:CMOS,A/D,8-BIT,13US,11 CHAN MUX	01295	TLC540IFN

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5	671-4026-00			CIRCUIT BD ASSY:SERIAL WFM601E	80009	671-4026-00
A5C1	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%	04222	12061A221JAT1A
A5C2	283-5050-00			CAP,FXD,CER DI:560PF,5%	04222	12065A561JAT1A
A5C3	283-5106-00			CAP,FXD,CERAMIC:MLC,470PF,5%	04222	12061A471JAT1A
A5C4	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C5	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C6	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C7	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C8	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX
A5C9	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C10	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C11	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C12	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C13	283-5017-00			CAP,FXD,CERAMIC:MLC,1PF,+/-0.25PF,50V	04222	12065A1R0CAT1A
A5C14	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V,Z5U,1206,SMD,8MM T&R	04222	12065E104ZAT3A
A5C15	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C17	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13')
A5C18	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C19	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C20	283-5238-00			CAP,FXD,CERAMIC:MLC,150PF,5%,100V	04222	12061A151JAT1A
A5C21	283-5238-00			CAP,FXD,CERAMIC:MLC,150PF,5%,100V	04222	12061A151JAT1A
A5C22	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13')
A5C23	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C24	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C25	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C26	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C27	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C28	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C29	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C30	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C31	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A
A5C32	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C33	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C34	283-5238-00			CAP,FXD,CERAMIC:MLC,150PF,5%,100V	04222	12061A151JAT1A
A5C35	283-5239-00			CAP,FXD,CERAMIC:MLC,1200PF,5%,100V	04222	12061A122JAT1A
A5C36	283-5239-00			CAP,FXD,CERAMIC:MLC,1200PF,5%,100V	04222	12061A122JAT1A
A5C37	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C38	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C39	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C40	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C41	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C42	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C43	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C44	283-5187-00			CAP,FXD,CERAMIC:MLC,15PF,5%,100V	04222	12061A150JAT1A
A5C45	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C46	283-5282-00			CAP,FXD,CERAMIC:MLC,2.2UF,+80%-20%,16V	04222	1206YG225ZAT2A
A5C47	283-5282-00			CAP,FXD,CERAMIC:MLC,2.2UF,+80%-20%,16V	04222	1206YG225ZAT2A
A5C48	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C49	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C50	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C51	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C52	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C53	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C54	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C55	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C56	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C67	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C68	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C69	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C70	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C71	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A
A5C72	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A
A5C73	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C74	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C75	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C76	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C77	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C78	283-5017-00			CAP,FXD,CERAMIC:MLC,1PF,+/-0.25PF,50V	04222	12065A1R0CAT1A
A5C79	281-5006-00			CAP,VAR,CERAMIC:1.7-3.0PF,100V	52769	GKG3R066-XX
A5C80	283-5002-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,50V	04222	12065A102KAT1A
A5C81	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C82	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C83	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C84	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C85	283-5195-00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V	04222	12061A100JAT1A
A5C86	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C98	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C102	290-5009-00			CAP,FXD,TANT:15UF,20%,25V	04222	TAJD156M025R
A5C103	283-5113-00			CAP,FXD,CERAMIC:MLC,0.047UF,10%,50V	04222	12065C473KAT1A
A5C104	283-5066-00			CAP,FXD,CERAMIC:MLC,150PF,10%,100V	04222	12061A151KAT1A
A5C105	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C106	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C107	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C108	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C109	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C110	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C111	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C112	283-5265-00			CAP,FXD,CERAMIC:MLC,0.0033UF,5%,50V	04222	12065A332JAT1A
A5C113	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C114	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C115	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C116	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C117	283-5106-00			CAP,FXD,CERAMIC:MLC,470PF,5%,100V	04222	12061A471JAT1A
A5C118	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C119	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C120	290-5036-01			CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13")
A5C121	290-5036-01			CAP,FXD,ALUM:22UF,20%,16V	62643	MVK16VC22RME60T PX (13")
A5C122	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A5C123	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C124	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5C125	283-5189-00			CAP,FXD,CERAMIC:MLC,220PF,5%,100V	04222	12061A221JAT1A
A5C129	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C130	290-5008-00			CAP,FXD,TANT:1UF,20%,35V	04222	TAJB105M035
A5C131	290-5034-01			CAP,FXD,ALUM:33UF,20%,10V	62643	MVK10VC33RME60T PX (13")
A5C132	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A5C133	283-5068-00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V	04222	12065C222KAT1A
A5C134	290-5027-00			CAP,FXD,TANT:2.2UF,20%,20V	26769	49MC225B020MOASF T
A5C135	283-5113-00			CAP,FXD,CERAMIC:MLC,0.047UF,10%,50V	04222	12065C473KAT1A
A5C136	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A5C137	290-5034-01			CAP,FXD,ALUM:33UF,20%,10V	62643	MVK10VC33RME60T PX (13")
A5C138	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C139	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C140	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C141	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C142	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C143	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C144	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C145	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C146	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C147	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C148	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C149	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C150	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C151	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C152	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C153	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C154	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C155	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C162	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C163	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C164	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontin'd	Name & description	Mfr. code	Mfr. part number
A5C165	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C166	283-5203-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,100V	04222	12061C102KAT1A
A5C169	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A5C174	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C175	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C180	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C181	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C183	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C184	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C187	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C188	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C189	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C190	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C191	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A5C192	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C197	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A5C200	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A5C203	283-5106-00			CAP,FXD,CERAMIC:MLC,470PF,5%,100V	04222	12061A471JAT1A
A5C207	290-5048-00			CAP,FXD,ALUM:150UF,20%,10V	62643	MVF10VC151M8TP
A5CR1	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR2	152-0269-01			DIODE,SIG:VVC,C4=33PF,5%,C4/C20=2	04713	SMV1263-1
A5CR3	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR5	152-0269-01			DIODE,SIG:VVC,C4=33PF,5%,C4/C20=2	04713	SMV1263-1
A5CR6	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR7	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR13	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR15	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR16	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR17	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A5CR18	152-5042-00			DIODE,SIG:SCHTKY,70V,35 OHMS,2.0PF	50434	HSMS-2802-T31
A5E1	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E2	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E3	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E4	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5E6	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM	TK2058	HF70ACB322513T
A5J1	131-3520-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A5J2	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5J3	131-3520-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A5J4	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J5	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J6	131-0265-00			CONN,RF JACK:SMB,PCB,MALE,RTANG,50 OHM	0GZV8	85SMB-50-0-1
A5J7	131-0391-00			CONN,RF JACK:SMB,MALE,STR	24931	32JR105-1
A5J11	131-0265-00			CONN,RF JACK:SMB,MALE,RTANG	0GZV8	85SMB-50-0-1
A5J12	174-2744-00			CA ASSY,SP,ELEC:34,28 AWG, 3.25 L,RIBBON	53387	174-2744-00
A5J13	131-4530-00			CONN,HDR:PCB,MALE,STR	00779	104344-1
A5K1	148-0173-01			RELAY,ARMATURE:1 FM C, 50 & 75 OHM	61529	RK1E-12V-H10
A5L1	108-5046-00			INDUCTOR,FXD:POWER,1.2UH,5%	TK2058	NL453232T-1R2J
A5L2	108-5109-00			INDUCTOR,FXD:SIGNAL,3.3UH,5%	02113	1008CS-332-XJBC
A5L3	108-5024-00			INDUCTOR,FXD:POWER,39UH,5%	TK2058	NL453232T-390J
A5L4	108-5072-00			INDUCTOR,FXD:SIGNAL,1UH,5%	02113	1008CS-102XJBC
A5L5	108-5072-00			INDUCTOR,FXD:SIGNAL,1UH,5%	02113	1008CS-102XJBC
A5L6	108-5037-00			INDUCTOR,FXD:POWER,22UH,5%	TK2058	NL453232T-220J
A5L7	108-5051-00			INDUCTOR,FXD:SIGNAL,10UH,10%	TK2058	NL453232T-100K
A5L8	108-5004-00			INDUCTOR,FXD:SIGNAL,1.8UH,10%	02113	1008CS-182XKBC
A5L9	108-5024-00			INDUCTOR,FXD:POWER,39UH,5%	TK2058	NL453232T-390J
A5L12	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94
A5L13	108-5051-00			INDUCTOR,FXD:SIGNAL,10UH,10%	TK2058	NL453232T-100K
A5L14	108-5015-00			INDUCTOR,FXD:SIGNAL,100UH,10%	TK2058	NL453232T-101K
A5L15	108-5020-00			INDUCTOR,FXD:SIGNAL,270NH,5%	02113	1008CS-271XJBC
A5L16	108-5020-00			INDUCTOR,FXD:SIGNAL,270NH,5%	02113	1008CS-271XJBC
A5L17	108-5015-00			INDUCTOR,FXD:SIGNAL,100UH,10%	TK2058	NL453232T-101K
A5L18	108-5015-00			INDUCTOR,FXD:SIGNAL,100UH,10%	TK2058	NL453232T-101K
A5L19	108-5015-00			INDUCTOR,FXD:SIGNAL,100UH,10%	TK2058	NL453232T-101K
A5L20	108-5080-00			INDUCTOR,FXD:SIGNAL,560NH,10%	TK2058	NL322522T-R56K-03
A5L21	108-1411-00			INDUCTOR,FXD:POWER,47UH,10%	TK2058	TSL0707-470KR94
A5L22	108-1485-00			INDUCTOR,FXD:POWER,220UH,10%	TK2058	TSL0707-221KR44
A5L23	108-1485-00			INDUCTOR,FXD:POWER,220UH,10%	TK2058	TSL0707-221KR44
A5P13	131-0993-00			CONN,BOX:SHUNT,FEMALE,STR,1 X	00779	530153-2
A5Q1	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A5Q2	151-5008-00			TRANSISTOR,SIG:BIPOLAR,NPN,12V,70MA,3.0GHZ	62104	NE02133-T1B (2SC2351-T1B)
A5Q3	151-5066-00			TRANSISTOR,SIG:MOS,N-CH,60V,0.115A,7.5 OHM	04713	2N7002LT1
A5Q4	151-5021-00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,600MA,300MHZ	04713	MMBT2222ALT1
A5Q5	151-5058-00			TRANSISTOR,SIG:BIPOLAR,PNP,12V,80MA	04713	MMBT3640LT1
A5R1	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%,0.125W,TC=100	50139	BCK6810FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R2	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%,0.125W,TC=100	50139	BCD39R2FT
A5R3	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%,0.125W,TC=100	50139	BCD39R2FT
A5R4	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R5	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R6	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R7	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R8	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A5R9	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R10	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A5R11	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R12	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R13	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A5R14	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R15	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R16	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R17	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R18	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A5R19	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R20	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W,TC=100	50139	BCK1500FT
A5R21	311-5040-00			RES,VAR,TRMR:CERMET,10K OHM,25%,0.1W	32997	3314J-1-103E
A5R22	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W,TC=100	50139	BCK1500FT
A5R23	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R24	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R25	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R26	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R27	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R28	321-5045-00			RES,FXD:THICK FILM,68.1 OHM,1%,0.125W,TC=100	50139	BCD68R1FT
A5R29	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R30	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R32	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R33	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R34	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%,0.125W,TC=100	50139	BCK1820FT
A5R38	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%,0.125W,TC=100	50139	BCK221FT
A5R39	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%,0.125W,TC=100	50139	BCK221FT
A5R40	321-5039-00			RES,FXD:THICK FILM,56.2K OHM,1%,0.125W,TC=100	50139	BCK5622FT
A5R41	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W,TC=100	50139	BCK1003FT
A5R42	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R43	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5R44	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R45	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R46	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W,TC=100	50139	BCK1500FT
A5R47	321-5019-00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100	50139	BCK1211FT
A5R48	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R49	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R50	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R51	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R52	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%,0.125W,TC=100	50139	BCK1820FT
A5R53	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W,TC=100	50139	BCK1501FT
A5R54	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W,TC=100	50139	BCK5620FT
A5R55	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A5R56	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R57	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W,TC=100	50139	BCK5620FT
A5R58	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W,TC=100	50139	BCK1500FT
A5R59	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A5R60	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R61	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R62	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%,0.125W,TC=100	50139	BCK221FT
A5R63	321-5093-00			RES,FXD,FILM:200 OHM,1%,0.125W	57668	T/R MCR18EZHFX200E
A5R64	321-5266-00			RES,FXD:THICK FILM,11K OHM,1%,0.125W,TC=100	59124	RK73H2B1102FT
A5R65	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R67	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W,TC=100	50139	BCK1502FT
A5R68	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R69	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R70	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R71	321-5042-00			RES,FXD:THICK FILM,39.2 OHM,1%,0.125W,TC=100	50139	BCD39R2FT
A5R72	321-5050-00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100	50139	BCD33R2FT
A5R73	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R74	321-5034-00			RES,FXD:THICK FILM,22.1K OHM,1%,0.125W,TC=100	50139	BCK2212FT
A5R75	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R76	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W,TC=100	50139	BCK1501FT
A5R78	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R79	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100	50139	BCK3921FT
A5R80	321-5020-00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W,TC=100	50139	BCK1501FT
A5R81	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R82	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R83	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W,TC=100	50139	BCK1003FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R103	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R104	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R105	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W,TC=100	50139	BCK1003FT
A5R106	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100	50139	BCD47R5FT
A5R107	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R108	321-5039-00			RES,FXD:THICK FILM,56.2K OHM,1%,0.125W,TC=100	50139	BCK5622FT
A5R109	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W,TC=100	50139	BCK1502FT
A5R110	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R111	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R112	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R113	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R114	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R115	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R116	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R117	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A5R118	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A5R119	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R120	321-5046-00			RES,FXD:THICK FILM,82.5 OHM,1%,0.125W,TC=100	50139	BCK82R5FT
A5R121	321-5122-00			RES,FXD,FILM:499 OHM,1%,0.125W	91637	CRCW1206-4990FT
A5R122	321-5026-00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100	50139	BCK4751FT
A5R123	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R124	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R125	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R126	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R127	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R167	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%,0.125W,TC=100	50139	BCK6810FT
A5R168	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R169	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A5R170	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%,0.125W,TC=100	50139	BCK6810FT
A5R187	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R188	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R189	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R190	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R191	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R192	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R193	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%,0.125W,TC=100	50139	BCK4752FT
A5R194	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A5R195	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R196	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%,0.125W,TC=100	50139	BCK4752FT
A5R197	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A5R198	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R199	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R200	321-5143-00			RES,FXD,FILM:301 OHM,1%,0.125W	91637	CRCW12063010FT
A5R201	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R202	321-5055-00			RES,FXD:THICK FILM,681K OHM,1%,0.125W,TC=100	91637	CRCW120668102FT
A5R203	321-5066-00			RES,FXD:THICK FILM,121K OHM,1%,0.125W,TC=100	91637	CRCW1206-1213FT
A5R204	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%,0.125W,TC=100	50139	BCK4752FT
A5R205	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R206	321-5033-00			RES,FXD:THICK FILM,18.2K OHM,1%,0.125W,TC=100	50139	BCK1822FT
A5R207	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R208	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R209	321-5209-00			RES,FXD,FILM:243 OHM,1%,0.125W	91637	CRCW-1206-2430FT
A5R210	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R211	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R212	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100	50139	BCK6811FT
A5R213	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R214	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R215	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R216	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R217	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W,TC=100	50139	BCK1003FT
A5R218	321-5046-00			RES,FXD:THICK FILM,82.5 OHM,1%,0.125W,TC=100	50139	BCK82R5FT
A5R221	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100	50139	BCK6811FT
A5R222	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100	50139	BCK3321FT
A5R223	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R224	321-5021-00			RES,FXD:THICK FILM,1.82K OHM,1%,0.125W,TC=100	50139	BCK1821FT
A5R225	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R228	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R229	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R230	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%,0.125W,TC=100	50139	BCK221FT
A5R231	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100	50139	BCK6811FT
A5R232	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A5R233	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A5R234	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100	50139	BCK6811FT
A5R235	321-5049-00			RES,FXD:THICK FILM,1M OHM,1%,0.125W,TC=100	50139	BCA1004FT
A5R236	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R237	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W,TC=100	50139	BCK5620FT
A5R238	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R239	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100	50139	BCK3921FT
A5R240	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100	50139	BCD47R5FT
A5R241	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A5R243	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R245	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R246	321-5093-00			RES,FXD,FILM:200 OHM,1%,0.125W	57668	T/R MCR18EZHFX200E
A5R247	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A5R248	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A5R249	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R250	321-5122-00			RES,FXD,FILM:499 OHM,1%,0.125W	91637	CRCW1206-4990FT
A5R251	321-5122-00			RES,FXD,FILM:499 OHM,1%,0.125W	91637	CRCW1206-4990FT
A5R253	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A5R256	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W,TC=100	50139	BCK3920FT
A5R257	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W,TC=100	50139	BCK3920FT
A5R258	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100	50139	BCK3320FT
A5R259	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100	50139	BCK3320FT
A5R260	321-5032-00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W,TC=100	50139	BCK1502FT
A5R261	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W,TC=100	50139	BCK1500FT
A5R262	321-5008-00			RES,FXD:THICK FILM,150 OHM,1%,0.125W,TC=100	50139	BCK1500FT
A5R263	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A5R264	321-5043-00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100	50139	BCD47R5FT
A5R266	321-5024-00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100	50139	BCK3321FT
A5R267	321-5029-00			RES,FXD:THICK FILM,8.25K OHM,1%,0.125W,TC=100	50139	BCK8251FT
A5R268	321-5023-00			RES,FXD:THICK FILM,2.74K OHM,1%,0.125W,TC=100	50139	BCK2741FT
A5R269	311-5040-00			RES,VAR,TRMR:CERMET,10K OHM,25%,0.1W	32997	3314J-1-103E
A5R270	321-5009-00			RES,FXD:THICK FILM,182 OHM,1%,0.125W,TC=100	50139	BCK1820FT
A5R271	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A5R278	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A5R279	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A5R280	321-5039-00			RES,FXD:THICK FILM,56.2K OHM,1%,0.125W,TC=100	50139	BCK5622FT
A5R287	321-5014-00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100	50139	BCK4750FT
A5R288	321-5035-00			RES,FXD:THICK FILM,27.4K OHM,1%,	50139	BCK2742FT
A5R290	321-5022-00			RES,FXD:THICK FILM,2.21K OHM,1%	50139	BCK2211FT
A5U1	156-7184-01			IC,MISC:BIPOLAR,MISC	34371	HFA3101B96

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5U2	156-6668-00			IC,MISC:ECL,MISC,GENLINX CABLE DRIVER	37964	GS9008-CKA
A5U3	156-5978-00			IC,LINEAR:ECL,PRESALER	04713	MC12013FN
A5U4	156-5221-01			IC,DIGITAL:ECL,FLIP FLOP,DUAL D-TYPE	04713	MC10H131FNR2
A5U6	156-5299-01			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-5V,100MA,5%	01295	MC79L05ACDR
A5U7	156-5382-01			IC,DIGITAL:ECL,GATE,TRIPLE 2-3-2 INPUT OR/NOR	04713	MC10H105FNR2
A5U8	156-6647-00			IC,LINEAR:BIPOLAR,OP-AMP,200MHZ	62839	CLC410AJE
A5U9	156-6647-00			IC,LINEAR:BIPOLAR,OP-AMP,200MHZ	62839	CLC410AJE
A5U10	156-5298-01			IC,LINEAR:BIPOLAR,VOLTAGE REG,POS,5V,100MA,5%	01295	UA78L05ACDR
A5U11	234-0727-21			IC,ASIC:BIPOLAR,PROBE SAMPLER	TK2598	234-0727-21
A5U12	156-6894-00			IC,LINEAR:BIPOLAR,AMPLIFIER,LOGARITHMIC	24355	AD606JR
A5U13	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL	01295	TL072CDR
A5U14	156-7075-00			IC,MISC:BIPOLAR,MISC,SERIAL DIGITAL RECEIVER	37964	GS9005ACPJ
A5U15	156-5280-00			IC,LINEAR:BIPOLAR,AMP,RF AMP,20DB GAIN,600MHZ	1CH66	NE5205AD
A5U16	156-7118-00			IC,MISC:BIPOLAR,MISC,SERIAL DIGITAL	37964	GS9010ACKC
A5U20	156-5221-01			IC,DIGITAL:ECL,FLIP FLOP,DUAL D-TYPE	04713	MC10H131FNR2
A5U21	156-5382-01			IC,DIGITAL:ECL,GATE,TRIPLE 2-3-2 INPUT OR/NOR	04713	MC10H105FNR2
A5U25	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A5U28	163-0652-00			IC,DIGITAL:CMOS,PLD,EEPLD,16V8,15NS,90MA	TK0198	163065200
A5U29	156-5480-01			IC,DIGITAL:HCMOS,REGISTER,8-BIT SHIFT	01295	SN74HC595ADR
A5U30	156-5299-01			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-5V,100MA,5%	01295	MC79L05ACDR
A5U32	160-9945-00			IC,DIGITAL:CMOS,PLD,OTP,22V10,25NS,55MA	TK0198	160994500
A5U33	156-5019-01			IC,LINEAR:BIPOLAR,COMPARATOR,DUAL	01295	LM393DR
A5U34	156-5973-00			IC,DIGITAL:ECL,GATE,TRIPLE 2-INPUT XOR/XNOR	04713	MC10H107FN
A5U35	156-6072-01			IC,LINEAR:BIPOLAR,AMPLIFIER,MICROWAVE 12DB	54893	MSA-0386-TR
A5U36	156-2959-00			IC,LINEAR:BIPOLAR,VOLT REG,POS,8.0V,1.0A,2%	04713	MC7808ACT
A5U37	156-4234-00			IC,LINEAR:BIPOLAR,VOLT REG,NEG,-8.0V,1.0A,2%	04713	MC7908ACT
A5U39	156-7047-01			IC,LINEAR:BIPOLAR,COMPARATOR,TTL OUT,9NS	1ES66	MAX9686BCSA-T
A5U40	156-6007-00			IC,CONVERTER:CMOS,A/D,8-BIT,13US,11 CHAN MUX	01295	TLC540IFN
A5U41	156-5517-01			IC,MISC:CMOS,PLL,SO16.300	04713	MC14046BDWR2
A5U42	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002	01295	TL072CDR
A5U43	160-9946-00			IC,DIGITAL:CMOS,PLD,EEPLD,16V8,25NS,45MA	TK0198	160994600
A5U44	156-6059-01			IC,MISC:CMOS,ANALOG SWITCH	17856	DG444DY-T1
A5W1	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A5Y1	158-0458-00			CRYSTAL:13.49294 MHZ,5 PPM,PARALLEL	14301	017-038-00067
A5Y2	158-0457-00			CRYSTAL:13.49215,5 PPM,PARALLEL	14301	017-038-00080

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A6	671-3637-00			CIRCUIT BD ASSY:CRT SOCKET BD	80009	671-3637-00
A6J1,J3	131-5338-00			CONN,HDR:PCB/WIREWRAP	22526	65561-107
A6J2	131-5337-00			CONN,HDR:PCB/WIREWRAP,MALE	22526	65561-104
A6SKT1	136-1289-00			SOCKET:CRT,TUBE,	0LUA3	55595

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7	671-3612-00	B010100	B010364	CIRCUIT BD ASSY:COMPONENT WFM 601M	80009	671-3612-00
A7	671-3612-01	B010100	B010996	CIRCUIT BD ASSY:COMPONENT WFM 601A	80009	671-3612-01
A7	671-3612-01	B010100	B010484	CIRCUIT BD ASSY:COMPONENT WFM 601E	80009	671-3612-01
A7	671-3612-01	B010365	B010946	CIRCUIT BD ASSY:COMPONENT WFM 601M	80009	671-3612-01
A7	671-3612-02	B010997		CIRCUIT BD ASSY:COMPONENT WFM 601A	80009	671-3612-02
A7	671-3612-02	B010485		CIRCUIT BD ASSY:COMPONENT WFM 601E	80009	671-3612-02
A7	671-3612-02	B010947		CIRCUIT BD ASSY:COMPONENT WFM 601M	80009	671-3612-02
A7C9	290-5003-00			CAP,FXD,TANT:47UF,20%,10V	04222	TAJD476M010
A7C36	283-5358-00			CAP,FXD,CERAMIC:100PF,5%,100V	04222	06031A101JAT2A
A7C40	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C41	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C42	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C45	283-5019-00			CAP,FXD,CERAMIC:MLC,2PF,+/-0.25PF,50V	04222	12065A2R0CAT1A
A7C50	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C55	283-5041-00			CAP,FXD,CERAMIC:MLC,7PF,+/-0.5PF,50V	04222	12065A7R0DAT1A
A7C65	283-5236-00			CAP,FXD,CERAMIC:MLC,3.0PF,+/-0.25PF,100V	04222	12061A3R0CAT1A
A7C71	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C72	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C73	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C74	281-0139-00			CAP,VAR,CER DI:2.5-9PF,100V	59660	518-031 A 2.5-9
A7C75	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C91	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C92	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C101	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C118	283-5335-00			CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V	04222	06035C103KAT2A
A7C119	283-5335-00			CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V	04222	06035C103KAT2A
A7C120	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C121	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C125	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C126	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C130	283-0633-01			CAP,FXD,MICA DI:77PF,1%,500V	09023	CDA15ED770F03
A7C131	283-0647-01			CAP,FXD,MICA DI:70PF,1%,500V	09023	CDA15ED700F03
A7C132	283-0649-01			CAP,FXD,MICA DI:105PF,1%,500V	09023	CDA15FD(105)F03
A7C133	281-0140-00			CAP,VAR,CER DI:5-25PF,100V	59660	518-038A-5-25
A7C134	283-5347-00			CAP,FXD,CERAMIC:22PF,5%,100V	04222	06031A220JAT2A
A7C136	281-0140-00			CAP,VAR,CER DI:5-25PF,100V	59660	518-038A-5-25
A7C151	283-0633-01			CAP,FXD,MICA DI:77PF,1%,500V	09023	CDA15ED770F03
A7C152	283-0647-01			CAP,FXD,MICA DI:70PF,1%,500V	09023	CDA15ED700F03

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7C155	283-0649-01			CAP,FXD,MICA DI:105PF,1%,500V	09023	CDA15FD(105)F03
A7C156	283-0636-01			CAP,FXD,MICA DI:36PF,1%,500V	09023	CDA15ED360G03
A7C162	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C163	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C164	283-5335-00			CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V	04222	06035C103KAT2A
A7C165	283-5335-00			CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V	04222	06035C103KAT2A
A7C170	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60TPX (13")
A7C180	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C181	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60TPX (13")
A7C190	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C191	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60TPX (13")
A7C202	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C206	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C207	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C208	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C209	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C210	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C301	283-0625-01			CAP,FXD,MICA DI:220PF,1%,500V	09023	CDA10FD221F03
A7C302	281-0234-00			CAP,VAR,PLASTIC:5.5-65 PF,100V	52769	GYD 65000
A7C303	283-5008-00			CAP,FXD,CERAMIC:MLC,12PF,5%,50V	04222	12065A120JAT1A
A7C305	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C306	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C307	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C308	283-5359-00			CAP,FXD,CERAMIC:150PF,5%,100V	04222	06031A151JAT2A
A7C309	283-0698-01			CAP,FXD,MICA DI:390PF,1%,500V	09023	CDA15FD391F03
A7C310	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C312	283-5359-00			CAP,FXD,CERAMIC:150PF,5%,100V	04222	06031A151JAT2A
A7C313	283-5354-00		671-3612-00	CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C316	283-5358-00			CAP,FXD,CERAMIC:100PF,5%,100V	04222	06031A101JAT2A
A7C317	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C318	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C319	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A7C320	283-5334-00		671-3612-00	CAP,FXD CERAMIC:MLC,10PF,5%,100V	29454	250R14N100CV4T
A7C320	283-5347-00	671-3612-01		CAP,FXD,CERAMIC:22PF,5%,100V	04222	06031A220JAT2A
A7C401	283-0688-01			CAP,FXD,MICA DI:464PF,1%,500V	09023	CDA15FD(464)F03
A7C402	281-0234-00			CAP,VAR,PLASTIC:5.5-65 PF,100V SIDE ADJ	52769	GYD 65000

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7C403	283-5008-00			CAP,FXD,CERAMIC:MLC,12PF,5%,50V	04222	12065A120JAT1A
A7C404	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C405	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C406	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C407	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C408	283-5334-00			CAP,FXD CERAMIC:MLC,10PF,5%,100V	29454	250R14N100CV4T
A7C409	283-0645-01			CAP,FXD,MICA DI:790PF,1%,300V	09023	CDA15FC791F03
A7C410	283-5356-00			CAP,FXD,CERAMIC:47PF,5%,100V	04222	06031A470JAT2A
A7C411	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C412	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C413	283-5334-00	671-3612-01		CAP,FXD CERAMIC:MLC,10PF,5%,100V	29454	250R14N100CV4T
A7C414	281-0234-00			CAP,VAR,PLASTIC:5.5-65 PF,100V	52769	GYD 65000
A7C416	283-5348-00			CAP,FXD,CERAMIC:220PF,5%,100V	04222	06031A221JAT2A
A7C417	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C418	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C419	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C420	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A7C430	283-5334-00			CAP,FXD CERAMIC:MLC,10PF,5%,100V	29454	250R14N100CV4T
A7C442	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C446	283-5358-00			CAP,FXD,CERAMIC:100PF,5%,100V	04222	06031A101JAT2A
A7C497	283-5358-00		671-3612-00	CAP,FXD,CERAMIC:100PF,5%,100V	04222	06031A101JAT2A
A7C501	283-0688-01			CAP,FXD,MICA DI:464PF,1%,500V	09023	CDA15FD(464)F03
A7C502	281-0234-00			CAP,VAR,PLASTIC:5.5-65 PF,100V SIDE ADJ	52769	GYD 65000
A7C503	283-5008-00			CAP,FXD,CERAMIC:MLC,12PF,5%,50V	04222	12065A120JAT1A
A7C504	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C505	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C506	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C507	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C508	283-5334-00			CAP,FXD CERAMIC:MLC,10PF,5%,100V	29454	250R14N100CV4T
A7C509	283-0645-01			CAP,FXD,MICA DI:790PF,1%,300V	09023	CDA15FC791F03
A7C510	283-5356-00			CAP,FXD,CERAMIC:47PF,5%,100V	04222	06031A470JAT2A
A7C511	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C512	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C513	283-5334-00	671-3612-01		CAP,FXD CERAMIC:MLC,10PF,5%,100V	29454	250R14N100CV4T
A7C514	281-0234-00			CAP,VAR,PLASTIC:5.5-65 PF,100V	52769	GYD 65000
A7C516	283-5348-00			CAP,FXD,CERAMIC:220PF,5%,100V	04222	06031A221JAT2A
A7C517	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C518	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7C519	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A7C711	281-0140-00			CAP,VAR,CER DI:5-25PF,100V SUBMIN CER DISC	59660	518-038A-5-25
A7C712	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C713	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C714	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C721	281-0140-00			CAP,VAR,CER DI:5-25PF,100V SUBMIN CER DISC	59660	518-038A-5-25
A7C722	283-5355-00		671-3612-00	CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C722	283-5370-00	671-3612-01		CAP,FXD CERAMIC:39PF,5%,100V	04222	06031A390JAT1A
A7C723	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C724	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C731	281-0140-00			CAP,VAR,CER DI:5-25PF,100V SUBMIN CER DISC	59660	518-038A-5-25
A7C732	283-5355-00		671-3612-00	CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C732	283-5370-00	671-3612-01		CAP,FXD CERAMIC:39PF,5%,100V	04222	06031A390JAT1A
A7C733	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C734	283-5354-00			CAP,FXD,CERAMIC:15PF,5%,100V	04222	06031A150JAT2A
A7C771	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C772	283-5350-00			CAP,FXD,CERAMIC:1000PF,10%,100V	04222	06031C102KAT2A
A7C773	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C774	283-5350-00			CAP,FXD,CERAMIC:1000PF,10%,100V	04222	06031C102KAT2A
A7C775	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C776	283-5350-00			CAP,FXD,CERAMIC:1000PF,10%,100V	04222	06031C102KAT2A
A7C777	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C778	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C779	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C780	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C781	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C782	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C783	283-5350-00			CAP,FXD,CERAMIC:1000PF,10%,100V	04222	06031C102KAT2A
A7C784	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C785	283-5350-00			CAP,FXD,CERAMIC:1000PF,10%,100V	04222	06031C102KAT2A
A7C786	283-5350-00			CAP,FXD,CERAMIC:1000PF,10%,100V	04222	06031C102KAT2A
A7C787	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C829	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C830	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C831	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C832	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C833	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C834	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7C835	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C836	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C837	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C838	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C839	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C840	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C841	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C842	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C843	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C844	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C845	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C846	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C847	283-5358-00			CAP,FXD,CERAMIC:100PF,5%,100V	04222	06031A101JAT2A
A7C848	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C849	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C850	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C851	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C852	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C853	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C854	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C855	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C864	283-5353-00			CAP,FXD,CERAMIC:0.1UF,20%,16V	04222	0603YC104MAT2A
A7C865	283-5360-00			CAP,FXD,CERAMIC:330PF,10%,100V	04222	06031C331KAT2A
A7C866	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7C867	283-5355-00			CAP,FXD,CERAMIC:33PF,5%,100V	04222	06031A330JAT2A
A7CR180	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A7CR190	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A7E1	337-3104-00			SHIELD,ELEC:CKT BD 1980	TK1947	337-3104-00
A7J9	131-3181-00			CONN,HDR:PCB,MALE,RTANG	22526	69155-440R
A7J12	131-3181-00			CONN,HDR:PCB,MALE,RTANG	22526	69155-440R
A7J13	131-3181-00			CONN,HDR:PCB,MALE,RTANG	22526	69155-440R
A7J14	131-3277-00			CONN,HDR:PCB,MALE,STR	22526	66506-057
A7J84	131-3718-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A7J300	131-3766-00			CONN,HDR:PCB,MALE,RTANG	00779	87232-2
A7J400	131-4794-00			CONN,HDR:PCB,MALE,STR	53387	2402-6112 UB
A7J500	131-4794-00			CONN,HDR:PCB,MALE,STR	53387	2402-6112 UB
A7L1	108-1263-00			INDUCTOR,FXD:POWER,10UH,10%	TK2058	TSL0707-100K1R9
A7L302	108-1558-00			INDUCTOR,FXD:CUSTOM,INDUCTOR,1.75UH,5%	OJR03	108-1558-00

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7L308	108-1561-00			INDUCTOR,FXD:CUSTOM,POWER,1.9UH,5%	0JR03	108-1561-00
A7L311	108-1558-00			INDUCTOR,FXD:CUSTOM,INDUCTOR,1.75UH,5%	0JR03	108-1558-00
A7L402	108-1559-00			INDUCTOR,FXD:CUSTOM,POWER,3.6UH,5%	0JR03	108-1559-00
A7L407	108-1560-00			INDUCTOR,FXD:CUSTOM,POWER,3.8UH,5%	0JR03	108-1560-00
A7L410	108-1559-00			INDUCTOR,FXD:CUSTOM,POWER,3.6UH,5%	0JR03	108-1559-00
A7L502	108-1559-00			INDUCTOR,FXD:CUSTOM,POWER,3.6UH,5%	0JR03	108-1559-00
A7L507	108-1560-00			INDUCTOR,FXD:CUSTOM,POWER,3.8UH,5%	0JR03	108-1560-00
A7L510	108-1559-00			INDUCTOR,FXD:CUSTOM,POWER,3.6UH,5%	0JR03	108-1559-00
A7L771	108-5131-00			INDUCTOR,FXD:SIGNAL,33UH,5%	TK2058	NL322522T-330J-3
A7L773	108-5131-00			INDUCTOR,FXD:SIGNAL,33UH,5%	TK2058	NL322522T-330J-3
A7L775	108-5131-00			INDUCTOR,FXD:SIGNAL,33UH,5%	TK2058	NL322522T-330J-3
A7L776	108-5131-00			INDUCTOR,FXD:SIGNAL,33UH,5%	TK2058	NL322522T-330J-3
A7L777	108-5131-00			INDUCTOR,FXD:SIGNAL,33UH,5%	TK2058	NL322522T-330J-3
A7Q98	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A7Q131	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A7Q134	151-5016-00			TRANSISTOR,SIG:BIPOLAR,PNP,20V,30MA,600MHZ	04713	MMBTH81LT1
A7Q136	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A7Q151	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A7Q157	151-5016-00			TRANSISTOR,SIG:BIPOLAR,PNP,20V,30MA,600MHZ	04713	MMBTH81LT1
A7Q180	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A7Q441	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A7Q863	151-5035-00			TRANSISTOR,SIG:BIPOLAR,NPN,25V,30MA,650MHZ	04713	MMBTH10LT1
A7R11	321-5420-00			RES,FXD,FILM:475 OHM,1%,100V	59124	RK73H1J4750FT
A7R12	321-5420-00			RES,FXD,FILM:475 OHM,1%,100V	59124	RK73H1J4750FT
A7R13	321-5420-00			RES,FXD,FILM:475 OHM,1%,100V	59124	RK73H1J4750FT
A7R14	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R15	321-5420-00			RES,FXD,FILM:475 OHM,1%,100V	59124	RK73H1J4750FT
A7R16	321-5420-00			RES,FXD,FILM:475 OHM,1%,100V	59124	RK73H1J4750FT
A7R17	321-5473-00			RES,FXD,FILM:82.5K OHM,1%,100V	91637	CRCW06038252FRT-1
A7R36	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R40	321-5467-00			RES,FXD,FILM:15.0K OHM,1%,100V	91637	CRCW06031502FRT-1
A7R41	321-5474-00			RES,FXD,FILM:200K OHM,1%,100V	91637	CRCW06032003FRT-1
A7R42	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R43	321-5453-00			RES,FXD,FILM:274 OHM,1%,100V	91637	CRCW06032740FRT-1
A7R44	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R45	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R46	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R47	321-5469-00			RES,FXD,FILM:20.0K OHM,1%,100V	91637	CRCW06032002FRT-1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R48	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R51	321-5480-00		671-3612-01	RES,FXD,FILM:86.6K,1%,50V	91637	CRCW06038662FRT-1
A7R51	321-5467-00	671-3612-02		RES,FXD,FILM:15.0K,1%,50V	91637	CRCW06038662FRT-1
A7R52	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT
A7R53	321-5447-00			RES,FXD,FILM:68.1 OHM,1%,100V	91637	CRCW060368R1FRT-1
A7R54	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R55	321-5383-00			RES,FXD:THIN FILM,1.33K OHM,0.1%	91637	TNPW1206 1331BT
A7R56	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R57	321-5337-00		671-3612-01	RES,FXD,FILM:100 OHM,0.1%,0.125 W,	91637	TNPW12061000BT
A7R57	321-5046-00	671-3612-02		RES,FXD,FILM:82.5 OHM,0.1%,0.125 W,	50139	BCK82R5FT
A7R60	321-5469-00			RES,FXD,FILM:20.0K OHM,1%,100V	91637	CRCW06032002FRT-1
A7R61	321-5446-00			RES,FXD,FILM:56.2 OHM,1%,100V	91637	CRCW060356R2FRT-1
A7R62	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%,	91637	TNPW1206 4420BT
A7R63	321-5337-00			RES,FXD,FILM:100 OHM,0.1%,0.125 W,	91637	TNPW12061000BT
A7R64	321-5383-00			RES,FXD:THIN FILM,1.33K OHM,0.1%,	91637	TNPW1206 1331BT
A7R65	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R66	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R70	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R71	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R72	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R73	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R74	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R75	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R76	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R77	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R78	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R79	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R80	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT
A7R81	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT
A7R82	321-5337-00			RES,FXD,FILM:100 OHM,0.1%,0.125 W	91637	TNPW12061000BT
A7R83	321-5337-00			RES,FXD,FILM:100 OHM,0.1%,0.125 W	91637	TNPW12061000BT
A7R84	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT
A7R85	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A7R86	321-5337-00			RES,FXD,FILM:100 OHM,0.1%,0.125 W	91637	TNPW12061000BT
A7R87	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT
A7R88	321-5305-00			RES,FXD,FILM:2K OHM,0.1%,25PPM	91637	TNPW1206-2001BT
A7R89	321-5453-00			RES,FXD,FILM:274 OHM,1%,100V	91637	CRCW06032740FRT-1
A7R90	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R91	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT
A7R92	321-5419-00			RES,FXD,FILM:392 OHM,1%,100V	59124	RK73H1J3920FT
A7R95	321-5113-00			RES,FXD:THICK FILM,75 OHM,1% PPM	56845	CRCW1206-75ROFT
A7R100	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT
A7R101	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT
A7R102	321-5419-00			RES,FXD,FILM:392 OHM,1%,100V	59124	RK73H1J3920FT
A7R105	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%	56845	CRCW1206-75ROFT
A7R110	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R118	321-5467-00			RES,FXD,FILM:15.0K OHM,1%,100V	91637	CRCW06031502FRT-1
A7R119	321-5466-00			RES,FXD,FILM:12.1K OHM,1%,100V	91637	CRCW06031212FRT-1
A7R120	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R121	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R122	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R123	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R125	321-5452-00			RES,FXD,FILM:182 OHM,1%,100V	59124	RK73H1J1820F
A7R126	321-5463-00			RES,FXD,FILM:5.62K OHM,1%,100V	91637	CRCW06035621FRT-1
A7R127	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R128	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R129	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R130	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R131	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R132	321-5423-00			RES,FXD,FILM:2.74K,1%,100V	91637	CRCW06032741FRT-1
A7R133	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R134	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R135	321-5423-00			RES,FXD,FILM:2.74K,1%,100V	91637	CRCW06032741FRT-1
A7R136	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R137	321-5423-00			RES,FXD,FILM:2.74K,1%,100V	91637	CRCW06032741FRT-1
A7R138	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R149	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R150	321-5430-00			RES,FXD,FILM:39.2K,1%,100V	59124	RK73H1J3922FT
A7R151	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R152	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R153	321-5423-00			RES,FXD,FILM:2.74K,1%,100V	91637	CRCW06032741FRT-1
A7R155	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R156	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R157	321-5423-00			RES,FXD,FILM:2.74K,1%,100V	91637	CRCW06032741FRT-1
A7R162	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R163	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT

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Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R164	321-5467-00			RES,FXD,FILM:15.0K OHM,1%,100V	91637	CRCW06031502FRT-1
A7R165	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R166	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R170	321-5420-00			RES,FXD,FILM:475 OHM,1%,100V	59124	RK73H1J4750FT
A7R180	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R181	321-5423-00			RES,FXD,FILM:2.74K,1%,100V	91637	CRCW06032741FRT-1
A7R182	321-5466-00			RES,FXD,FILM:12.1K OHM,1%,100V	91637	CRCW06031212FRT-1
A7R213	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R214	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R215	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R216	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R217	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R218	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R219	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R225	321-5435-00			RES,FXD,FILM:475K,1%,100V	91637	CRCW06034753FRT-1
A7R251	321-5426-00			RES,FXD,FILM:8.25K,1%,100V	91637	CRCW06038251FRT-1
A7R301	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R302	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R304	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R305	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R306	321-5448-00			RES,FXD,FILM:75 OHM,1%,100V	91637	CRCW060375R0FRT-1
A7R307	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R308	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R309	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R310	321-5463-00			RES,FXD,FILM:5.62K OHM,1%,100V	91637	CRCW06035621FRT-1
A7R311	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R312	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R314	311-2277-00			RES,VAR,NONWW:TRMR,50 OHM,20%,0.5W	TK2073	GF06VT2 500 M L20
A7R315	321-5442-00			RES,FXD,FILM:33.2 OHM,1%,100V	91637	CRCW060333R2FRT-1
A7R316	321-5448-00			RES,FXD,FILM:75 OHM,1%,100V	91637	CRCW060375R0FRT-1
A7R317	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R318	321-5424-00			RES,FXD,FILM:3.32K,1%,100V	91637	CRCW06033321FRT-1
A7R401	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R402	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R404	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R405	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R406	321-5448-00			RES,FXD,FILM:75 OHM,1%,100V	91637	CRCW060375R0FRT-1
A7R407	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R408	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R409	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R410	321-5463-00			RES,FXD,FILM:5.62K OHM,1%,100V	91637	CRCW06035621FRT-1
A7R411	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R412	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R414	311-2277-00			RES,VAR,NONWW:TRMR,50 OHM,20%,0.5W	TK2073	GF06VT2 500 M L20
A7R415	321-5442-00			RES,FXD,FILM:33.2 OHM,1%,100V	91637	CRCW060333R2FRT-1
A7R416	321-5448-00			RES,FXD,FILM:75 OHM,1%,100V	91637	CRCW060375R0FRT-1
A7R417	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R418	321-5459-00			RES,FXD,FILM:1.5K OHM,1%,100V	91637	CRCW06031501FRT-1
A7R419	321-5422-00			RES,FXD,FILM:2.00K,1%,100V	91637	CRCW06032001FRT-1
A7R420	321-5463-00			RES,FXD,FILM:5.62K OHM,1%,100V	91637	CRCW06035621FRT-1
A7R428	321-5426-00			RES,FXD,FILM:8.25K,1%,100V	91637	CRCW06038251FRT-1
A7R429	321-5425-00			RES,FXD,FILM:4.75K,1%,100V	91637	CRCW06034751FRT-1
A7R430	321-5422-00			RES,FXD,FILM:2.00K,1%,100V	91637	CRCW06032001FRT-1
A7R441	321-5464-00			RES,FXD,FILM:6.81K OHM,1%,100V	91637	CRCW-06036811FRT-1
A7R442	321-5420-00			RES,FXD,FILM:475 OHM,1%,100V	59124	RK73H1J4750FT
A7R443	321-5422-00			RES,FXD,FILM:2.00K,1%,100V	91637	CRCW06032001FRT-1
A7R446	321-5424-00			RES,FXD,FILM:3.32K,1%,100V	91637	CRCW06033321FRT-1
A7R447	321-5426-00			RES,FXD,FILM:8.25K,1%,100V	91637	CRCW06038251FRT-1
A7R448	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R449	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R496	321-5467-00		671-3612-00	RES,FXD,FILM:15.0K OHM,1%,100V	91637	CRCW06031502FRT-1
A7R496	321-5461-00	671-3612-01		RES,FXD,FILM:2.21K OHM,1%,	59124	RK73H1J2221FT
A7R497	321-5421-00		671-3612-00	RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R497	321-5451-00	671-3612-01		RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R501	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R502	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R504	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R505	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R506	321-5448-00			RES,FXD,FILM:75 OHM,1%,100V	91637	CRCW060375R0FRT-1
A7R507	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R508	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R509	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R510	321-5463-00			RES,FXD,FILM:5.62K OHM,1%,100V	91637	CRCW06035621FRT-1
A7R511	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R512	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R514	311-2277-00			RES,VAR,NONWW:TRMR,50 OHM,20%,0.5W	TK2073	GF06VT2 500 M L20

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R515	321-5442-00			RES,FXD,FILM:33.2 OHM,1%,100V	91637	CRCW060333R2FRT-1
A7R516	321-5448-00			RES,FXD,FILM:75 OHM,1%,100V	91637	CRCW060375R0FRT-1
A7R517	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R518	321-5463-00			RES,FXD,FILM:5.62K OHM,1%,100V	91637	CRCW06035621FRT-1
A7R602	321-5415-00			RES,FXD,FILM:0 OHM JUMPER,100V	59124	RM73Z1J000ZT
A7R603	321-5416-00			RES,FXD,FILM:10 OHM,1%,100V	59124	RK73H1J10R0FT
A7R612	321-5416-00			RES,FXD,FILM:10 OHM,1%,100V	59124	RK73H1J10R0FT
A7R613	321-5416-00			RES,FXD,FILM:10 OHM,1%,100V	59124	RK73H1J10R0FT
A7R623	321-5416-00			RES,FXD,FILM:10 OHM,1%,100V	59124	RK73H1J10R0FT
A7R624	321-5416-00			RES,FXD,FILM:10 OHM,1%,100V	59124	RK73H1J10R0FT
A7R711	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R712	321-5455-00			RES,FXD,FILM:562 OHM,1%,100V	91637	CRCW06035620FRT-1
A7R713	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R721	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R722	321-5455-00			RES,FXD,FILM:562 OHM,1%,100V	91637	CRCW06035620FRT-1
A7R723	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R731	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R732	321-5455-00			RES,FXD,FILM:562 OHM,1%,100V	91637	CRCW06035620FRT-1
A7R733	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R771	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R773	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R775	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R801	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R802	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R803	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R804	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R805	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R806	321-5421-00			RES,FXD,FILM:1.00K,1%,100V	91637	CRCW06031001FRT-1
A7R814	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R815	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R816	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R817	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R818	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R819	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R820	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R821	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R822	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R823	321-5380-00			RES,FXD:THIN FILM,442 OHM,0.1%	91637	TNPW1206 4420BT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R824	321-5164-00			RES,FXD,FILM:681 OHM,0.1%	91637	TNPW12066810BT
A7R825	311-2271-00			RES,VAR,TRMR:CERMET,5K OHM,20%,0.5W	TK2073	GF06VT2 502 M L20
A7R826	311-2271-00			RES,VAR,TRMR:CERMET,5K OHM,20%,0.5W	TK2073	GF06VT2 502 M L20
A7R827	311-2257-00			RES,VAR,TRMR:CERMET,500 OHM,20%,0.5W	32997	3362-M-1-501R
A7R828	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R829	321-5422-00			RES,FXD,FILM:2.00K,1%,100V	91637	CRCW06032001FRT-1
A7R830	321-5425-00			RES,FXD,FILM:4.75K,1%,100V	91637	CRCW06034751FRT-1
A7R831	321-5426-00			RES,FXD,FILM:8.25K,1%,100V	91637	CRCW06038251FRT-1
A7R832	321-5422-00			RES,FXD,FILM:2.00K,1%,100V	91637	CRCW06032001FRT-1
A7R833	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R834	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R835	321-5459-00			RES,FXD,FILM:1.5K OHM,1%,100V	91637	CRCW06031501FRT-1
A7R836	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R837	321-5418-00			RES,FXD,FILM:221 OHM,1%,100V	59124	RK73H1J2210FT
A7R838	321-5419-00			RES,FXD,FILM:392 OHM,1%,100V	59124	RK73H1J3920FT
A7R839	321-5419-00			RES,FXD,FILM:392 OHM,1%,100V	59124	RK73H1J3920FT
A7R840	321-5420-00			RES,FXD,FILM:475 OHM,1%,100V	59124	RK73H1J4750FT
A7R841	321-5432-00			RES,FXD,FILM:100K,1%,100V	91637	CRCW06031003FRT-1
A7R842	321-5448-00			RES,FXD,FILM:75 OHM,1%,100V	91637	CRCW060375R0FRT-1
A7R843	321-5427-00			RES,FXD,FILM:10.0K,1%,100V	59124	RK73H1J1002FT
A7R844	321-5424-00			RES,FXD,FILM:3.32K,1%,100V	91637	CRCW06033321FRT-1
A7R845	321-5447-00			RES,FXD,FILM:68.1 OHM,1%,100V	91637	CRCW060368R1FRT-1
A7R846	321-5445-00			RES,FXD,FILM:49.9 OHM,1%,100V	91637	CRCW060349R9FRT-1
A7R847	321-5445-00			RES,FXD,FILM:49.9 OHM,1%,100V	91637	CRCW060349R9FRT-1
A7R848	321-5445-00			RES,FXD,FILM:49.9 OHM,1%,100V	91637	CRCW060349R9FRT-1
A7R849	321-5467-00			RES,FXD,FILM:15.0K OHM,1%,100V	91637	CRCW06031502FRT-1
A7R850	321-5445-00			RES,FXD,FILM:49.9 OHM,1%,100V	91637	CRCW060349R9FRT-1
A7R851	321-5445-00			RES,FXD,FILM:49.9 OHM,1%,100V	91637	CRCW060349R9FRT-1
A7R852	321-5464-00			RES,FXD,FILM:6.81K OHM,1%,100V	91637	CRCW-06036811FRT-1
A7R853	321-5451-00			RES,FXD,FILM:150 OHM,1%,100V	59124	RK73H1JT1500F
A7R854	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R855	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R856	321-5445-00			RES,FXD,FILM:49.9 OHM,1%,100V	91637	CRCW060349R9FRT-1
A7R857	321-5445-00			RES,FXD,FILM:49.9 OHM,1%,100V	91637	CRCW060349R9FRT-1
A7R858	321-5445-00			RES,FXD,FILM:49.9 OHM,1%,100V	91637	CRCW060349R9FRT-1
A7R859	321-5437-00			RES,FXD,FILM:12.1 OHM,1%,100V	91637	CRCW060312R1FRT-1
A7R860	321-5462-00			RES,FXD,FILM:3.92K OHM,1%,100V	91637	CRCW06033921FRT-1
A7R861	321-5422-00			RES,FXD,FILM:2.00K,1%,100V	91637	CRCW06032001FRT-1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R862	321-5425-00			RES,FXD,FILM:4.75K,1%,100V	91637	CRCW06034751FRT-1
A7R863	321-5422-00			RES,FXD,FILM:2.00K,1%,100V	91637	CRCW06032001FRT-1
A7R864	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R865	321-5467-00			RES,FXD,FILM:15.0K OHM,1%,100V	91637	CRCW06031502FRT-1
A7R866	321-5441-00			RES,FXD,FILM:27.4 OHM,1%,100V	91637	CRCW060327R4FRT-1
A7R867	321-5453-00			RES,FXD,FILM:274 OHM,1%,100V	91637	CRCW06032740FRT-1
A7R868	311-2275-00			RES,VAR,NONWW:TRMR,200 OHM,20%,0.5W	TK2073	GF06VT2 201 M L20
A7R870	321-5417-00			RES,FXD,FILM:100 OHM,1%,100V	59124	RK73H1J1000FT
A7R871	321-5466-00			RES,FXD,FILM:12.1K OHM,1%,100V	91637	CRCW06031212FRT-1
A7R872	321-5432-00			RES,FXD,FILM:100K,1%,100V	91637	CRCW06031003FRT-1
A7R873	322-3289-00	671-3612-01		RES,FXD:METAL FILM,10K OHM,1%	57668	CRB20T29EFX1002
A7TP1	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A7TP2	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A7TP3	214-4085-00			TERM,TEST POINT:W/ RED NYLON COLLAR	26364	TP104-01-02
A7U41	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A7U43	156-6645-01			IC,LINEAR:BIPOLAR,OP-AMP,140MHZ	1ES66	MAX442CSA-T
A7U51	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A7U53	156-6645-01			IC,LINEAR:BIPOLAR,OP-AMP,140MHZ	1ES66	MAX442CSA-T
A7U61	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A7U63	156-6645-01			IC,LINEAR:BIPOLAR,OP-AMP,140MHZ	1ES66	MAX442CSA-T
A7U70	156-5853-01			IC,LINEAR:BIPOLAR,OP-AMP,35MHZ	27014	LM6361MX
A7U71	156-5119-00			IC,LINEAR:BIPOLAR,COMPARATOR,DUAL,80NS	1CH66	LM319D
A7U72	156-5119-00			IC,LINEAR:BIPOLAR,COMPARATOR,DUAL,80NS	1CH66	LM319D
A7U73	156-5119-00			IC,LINEAR:BIPOLAR,COMPARATOR,DUAL,80NS	1CH66	LM319D
A7U74	156-5098-01			IC,DIGITAL:HCTCMOS,GATE,QUAD 2-INPUT NAND	01295	SN74HCT00DR
A7U75	156-5290-01			IC,DIGITAL:HCTCMOS,GATE,TRIPLE 3-INPUT NOR	1CH66	74HCT27DT
A7U76	156-5853-01			IC,LINEAR:BIPOLAR,OP-AMP,35MHZ	27014	LM6361MX
A7U80	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A7U81	156-5138-01			IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002	01295	TL072CDR
A7U82	156-5119-00			IC,LINEAR:BIPOLAR,COMPARATOR,DUAL,80NS	1CH66	LM319D
A7U90	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A7U91	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A7U93	156-6141-00			IC,MISC:BIPOLAR,MULTIPLIER,500MHZ	24355	AD834JR
A7U94	156-6141-00			IC,MISC:BIPOLAR,MULTIPLIER,500MHZ	24355	AD834JR
A7U95	156-6141-00			IC,MISC:BIPOLAR,MULTIPLIER,500MHZ	24355	AD834JR
A7U96	156-5853-01			IC,LINEAR:BIPOLAR,OP-AMP,35MHZ	27014	LM6361MX
A7U97	156-6407-01			IC,LINEAR:BIPOLAR,AMPLIFIER,100MHZ	64762	EL2090CM(T&R)
A7U98	156-6643-00			IC,LINEAR:BIPOLAR,OP-AMP,50MHZ	24355	AD847JR

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontinued	Name & description	Mfr. code	Mfr. part number
A7U99	156-6643-00			IC, LINEAR: BIPOLAR, OP-AMP, 50MHZ	24355	AD847JR
A7U100	156-6735-01			IC, LINEAR: BIPOLAR, OP-AMP, 65MHZ	24355	AD810AR-REEL
A7U101	156-6059-01			IC, MISC: CMOS, ANALOG SWITCH	17856	DG444DY-T1
A7U102	156-6059-01			IC, MISC: CMOS, ANALOG SWITCH	17856	DG444DY-T1
A7U103	156-6059-01			IC, MISC: CMOS, ANALOG SWITCH	17856	DG444DY-T1
A7U124	156-6059-01			IC, MISC: CMOS, ANALOG SWITCH	17856	DG444DY-T1
A7U125	156-5085-01			IC, DIGITAL: HCTCMOS, GATE, QUAD 2-INPUT OR	04713	MC74HCT32ADR2
A7U126	156-7185-01			IC, LINEAR: CMOS, OP-AMP, QUAD, 0.95MV VOS	01295	TLC2274ACDR
A7U127	156-6644-00			IC, LINEAR: BIPOLAR, AMPLIFIER, 275MHZ	1ES66	MAX436CSD
A7U151	156-6059-01			IC, MISC: CMOS, ANALOG SWITCH	17856	DG444DY-T1
A7U161	156-6059-01			IC, MISC: CMOS, ANALOG SWITCH	17856	DG444DY-T1
A7U170	156-5297-01			IC, LINEAR: BIPOLAR, VOLT REG, ADJ, SHUNT, 100MA, 2%	01295	TL431CDR
A7U177	156-6059-01			IC, MISC: CMOS, ANALOG SWITCH	17856	DG444DY-T1
A7U180	156-2959-00			IC, LINEAR: BIPOLAR, VOLTAGE REG, POS, 8.0V, 1.0A, 2%	04713	MC7808ACT
A7U190	156-4234-00			IC, LINEAR: BIPOLAR, VOLTAGE REGULATOR, NEGATIVE, -8.0 VOLTS, 1.0A, 2%	04713	MC7908ACT
A7U202	156-5088-01			IC, DIGITAL: HCTCMOS, DECODER, 1-OF-8, ACTIVE LOW	01295	SN74HCT138DR
A7U203	156-5358-01			IC, DIGITAL: HCMOS, REGISTER, 8-BIT PISO SHIFT	01295	SN74HC165DR
A7U204	156-5289-01			IC, DIGITAL: HCTCMOS, FLIP FLOP, OCTAL D-TYPE	04713	MC74HCT574ADWR2
A7U206	156-6619-01			IC, MEMORY: CMOS, FIFO, 512 X 9, 35NS	34335	AM7201-35JCTR
A7U207	160-9401-00			IC, DIGITAL: CMOS, PLD, EEPLD, 22V10, 130MA, 25NS	TK0198	160940100
A7U208	156-5289-01			IC, DIGITAL: HCTCMOS, FLIP FLOP, OCTAL D-TYPE	04713	MC74HCT574ADWR2
A7U209	156-5289-01			IC, DIGITAL: HCTCMOS, FLIP FLOP, OCTAL D-TYPE	04713	MC74HCT574ADWR2
A7U210	156-5480-01			IC, DIGITAL: HCMOS, REGISTER, 8-BIT SHIFT	01295	SN74HC595ADR
A7U211	156-5304-01			IC, DIGITAL: HCTCMOS, BUFFER, QUAD, 3-STATE	01295	SN74HCT125DR
A7U212	156-6224-01			IC, CONVERTER: CMOS, D/A, 12-BIT, VOLTAGE OUT	TK2441	I10412-04
A7U213	156-5304-01			IC, DIGITAL: HCTCMOS, BUFFER, QUAD, 3-STATE	01295	SN74HCT125DR
A7U220	156-5480-01			IC, DIGITAL: HCMOS, REGISTER, 8-BIT SHIFT	01295	SN74HC595ADR
A7U300	156-6647-00			IC, LINEAR: BIPOLAR, OP-AMP, 200MHZ	62839	CLC410AJE
A7U301	156-6647-00			IC, LINEAR: BIPOLAR, OP-AMP, 200MHZ	62839	CLC410AJE
A7U400	156-6647-00			IC, LINEAR: BIPOLAR, OP-AMP, 200MHZ	62839	CLC410AJE
A7U401	156-6647-00			IC, LINEAR: BIPOLAR, OP-AMP, 200MHZ	62839	CLC410AJE
A7U500	156-6647-00			IC, LINEAR: BIPOLAR, OP-AMP, 200MHZ	62839	CLC410AJE
A7U501	156-6647-00			IC, LINEAR: BIPOLAR, OP-AMP, 200MHZ	62839	CLC410AJE
A7U503	156-6735-01			IC, LINEAR: BIPOLAR, OP-AMP, 65MHZ	24355	AD810AR-REEL
A7U504	156-6735-01			IC, LINEAR: BIPOLAR, OP-AMP, 65MHZ	24355	AD810AR-REEL
A7U505	156-6735-01			IC, LINEAR: BIPOLAR, OP-AMP, 65MHZ	24355	AD810AR-REEL
A7U801	156-6735-01			IC, LINEAR: BIPOLAR, OP-AMP, 65MHZ	24355	AD810AR-REEL

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7U803	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL
A7U805	156-6735-01			IC,LINEAR:BIPOLAR,OP-AMP,65MHZ	24355	AD810AR-REEL

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A8	671-3157-00			CIRCUIT BD ASSY: DAC	80009	671-3157-00
A8C14	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C15	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C16	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C18	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C19	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C55	283-5112-00			CAP,FXD,CERAMIC:MLC,0.33UF,10%,25V	04222	18123C334KAT1A
A8C56	283-5114-00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V	04222	12065C104KAT(1A OR 3A)
A8C57	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C58	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C59	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C60	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C63	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A8C64	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A8C126	283-5113-00			CAP,FXD,CERAMIC:MLC,0.047UF,10%,50V	04222	12065C473KAT1A
A8C170	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C172	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A8C173	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A8C174	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C179	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C180	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C181	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C182	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C190	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C191	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C194	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C211	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C221	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C225	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A8C227	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A8C228	283-5187-00			CAP,FXD,CERAMIC:MLC,15PF,5%,100V	04222	12061A150JAT1A
A8C230	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A8C231	283-5196-00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V	04222	12061A470JAT1A
A8C240	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C241	283-5108-00			CAP,FXD,CERAMIC:MLC,68PF,5%,100V	04222	12061A680JAT1A
A8C242	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C243	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C244	283-5006-00			CAP,FXD,CERAMIC:MLC,5PF,+/-0.25PF,50V	04222	12065A5R0CAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A8C249	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C250	283-5201-00			CAP,FXD,CERAMIC:MLC,33PF,5%,100V	04222	12061A330JAT1A
A8C253	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C254	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A8C255	283-5202-00			CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V	04222	12065C223KAT1A
A8C256	283-5101-00			CAP,FXD,CERAMIC:MLC,0.22UF,+80-20%,50V	04222	12105E224ZAT060R
A8C257	283-5101-00			CAP,FXD,CERAMIC:MLC,0.22UF,+80-20%,50V	04222	12105E224ZAT060R
A8C258	283-5101-00			CAP,FXD,CERAMIC:MLC,0.22UF,+80-20%,50V	04222	12105E224ZAT060R
A8C259	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C260	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C261	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C262	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C266	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A8C267	283-5003-00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V	04222	12065C103KAT060R
A8C272	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C273	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C274	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C276	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C280	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A8C281	290-5037-01			CAP,FXD,ALUM:10UF,20%,35V	62643	MVK35VC10RME60T PX (13")
A8C282	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A8C283	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A8C284	290-5022-01			CAP,FXD,TANT:68UF,20%,16V	17554	TAJD686M016R
A8C285	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A8C286	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C287	283-5187-00			CAP,FXD,CERAMIC:MLC,15PF,5%,100V	04222	12061A150JAT1A
A8C288	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A8C289	283-5187-00			CAP,FXD,CERAMIC:MLC,15PF,5%,100V	04222	12061A150JAT1A
A8C290	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A8C291	283-5187-00			CAP,FXD,CERAMIC:MLC,15PF,5%,100V	04222	12061A150JAT1A
A8C292	283-5188-00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V	04222	12061A101JAT1A
A8C293	283-5267-00			CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V	04222	12063G105ZAT4A
A8C294	283-5101-00			CAP,FXD,CERAMIC:MLC,0.22UF,+80-20%,50V	04222	12105E224ZAT060R
A8C295	283-5203-00			CAP,FXD,CERAMIC:MLC,1000PF,10%,100V	04222	12061C102KAT1A
A8C296	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C297	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8C298	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A8C299	290-5051-00			CAP,FXD,TANT:DRY,100UF,20%,16V	04222	TAJE107M016R
A8C300	290-5042-00			CAP,FXD,TANT:DRY,10UF,20%,35V	04222	TAJD106M035R
A8C301	283-5098-00			CAP,FXD,CERAMIC:MLC,0.1UF,+80%-20%,50V	04222	12065E104ZAT3A
A8CR7	152-5019-00			DIODE,SIG:VVC,30V,22PF,C3/C25=4.5	04713	MMBV3102LT1
A8CR101	152-5062-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1205
A8CR102	152-5018-00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF	27014	MMBD1203
A8E2	108-5084-00			EMI,SUPPRESSION:FERRITE BEAD,52 OHM, +/-25%@100MHZ	TK2058	HF70ACB322513T
A8J1	131-3520-00			CONN,HDR:PCB,MALE,STR	53387	2510-6002UB
A8J4	131-3366-00			CONN,HDR:PCB,MALE,RTANG	53387	2560-5002UB
A8L4	108-5018-00			INDUCTOR,FXD:POWER,4.7UH,20%	TK2058	NL453232T-4R7M
A8L5	108-5018-00			INDUCTOR,FXD:POWER,4.7UH,20%	TK2058	NL453232T-4R7M
A8L6	108-5018-00			INDUCTOR,FXD:POWER,4.7UH,20%	TK2058	NL453232T-4R7M
A8L10	108-5106-00			INDUCTOR,FXD:SIGNAL,680NH,10%	02113	1008CS-681-XKBC
A8L106	108-5018-00			INDUCTOR,FXD:POWER,4.7UH,20%	TK2058	NL453232T-4R7M
A8L108	108-5115-00			INDUCTOR,FXD:SIGNAL,330NH,5%	24226	SML32-330J
A8L109	108-5115-00			INDUCTOR,FXD:SIGNAL,330NH,5%	24226	SML32-330J
A8L112	108-5115-00			INDUCTOR,FXD:SIGNAL,330NH,5% MHZ,NL322522T-R33J,1210,10MM	24226	SML32-330J
A8L113	108-5113-00			INDUCTOR,FXD:SIGNAL,270NH,10%	TK2058	NL322522T-R27K-3
A8L114	108-5113-00			INDUCTOR,FXD:SIGNAL,270NH,10%	TK2058	NL322522T-R27K-3
A8L115	108-5113-00			INDUCTOR,FXD:SIGNAL,270NH,10%	TK2058	NL322522T-R27K-3
A8Q1	151-5000-00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ	04713	MMBT3906LT1
A8R26	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A8R42	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A8R43	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A8R44	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100	50139	BCK6811FT
A8R45	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100	50139	BCK6811FT
A8R48	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A8R49	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A8R50	321-5086-00			RES,FXD:THICK FILM,36.5 OHM,1%,0.125W,TC=100	50139	BCK36R5FT
A8R51	321-5086-00			RES,FXD:THICK FILM,36.5 OHM,1%,0.125W,TC=100	50139	BCK36R5FT
A8R58	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A8R119	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A8R122	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W,TC=100	50139	BCK5620FT
A8R123	321-5015-00			RES,FXD:THICK FILM,562 OHM,1%,0.125W,TC=100	50139	BCK5620FT
A8R126	321-5019-00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100	50139	BCK1211FT
A8R130	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W,TC=100	50139	BCK1003FT
A8R131	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100	50139	BCK3320FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A8R132	321-5012-00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100	50139	BCK3320FT
A8R133	321-5013-00			RES,FXD:THICK FILM,392 OHM,1%,0.125W,TC=100	50139	BCK3920FT
A8R134	321-5010-00			RES,FXD:THICK FILM,221 OHM,1%,0.125W,TC=100	50139	BCK221FT
A8R135	321-5044-00			RES,FXD:THICK FILM,56.2 OHM,1%,0.125W,TC=100	50139	BCD56R2FT
A8R136	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A8R137	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A8R230	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%,0.125W,TC=100	50139	BCK4752FT
A8R231	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%,0.125W,TC=100	50139	BCK4752FT
A8R243	321-5086-00			RES,FXD:THICK FILM,36.5 OHM,1%,0.125W,TC=100	50139	BCK36R5FT
A8R245	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A8R246	321-5004-00			RES,FXD:THICK FILM,22.1 OHM,1%,0.125W,TC=100	50139	BCD22R1FT
A8R247	321-5028-00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100	50139	BCK6811FT
A8R249	321-5038-00			RES,FXD:THICK FILM,47.5K OHM,1%,0.125W,TC=100	50139	BCK4752FT
A8R255	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A8R256	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A8R261	321-5044-00			RES,FXD:THICK FILM,56.2 OHM,1%,0.125W,TC=100	50139	BCD56R2FT
A8R264	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A8R266	321-5000-00			RES,FXD:THICK FILM,10 OHM,1%,0.125W,TC=100	50139	BCD10R0FT
A8R268	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A8R269	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R270	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R271	321-5113-00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100	56845	CRCW1206-75ROFT
A8R275	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R276	321-5017-00			RES,FXD:THICK FILM,825 OHM,1%,0.125W,TC=100	50139	BCK8250FT
A8R277	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100	50139	BCK3921FT
A8R278	321-5331-00			RES,FXD,FILM:511 OHM,1%,0.125 W TC=100	91637	CRCW12065110FT
A8R279	321-5331-00			RES,FXD,FILM:511 OHM,1%,0.125 W TC=100	91637	CRCW12065110FT
A8R280	321-5046-00			RES,FXD:THICK FILM,82.5 OHM,1%,0.125W,TC=100	50139	BCK82R5FT
A8R281	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A8R282	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A8R283	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A8R284	321-5011-00			RES,FXD:THICK FILM,274 OHM,1%,0.125W,TC=100	50139	BCK2740FT
A8R285	321-5022-00			RES,FXD:THICK FILM,2.21K OHM,1%,0.125W,TC=100	50139	BCK2211FT
A8R286	321-5017-00			RES,FXD:THICK FILM,825 OHM,1%,0.125W,TC=100	50139	BCK8250FT
A8R287	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100	50139	BCK3921FT
A8R288	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100	50139	BCK3921FT
A8R289	321-5281-00			RES,FXD:THICK FILM,2K OHM,1%,0.125W,TC=100	91637	CRCW1206-2001FT
A8R291	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontin'd	Name & description	Mfr. code	Mfr. part number
A8R292	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R293	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R294	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A8R295	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A8R296	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A8R297	321-5006-00			RES,FXD:THICK FILM,100 OHM,1%,0.125W,TC=100	50139	BCK1000FT
A8R298	321-5064-00			RES,FXD:THICK FILM,200K OHM,1%,0.125W,TC=100	91637	CRCW1206-2003FT
A8R299	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R300	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R301	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A8R303	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A8R304	321-5051-00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100	09969	CRCW1206 JUMPER
A8R305	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R309	321-5030-00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100	50139	BCK1002FT
A8R320	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A8R321	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A8R322	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A8R323	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A8R324	321-5194-00			RES,FXD:THICK FILM,49.9 OHM,1%,0.125W,TC=100	91637	CRCW-1206-49R-90-FT
A8R325	321-5018-00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100	50139	BCK1001FT
A8R326	321-5016-00			RES,FXD:THICK FILM,681 OHM,1%,0.125W,TC=100	50139	BCK6810FT
A8R327	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W,TC=100	50139	BCK1003FT
A8R328	321-5047-00			RES,FXD:THICK FILM,100K OHM,1%,0.125W,TC=100	50139	BCK1003FT
A8R329	321-5025-00			RES,FXD:THICK FILM,3.92K OHM,1%,0.125W,TC=100	50139	BCK3921FT
A8TP2	214-4705-00			TEST POINT:SMD,TEST POINT,FEMALE,STR	26364	TP-107-02
A8TP4	214-4705-00			TEST POINT:SMD,TEST POINT,FEMALE,STR	26364	TP-107-02
A8TP5	214-4705-00			TEST POINT:SMD,TEST POINT,FEMALE,STR	26364	TP-107-02
A8TP6	214-4705-00			TEST POINT:SMD,TEST POINT,FEMALE,STR	26364	TP-107-02
A8TP8	214-4705-00			TEST POINT:SMD,TEST POINT,FEMALE,STR	26364	TP-107-02
A8TP9	214-4705-00			TEST POINT:SMD,TEST POINT,FEMALE,STR	26364	TP-107-02
A8U9	156-6345-00			IC,CONVERTER:BIPOLAR,D/A,12BIT,80MHZ,TTL INPUT, W/LATCHES,CURRENTOUT,REFERENCE	24355	AD9713BAP
A8U14	156-1989-00			IC,LINEAR:BIFET,OP-AMP,DUAL	01295	TL072CD
A8U17	156-6233-00			IC,ASIC:CMOS,CUSTOM,HALF BAND FILTER	27014	MM9217-V4/SZ107046
A8U18	156-6345-00			IC,CONVERTER:BIPOLAR,D/A,12 BIT,80MHZ	24355	AD9713BAP

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A8U19	156-6345-00			IC, CONVERTER: BIPOLAR, D/A, 12 BIT, 80MHZ OUT, REFERENCE	24355	AD9713BAP
A8U20	156-6233-00			IC, ASIC: CMOS, CUSTOM, HALFBAND FILTER	27014	MM9217-V4/SZ107046
A8U24	156-5973-00			IC, DIGITAL: ECL, GATE, TRIPLE 2-INPUT XOR/XNOR	04713	MC10H107FN
A8U29	156-6233-00			IC, ASIC: CMOS, CUSTOM, HALF BAND FILTER	27014	MM9217-V4/SZ107046
A8U94	156-6146-00			IC, ASIC: CMOS, CUSTOM, 12-BIT, 32 STAGE PIPELINE REGISTER	27014	SCX6244UEC/V2
A8U95	156-5974-00			IC, DIGITAL: ECL, GATE, DUAL 2-WIDE 2-3 INPUT OR-AND/OR-AND-INVERT	04713	MC10H117FN
A8U96	156-7047-01			IC, LINEAR: BIPOLAR, COMPARATOR, TTL OUT, 9NS, LATCH	1ES66	MAX9686BCSA-T
A8U97	156-7073-00			IC, MISC: CMOS, MISC, SERIAL DIGITAL DECODER	37964	GS9000-CPJ
A8U98	163-0651-00			IC, DIGITAL: CMOS, PLD, EEPLD, 16V8, 10NS, 115MA	TK0198	163065100
A8U99	156-7334-00			IC, DIGITAL: CMOS, PLD, FPGA, ORCA 2C FAMILY	98739	ATT2C26-2PS208
A8U100	156-6794-00			IC, MEMORY: CMOS, SRAM, 32K X 8, 15NS	TK2519	AS7C256-15JC
A8U101	156-6794-00			IC, MEMORY: CMOS, SRAM, 32K X 8, 15NS	TK2519	AS7C256-15JC
A8U104	156-2698-00			IC, LINEAR: BIPOLAR, VOLTAGE REGULATOR, POSITIVE, 5.0V, 1.0A, 2%	01295	TL780-05CKC
A8U105	156-7077-01			IC, LINEAR: BIPOLAR, VOLTAGE REFERENCE, 1.225V, 0.1%, 100PPM, SHUNT	27014	LM4041AIM3X-1.2
A8Y1	158-0445-00			CRYSTAL: PARALLEL, 13.5MHZ, 30PPM, LC=25PF, ESR=25	14301	016-210-00278

Diagrams and Circuit Board Illustrations

This section contains the block diagrams, circuit board illustrations, component locator tables, and schematic diagrams. The block diagrams support the Theory of Operation in section 3. The block diagrams include references to the schematic diagrams as numbers within diamond shapes. The referenced schematics shows detail for the circuit blocks.

The circuit board information is organized by circuit board number. The information for each circuit board follows the pattern: circuit board illustration, component locator table, and schematic diagram.

Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2-1975. Abbreviations are based on ANSI Y1.1-1972.

Logic symbology is based on ANSI/IEEE Standard 91-1984 in terms of positive logic. Logic symbols depict the logic function performed and can differ from the manufacturer's data.

The forward slash (/) preceding a signal name indicates that the signal performs its intended function when in the low state.

Other standards used in the preparation of diagrams by Tektronix, Inc., include the following:

- Tektronix Standard 062-2476 Symbols and Practices for Schematic Drafting
- ANSI Y14.159-1971 Interconnection Diagrams
- ANSI Y32.16-1975 Reference Designations for Electronic Equipment
- MIL-HDBK-63038-1A Military Standard Technical Manual Writing Handbook

Component Values

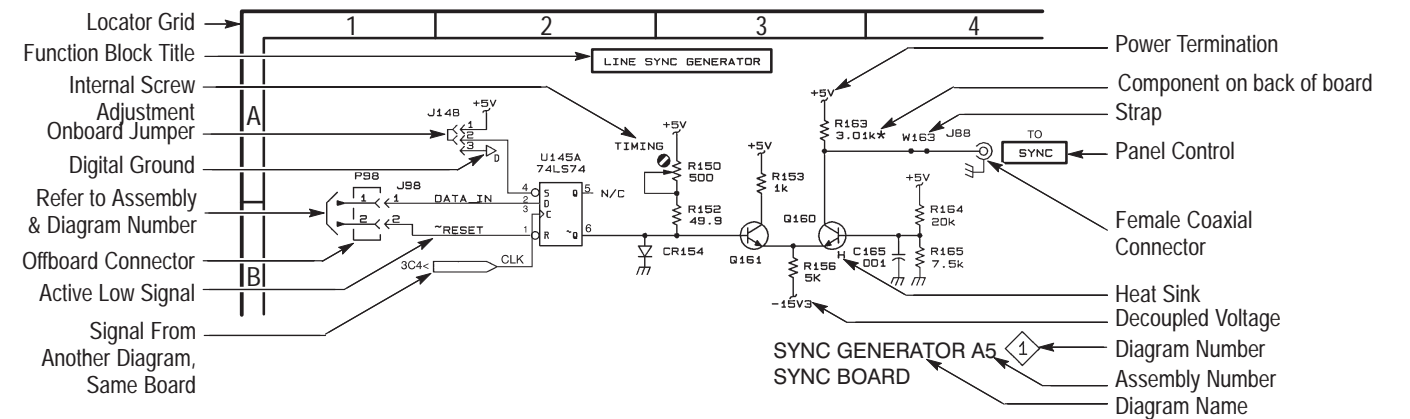
Electrical components shown on the diagrams are in the following units unless noted otherwise:

Capacitors: Values one or greater are in picofarads (pF).
Values less than one are in microfarads (μF).

Resistors: Values are in Ohms (Ω).

Graphic Items and Special Symbols Used in This Manual

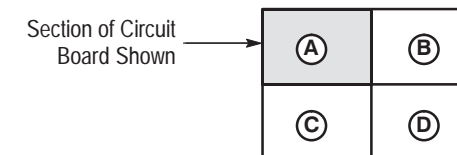
Each assembly in the instrument is assigned an assembly number (for example A5). The assembly number appears in the title on the diagram, in the lookup table for the schematic diagram, and corresponding component locator illustration. The Replaceable Electrical Parts list is arranged by assembly in numerical sequence; the components are listed by component number.



Component Locator Diagrams

The schematic diagram and circuit board component location illustrations have grids marked on them. The component lookup tables refer to these grids to help you locate a component. The circuit board illustration appears only once; its lookup table lists the diagram number of all diagrams on which the circuitry appears.

Some of the circuit board component location illustrations are expanded and divided into several parts to make it easier for you to locate small components. To determine which part of the whole locator diagram you are looking at, refer to the small locator key shown below. The gray block, within the larger circuit board outline, shows where that part fits in the whole locator diagram. Each part in the key is labeled with an identifying letter that appears in the figure titles under component locator diagrams.



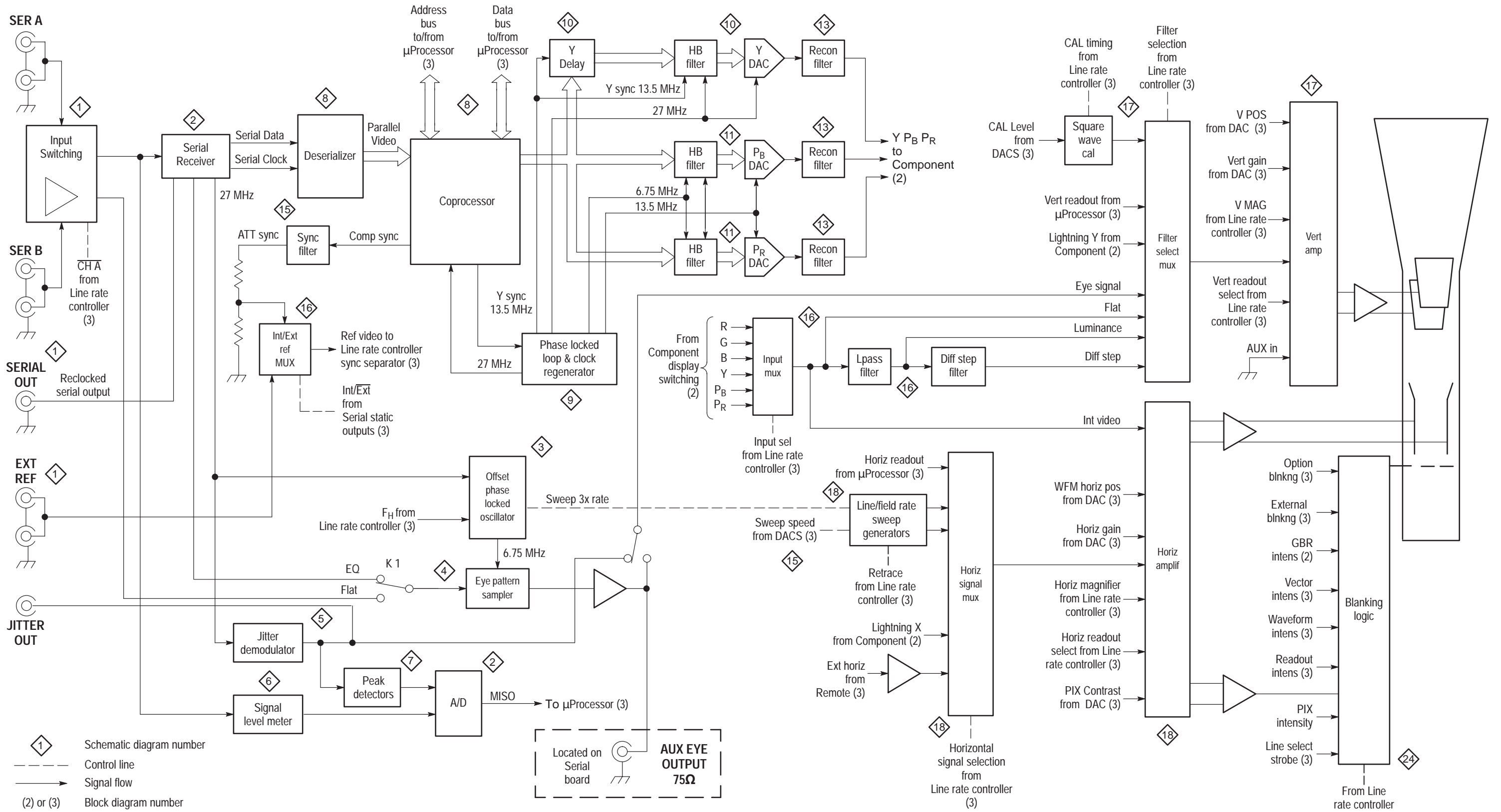


Figure 1-1: Main block diagram 1

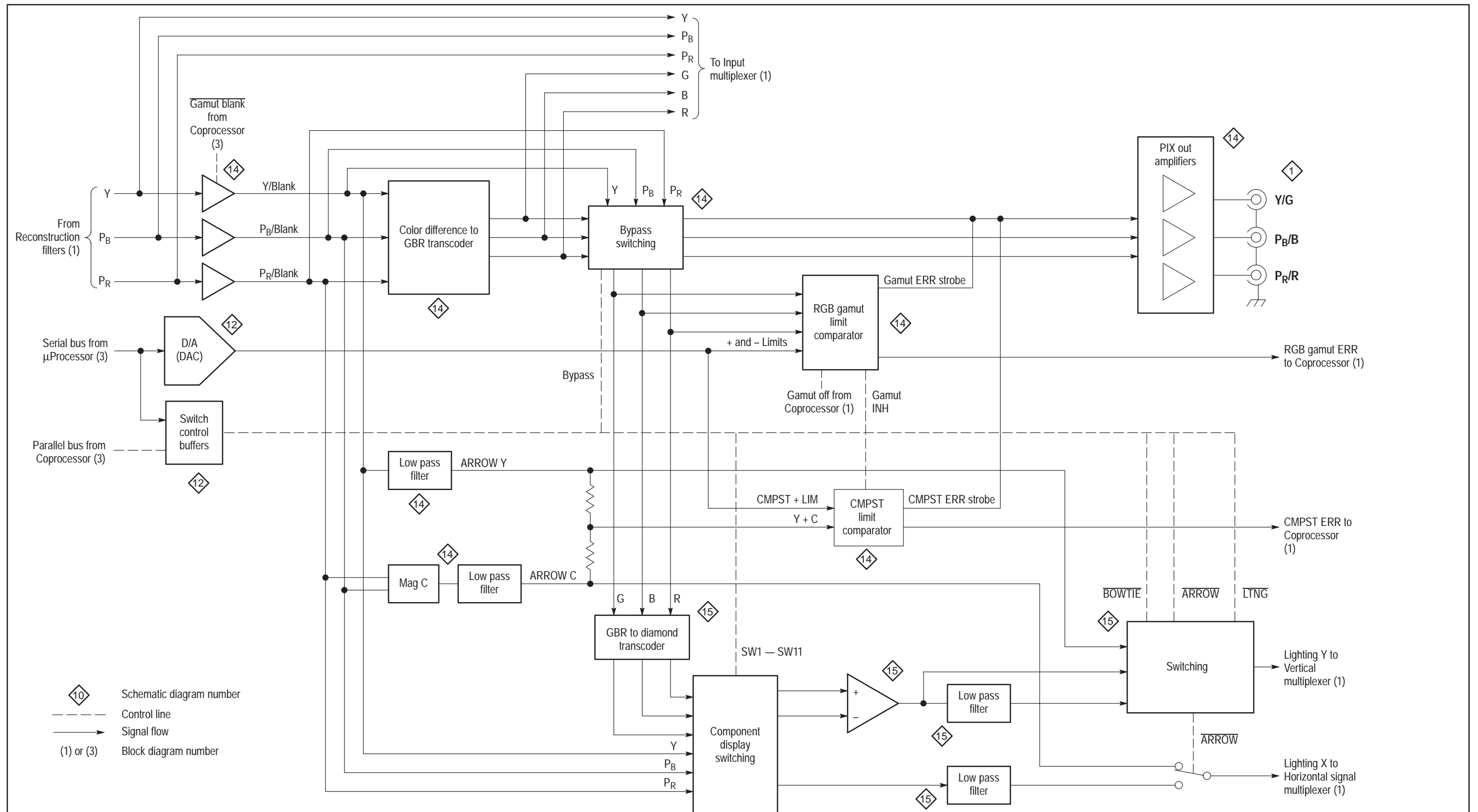


Figure 1-2: Component block diagram 2

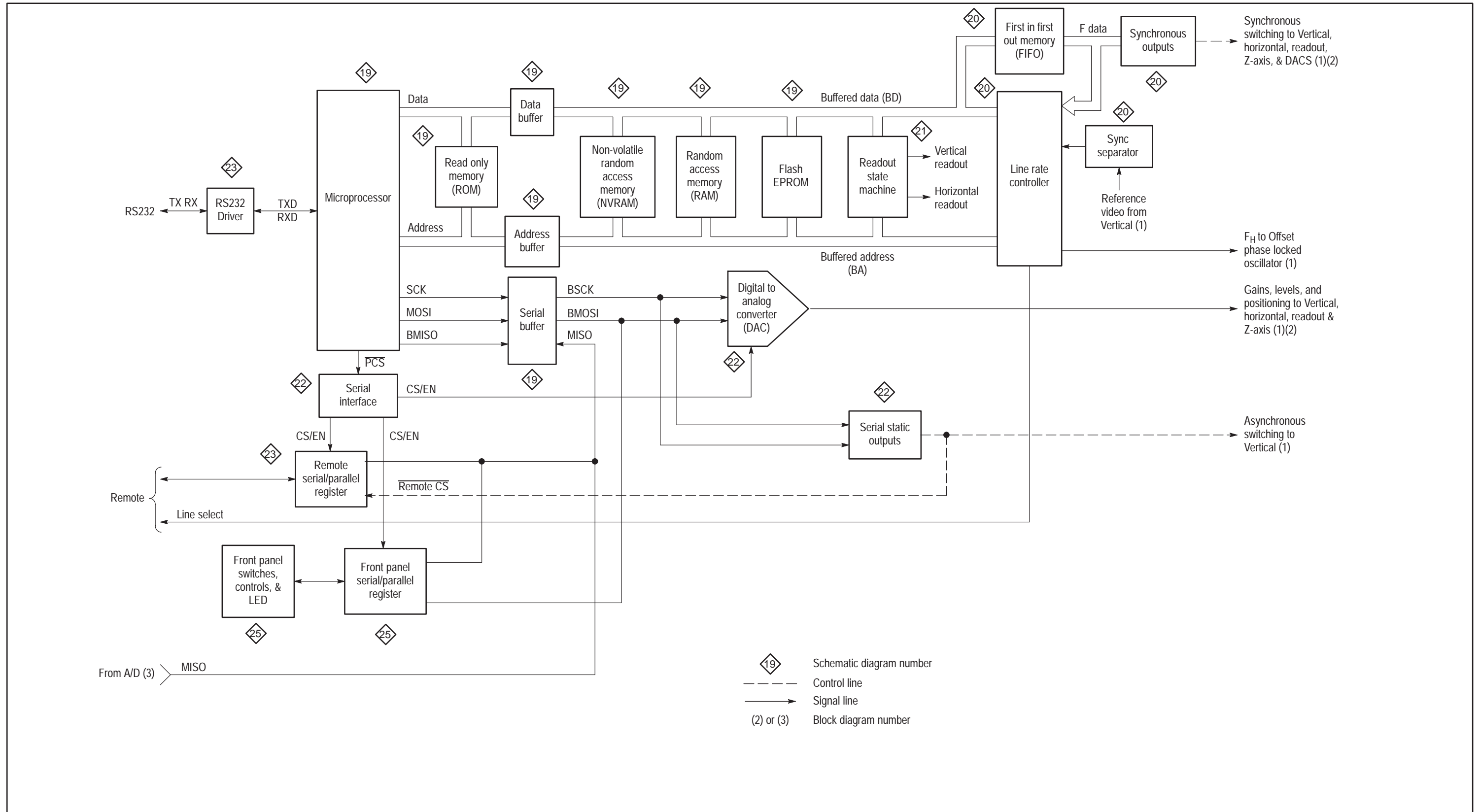


Figure 1-3: Microprocessor and control block diagram 3

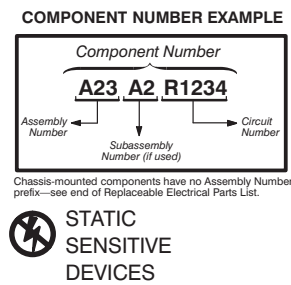
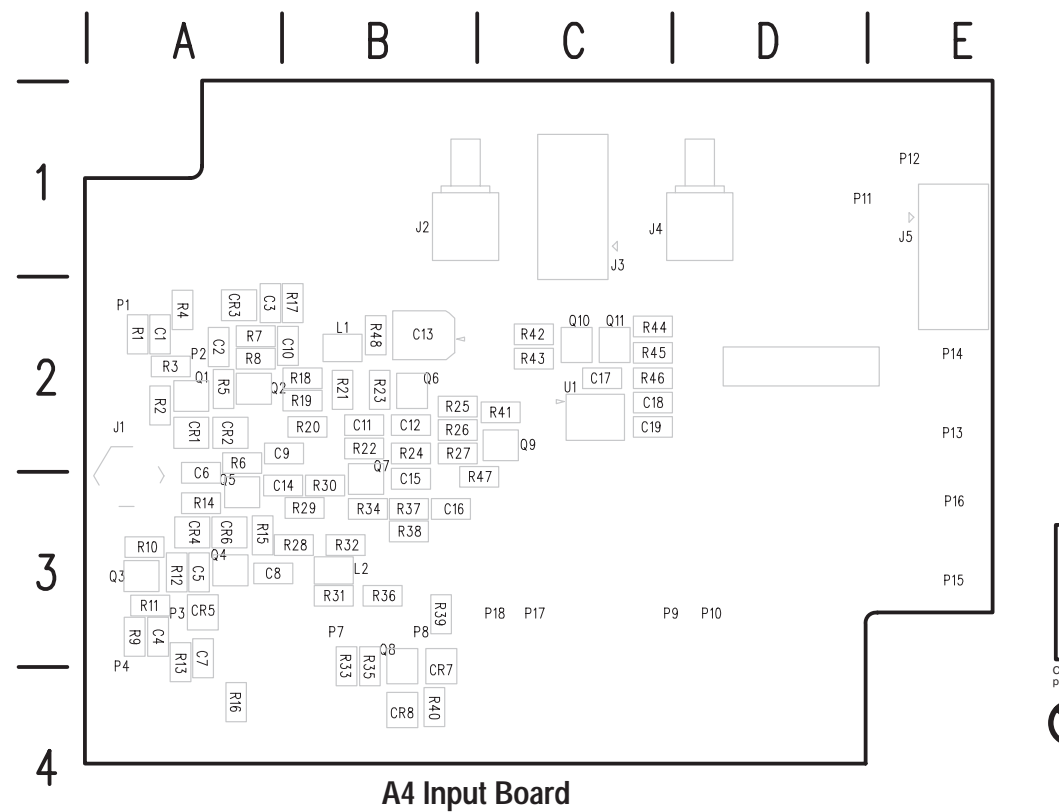


Table 1-1: A4 Input board component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C2	1	C2	A2	P4	1	B4	A4	R14	1	D4	A3
C3	1	D2	A2	P7	1	B5	B3	R15	1	D3	A3
C4	1	B4	A3	P8	1	B5	B3	R16	1	C3	A4
C5	1	C4	A3	P9	1	B2	C3	R17	1	C2	B2
C6	1	E2	A3	P10	1	B2	D3	R18	1	E3	B2
C7	1	D3	A3	P11	1	B1	D1	R19	1	D3	B2
C8	1	C4	A3	P12	1	B1	E1	R20	1	E2	B2
C9	1	E2	A2	P13	1	B1	E2	R21	1	F2	B2
C10	1	D2	B2	P14	1	B1	E2	R22	1	F3	B2
C11	1	F3	B2	P15	1	B1	E3	R23	1	F3	B2
C12	1	E2	B2	P16	1	B1	E3	R24	1	E2	B2
C13	1	F3	B2	P17	1	B4	C3	R25	1	F2	B2
C14	1	E3	A3	P18	1	B4	C3	R26	1	F2	B2
C15	1	F2	B3					R27	1	F2	B2
C16	1	E3	B3	Q1	1	C2	A2	R28	1	D4	B3
C17	1	E5	C2	Q2	1	D3	A2	R29	1	E3	B3
C18	1	G3	C2	Q3	1	C4	A3	R30	1	E3	B3
C19	1	G3	C2	Q4	1	D4	A3	R31	1	D4	B3
				Q5	1	E3	A3	R32	1	C4	B3
CR1	1	C3	A2	Q6	1	F2	B2	R33	1	B5	B3
CR2	1	D3	A2	Q7	1	E3	B3	R34	1	E3	B3
CR3	1	C2	A2	Q8	1	B5	B3	R35	1	B5	B3
CR4	1	C4	A3	Q9	1	F2	C2	R36	1	D4	B3
CR5	1	C4	A3	Q10	1	F3	C2	R37	1	E3	B3
CR6	1	D4	A3	Q11	1	G3	C2	R38	1	E3	B3
CR7	1	B5	B4					R39	1	C5	B3
CR8	1	B5	B4	R1	1	B2	A2	R40	1	B5	B4
				R2	1	C3	A2	R41	1	F2	C2
J1	1	H2	A2	R3	1	B2	A2	R42	1	F3	C2
J2	1	H2	B1	R4	1	B2	A2	R43	1	F3	C2
J3	1	H3	C1	R5	1	C3	A2	R44	1	G3	C2
J4	1	H2	C1	R6	1	E2	A2	R45	1	G3	C2
J5	1	H1	E1	R7	1	C3	A2	R46	1	G3	C2
				R8	1	D2	A2	R47	1	E2	B3
L1	1	D3	B2	R9	1	B4	A3	R48	1	F3	B2
L2	1	D4	B3	R10	1	C4	A3				
P1	1	B3	A2	R11	1	B4	A3	U1	1	D5	C2
P2	1	B2	A2	R12	1	C4	A3				
P3	1	B4	A3	R13	1	B4	A3				

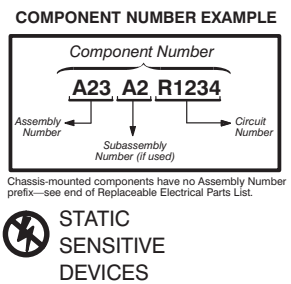
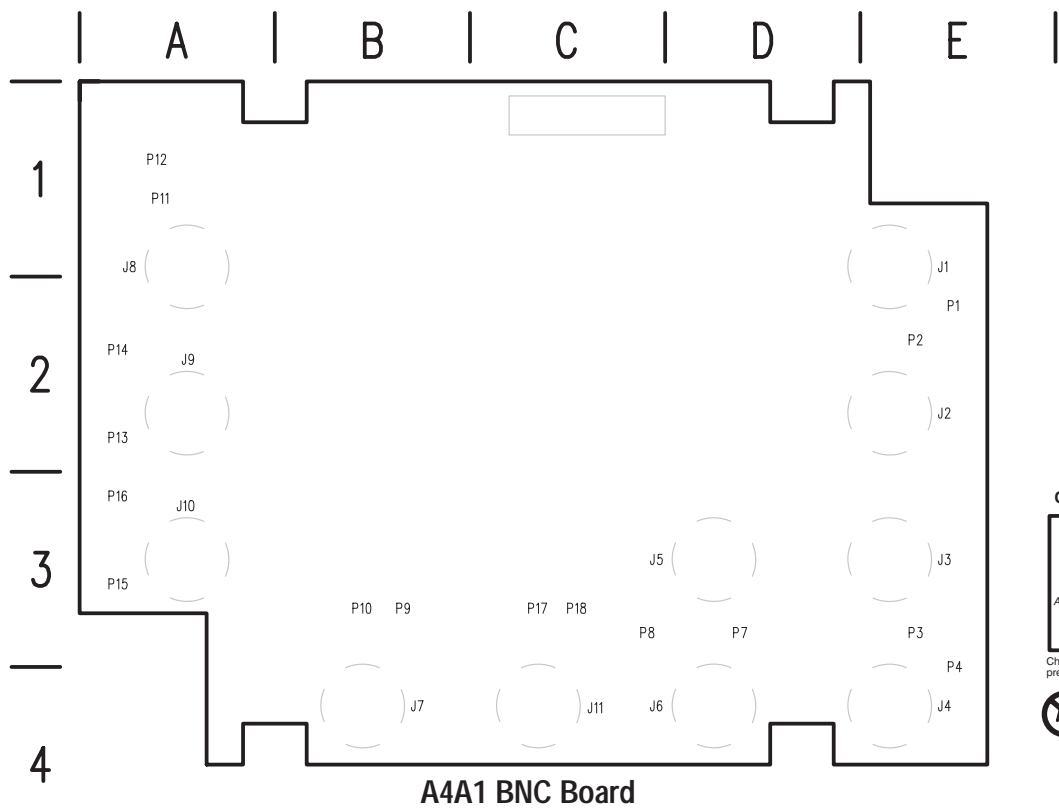
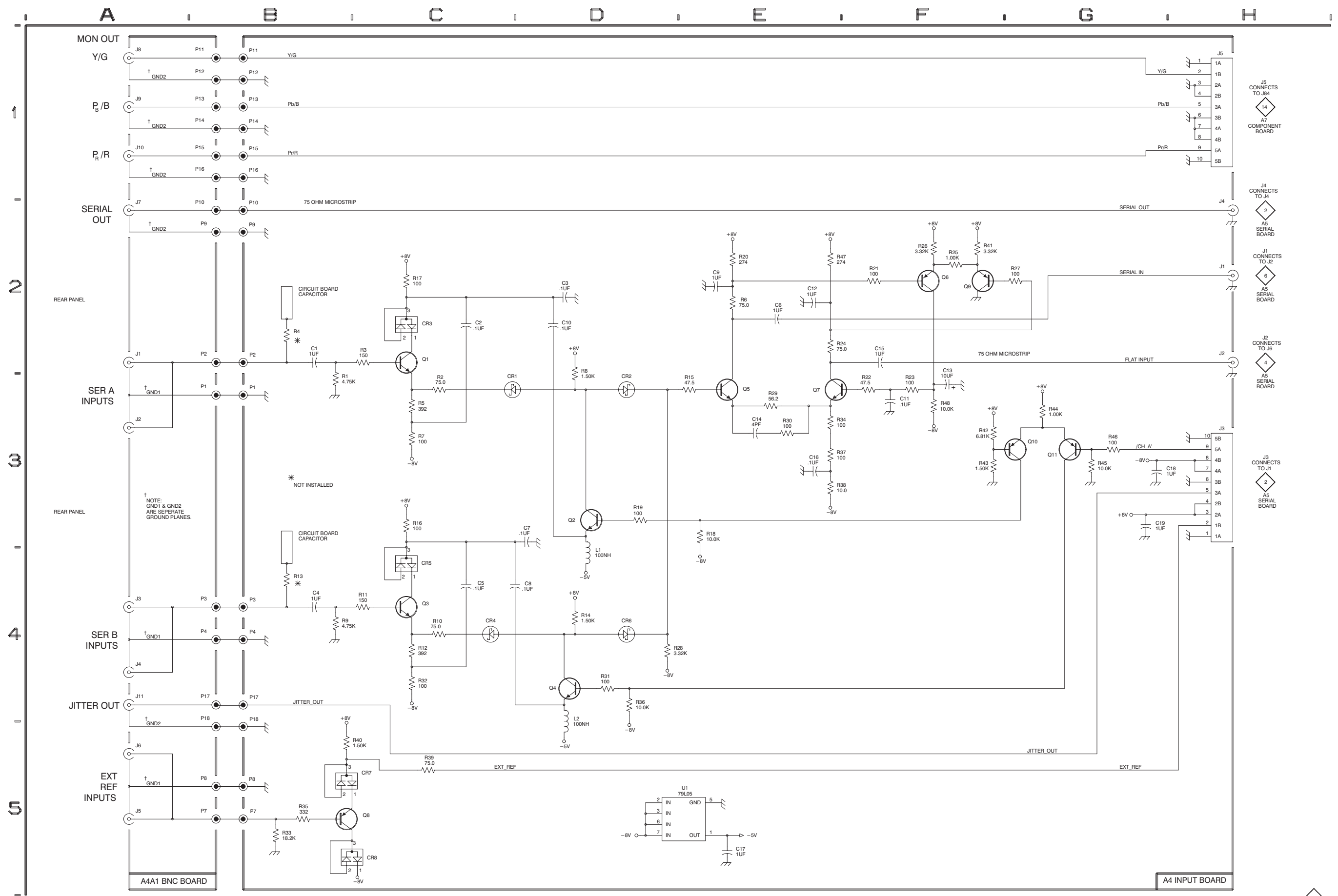


Table 1-2: A4A1 BNC board component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
J1	1	A2	E1	J11	1	A4	C4	P11	1	B1	A1
J2	1	A3	E2					P12	1	B1	A1
J3	1	A4	E3	P1	1	B3	E2	P13	1	B1	A2
J4	1	A4	E4	P2	1	B2	E2	P14	1	B1	A2
J5	1	A5	C3	P3	1	B4	E3	P15	1	B1	A3
J6	1	A5	C4	P4	1	B4	E4	P16	1	B1	A3
J7	1	A2	B4	P7	1	B5	D3	P17	1	B4	C3
J8	1	A1	A1	P8	1	B5	C3	P18	1	B5	C3
J9	1	A1	A2	P9	1	B2	B3				
J10	1	A1	A3	P10	1	B2	B3				

Figure 1-4: A4 Input board and A4A1 BNC board



BNC & INPUT BOARDS

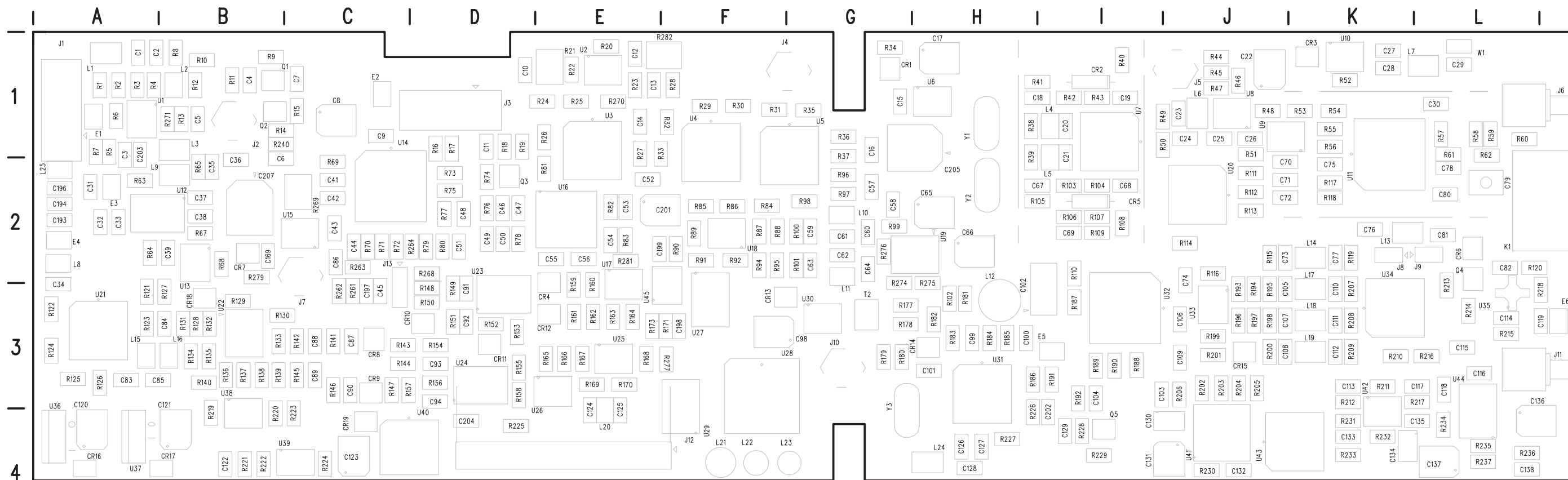
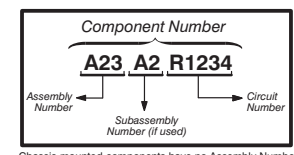


Figure 1-5: A5 Serial board (front)

Table 1-3: WFM 601M A5 Serial board (front) component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	
C1	6	C3	A1	C34	6	C1	A3	C68	3	E4	I2	C104	3	C4	I3	C136	3	G2	L3	CR17	2	H5	B4	
C2	6	C3	A1	C35	6	E2	B2	C69	3	D5	I2	C105	3	C1	J3	C137	3	D2	L4	CR18	2	C2	B3	
C3	6	E2	A2	C36	6	E2	B2	C70	4	F2	J2	C106	3	C3	J3	C138	3	G2	L4	CR19	5	G4	C4	
C4	6	C5	B1	C37	6	F2	B2	C71	4	D2	J2	C107	3	C1	J3	C169	2	G4	B2	E1	6	E2	A1	
C5	6	E2	B1	C38	6	F2	B2	C72	4	D2	J2	C108	3	C2	J3	C193	2	B5	A2	E2	6	D4	C1	
C6	6	D4	B2	C39	6	G2	B2	C73	3	C1	J2	C109	3	C3	J3	C194	2	B5	A2	E3	6	G2	A2	
C7	6	C4	C1	C41	2	C1	C2	C74	3	B1	J3	C110	3	D1	K3	C196	2	A5	A2	E4	6	C1	A2	
C8	2	C2	C1	C42	2	C1	C2	C75	4	F3	K2	C111	3	D1	K3	C197	2	F4	C3	E5	5	B5	I3	
C9	2	C2	C1	C43	2	C2	C2	C76	4	D3	K2	C112	3	D2	K3	C198	7	C1	F3	E6	4	B2	M3	
C10	2	G1	D1	C44	2	C2	C2	C77	3	D1	K2	C113	3	C3	K3	C199	7	C1	F2	J1	2	A4	A1	
C11	2	F3	D1	C45	2	F3	C3	C78	4	D2	L2	C114	4	B2	L3	C201	5	C4	E2	J2	6	A3	B1	
C12	2	G1	E1	C46	2	F2	D2	C79	4	D2	L2	C115	3	E1	L3	C202	5	C5	I4	J3	2	H2	D1	
C13	2	H1	E1	C47	2	F2	D2	C80	4	E3	L2	C116	3	E2	L3	C203	6	E2	A2	J4	2	H1	F1	
C14	2	F2	E1	C48	2	E2	D2	C81	4	D3	L2	C117	3	D3	K3	C204	5	G4	D4	J5	4	H2	J1	
C15	3	G3	G1	C49	2	C2	D2	C82	4	B2	L2	C118	3	E2	L3	C205	5	F5	H2	J6	4	A3	M1	
C16	5	D2	G1	C50	2	E2	D2	C83	6	C2	A3	C119	4	B2	M3	C207	2	C1	B2	J7	2	H4	C3	
C17	3	G3	H1	C51	2	D3	D2	C84	6	C2	B3	C120	2	H4	A3	CR1	3	H3	G1	J8	4	E3	K2	
C18	3	E3	H1	C52	2	G3	E2	C85	6	C2	A3	C121	2	H5	B3	CR2	3	E3	I1	J9	4	E3	L2	
C19	3	E3	I1	C53	2	G2	E2	C86	2	G4	C2	C122	2	C5	B4	CR3	4	E4	K1	J10	5	D5	G3	
C20	3	D3	I1	C54	2	E2	E2	C87	7	F5	C3	C123	2	E5	C4	CR4	7	E1	E3	J11	4	A2	M3	
C21	3	D4	I2	C55	2	E2	E2	C88	7	G2	C3	C124	7	D3	E4	CR5	3	E4	I2	J12	2	A2	F4	
C22	4	E5	J1	C56	2	F2	E2	C89	7	F3	C3	C125	7	D3	E4	CR6	4	C1	L2	J13	2	D3	C2	
C23	3	E4	J1	C57	5	D2	G2	C90	7	G4	C3	C126	5	B5	H4	CR7	2	G3	B2	K1	4	C2	L2	
C24	3	E4	J1	C58	5	G4	G2	C91	7	E2	D3	C127	5	B5	H4	CR8	7	F5	C3	L1	6	C3	A1	
C25	3	G4	J1	C59	5	F3	G2	C92	7	G1	D3	C128	5	B5	H4	CR9	7	G4	C3	L2	6	D3	B1	
C26	4	G2	J1	C60	5	F3	G2	C93	7	F4	D3	C129	3	C4	I4	CR10	7	E2	D3	L3	6	E2	B1	
C27	4	D3	K1	C61	5	F3	G2	C94	7	G3	D3	C130	3	C5	I4	CR11	7	G2	D3	L4	3	D3	I1	
C28	4	D5	K1	C62	5	F3	G2	C98	7	D5	G3	C131	3	C5	I4	CR12	7	E1	E3	L5	3	D4	I2	
C29	4	D3	L1	C63	5	F3	G2	C99	5	B4	H3	C132	3	B5	J4	CR13	7	D5	F3	L6	3	E3	J1	
C30	4	E3	L1	C64	5	F3	G2	C99	5	B4	H3	C133	3	C3	K4	CR14	5	B4	H3	L7	4	D3	K1	
C31	6	F2	A2	C65	5	F4	H2	C101	5	B4	H3	C134	3	D3	K4	CR15	3	E3	J3	L8	6	C1	A2	
C32	6	F3	A2	C66	5	F4	H2	C102	3	B3	H3	C135	3	D3	K4	CR16	2	H4	A4					
C33	6	F2	A2	C67	3	E4	H2	C103	3	C5	J3													

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

STATIC SENSITIVE DEVICES

Table 1-3: WFM 601M A5 Serial board (front) component locator (cont.)

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
L9	6	E2	A2	R34	3	G3	G1	R94	5	G3	F2	R152	7	G1	D3	R214	4	B1	L3	U11	4	E2	K2
L10	5	F3	G2	R35	5	D2	G1	R95	5	F3	F2	R153	7	G1	D3	R215	4	A2	L3	U12	6	F2	B2
L11	5	F3	G3	R36	5	E3	G1	R96	5	F3	G2	R154	7	F4	D3	R216	3	F1	L3	U13A	2	B2	B3
L12	3	B3	H2	R37	5	F3	G2	R97	5	F3	G2	R155	7	B4	D3	R217	3	D3	K3	U14	2	D1	C1
L13	4	D3	K2	R38	3	D4	H1	R98	5	E3	G2	R156	7	G3	D3	R218	4	B2	M3	U15	2	G4	B2
L14	3	C1	K2	R39	3	D5	H2	R99	5	G4	G2	R157	7	G3	D3	R219	7	G3	B4	U16	2	E2	E2
L15	6	C2	A3	R40	3	E3	I1	R100	5	F3	G2	R158	7	A3	D3	R220	7	G5	B4	U17	7	D1	E2
L16	6	C2	B3	R41	3	E3	H1	R101	5	F3	G2	R159	7	D2	E3	R221	2	C5	B4	U18	5	G3	F2
L17	3	C1	K2	R42	3	D4	I1	R102	5	D4	H3	R160	7	D2	E3	R222	2	D4	B4	U19A	5	F4	H2
L18	3	C1	K3	R43	3	E4	I1	R103	3	D5	I2	R161	7	D2	E3	R223	7	G5	C4	U19B	5	F5	H2
L19	3	C2	K3	R44	4	G2	J1	R104	3	E5	I2	R162	7	D1	E3	R224	2	D5	C4	U19C	5	F4	H2
L20	7	D3	E4	R45	4	H2	J1	R105	3	E4	H2	R163	7	C2	E3	R225	2	A3	D4	U19D	5	F5	H2
L21	2	A3	F4	R46	4	G3	J1	R106	3	D5	I2	R164	7	C3	E3	R226	5	C5	H4	U20A	3	F4	J2
L22	2	A3	F4	R47	4	G3	J1	R107	3	E5	I2	R165	7	C3	E3	R227	5	B5	H4	U20B	3	F4	J2
L23	2	A3	F4	R48	4	G2	J1	R108	3	E4	I2	R166	7	D3	E3	R228	3	C4	I4	U21A	6	C2	A3
L24	5	B5	H4	R49	3	F4	J1	R109	3	D4	I2	R167	7	C4	E3	R229	3	C4	I4	U21B	6	B2	A3
L25	2	B5	A2	R50	3	F4	J1	R110	3	C4	I2	R168	7	C4	E3	R230	3	C5	J4	U21C	6	C2	A3
P13	3	B1		R51	3	G4	J1	R111	3	G4	J2	R169	7	D3	E3	R231	3	C3	K4	U22A	7	G2	B3
				R52	4	E4	K1	R112	3	G4	J2	R170	7	D4	E3	R232	3	D3	K4	U22B	7	F3	B3
				R53	4	F2	K1	R113	3	G4	J2	R171	7	C1	F3	R233	3	C3	K4	U22C	7	G4	B3
Q1	6	D5	B1	R54	4	F2	K1	R114	3	F3	J2	R173	7	C1	E3	R234	3	D3	L4	U22D	7	G5	B3
Q2	6	D4	B1	R55	4	F2	K1	R115	3	C1	J2	R177	5	D5	G3	R235	3	E2	L4	U23A	7	F1	D2
Q3	2	E3	D2	R56	4	F2	K1	R116	3	A1	J2	R178	5	D5	G3	R236	3	G2	L4	U23B	7	E2	D2
Q4	4	B1	L2	R57	4	E2	L1	R117	4	D3	K2	R179	5	B4	G3	R237	3	D2	L4	U24A	7	F3	D3
Q5	3	C4	I4	R58	4	C2	L1	R118	4	D3	K2	R180	5	B4	G3	R240	6	D4	B1	U24B	7	F4	D3
				R59	4	C2	L1	R119	3	D1	K2	R181	5	F4	H3	R261	2	F4	C3	U25	7	D4	E3
R1	6	E3	A1	R60	4	B3	L1	R120	4	B2	L2	R182	5	C4	H3	R262	2	G4	C3	U26	7	D3	D4
R2	6	E3	A1	R61	4	D2	L1	R121	6	C2	A3	R183	5	C4	H3	R263	2	F4	C2	U27	7	B1	F3
R3	6	D3	A1	R62	4	D2	L2	R122	6	C1	A3	R184	5	E2	H3	R264	2	E4	D2	U28	2	C3	F3
R4	6	D3	A1	R63	6	G2	A2	R123	6	C2	A3	R185	5	E2	H3	R268	2	D2	D2	U29	2	B3	F4
R5	6	E2	A1	R64	6	G2	A2	R124	6	B1	A3	R186	5	C5	H3	R269	2	C2	C2	U30	7	D5	G3
R6	6	E3	A1	R65	6	F2	B2	R125	6	B2	A3	R187	3	C4	I3	R270	2	F2	E1	U31A	5	B5	H3
R7	6	E2	A1	R67	2	B2	B2	R126	6	B2	A3	R188	3	C3	I3	R271	6	E2	B1	U31B	5	C5	H3
R8	6	C3	B1	R68	2	B2	B2	R127	6	C3	B3	R189	3	B4	I3	R274	5	F4	G3	U31C	5	E2	H3
R9	6	D5	B1	R69	2	C1	C2	R128	7	G2	B3	R190	3	C3	I3	R275	5	F4	H3	U32	3	B3	J3
R10	6	C3	B1	R70	2	C2	C2	R129	7	G5	B3	R191	5	C5	I3	R276	5	F4	G2	U33A	3	B1	J3
R11	6	C5	B1	R71	2	F4	C2	R130	7	G5	B3	R192	3	C4	I3	R277	5	G4	F3	U33B	3	B1	J3
R12	6	D3	B1	R72	2	F4	C2	R131	7	G2	B3	R193	3	B1	J3	R279	2	B2	B2	U34A	3	E1	K2
R13	6	D2	B1	R73	2	E1	D2	R132	7	G2	B3	R194	3	C1	J3	R281	7	D2	E2	U34B	3	E1	K2
R14	6	C4	B1	R74	2	E3	D2	R133	7	G5	B3	R195	3	C1	J3	R282	7	D2	E1	U34C	3	H1	K2
R15	6	C4	C1	R75	2	E1	D2	R134	7	F3	B3	R196	3	B2	J3					U35	4	B2	L3
R16	2	E1	D1	R76	2	E3	D2	R135	7	F3	B3	R197	3	C2	J3	T2	5	D5	G3	U36	2	G4	A4
R17	2	E1	D1	R77	2	E2	D2	R136	7	F3	B3	R198	3	C1	J3					U37	2	G5	A4
R18	2	F3	D1	R78	2	F3	D2	R137	7	G4	B3	R199	3	A1	J3	U1	6	D2	A1	U38A	7	G3	B3
R19	2	E3	D1	R79	2	D3	D2	R138	7	G4	B3	R200	3	C2	J3	U2	2	F1	E1	U38B	7	G5	B3
R20	2	G1	E1	R80	2	D3	D2	R139	7	G4	B3	R201	3	E3	J3	U3	2	F2	E1	U39	2	D5	B4
R21	2	G1	E1	R81	2	G3	E2	R140	7	F3	B3	R202	3	C5	J3	U4A	5	B3	F1	U40	2	E4	D4
R22	2	G1	E1	R82	2	H2	E2	R141	7	F5	C3	R203	3	B5	J3	U4B	5	B2	F1	U41	3	B5	J4
R23	2	G1	E1	R83	2	E2	E2	R142	7	G2	C3	R204	3	B5	J3	U5A	5	D2	G1	U42A	3	C3	K3
R24	2	G2	E1	R84	5	G3	F2	R143	7	F4	C3	R205	3	B3	J3	U5B	5	D3	G1	U42B	3	D3	K3
R25	2	G2	E1	R85	5	G3	F2	R144	7	F4	C3	R206	3	C5	J3	U5C	5	E3	G1	U43	3	B4	J4
R26	2	G3	E1	R86	5	G4	F2	R145	7	E3	C3	R207	3	D1	K3	U6	3	G3	H1	U44A	3	E2	L3
R27	2	F3	E2	R87	5	G3	F2	R146	7	G4	C3	R208	3	D1	K3	U7A	3	E4	I1	U44B	3	E3	L3
R28	2	H1	F1	R88	5	F3	F2	R147	7	G3	C3	R209	3	D2	K3	U7B	3	D4	I1	U44C	3	H1	L3
R29	5	C3	F1	R89	5	G3	F2	R148	7	E2	D3	R210	3	F1	K3	U7C	3	E5	I1	U44D	3	H2	L3
R30	5	C2	F1	R90	7	A1	F2	R149	7	E2	D3	R211	3	C3	K3	U8	4	G2	J1	U45	7	C1	E3
R31	5	D2	F1	R91	5	G3	F2	R150	7	E2	D3	R212	3	C3	K3	U9	4	F2	J1				
R32	5	B3	F1	R92	5	G3	F2	R151	7	G1	D3	R213	4	C1	L3	U10	4	E4	K1				
R33	5	A3	F2																				

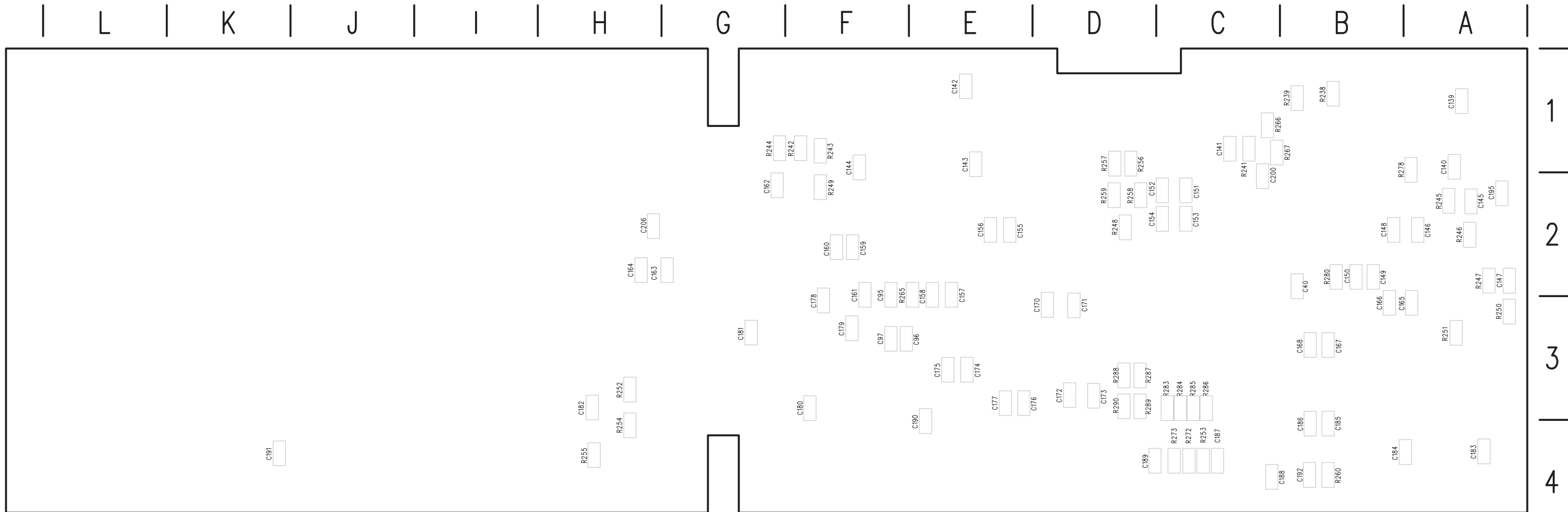
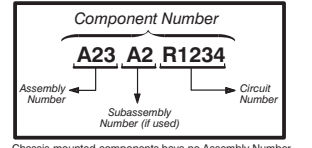


Figure 1-6: A5 Serial board (back)

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 1-4: WFM 601M A5 Serial board (back) component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C40	2	G4	B2	C152	2	D1	C2	C170	7	F1	D3	C187	2	E5	C4	R246	6	D2	A2	R267	6	D4	C1
C95	7	A1	F3	C153	2	D1	C2	C171	7	F1	D3	C188	2	D5	C4	R247	6	D2	A2	R272	2	F5	C4
C96	7	B1	F3	C154	2	D1	C2	C172	7	F3	D3	C189	2	F5	C4	R248	2	D2	D2	R273	2	F5	C4
C97	7	B1	F3	C155	2	E2	E2	C173	7	F3	D3	C190	2	A3	E4	R249	5	B2	F2	R278	6	D2	A2
C139	6	E3	A1	C156	2	E2	E2	C174	7	B5	E3	C191	3	B5	K4	R250	6	C2	A3	R280	2	B2	B2
C140	6	D2	A2	C157	7	D1	E3	C175	7	C5	E3	C192	2	D5	B4	R251	6	C2	A3	R283	2	E4	C3
C141	6	D4	C1	C158	7	D1	E3	C176	7	D2	E3	C195	2	B5	A2	R252	5	C5	H3	R284	2	E4	C3
C142	2	G1	E1	C159	5	G3	F2	C177	7	D2	E3	C200	6	D5	C2	R253	2	E5	C4	R285	2	E4	C3
C143	2	G3	E1	C160	5	G3	F2	C178	7	C2	F3	C179	7	C2	F3	R254	5	D5	H4	R286	2	E5	C3
C144	5	B3	F2	C161	7	B2	F3	C179	7	B2	F3	C180	2	D4	F3	R255	5	C5	H4	R287	3	A2	D3
C145	6	G2	A2	C162	5	D1	G2	C180	2	D4	F3	C181	7	C5	G3	R256	2	D1	D1	R288	3	A2	D3
C146	6	G2	A2	C163	5	F5	G2	C181	7	C5	G3	C182	5	C5	H3	R257	2	E1	D1	R289	3	A2	D3
C147	6	C1	A2	C164	5	F5	H2	C182	5	C5	H3	C183	2	G4	A4	R258	2	E1	D2	R290	3	A2	D3
C148	6	G2	B2	C165	6	C3	A3	C183	2	G4	A4	C184	2	G5	A4	R242	5	D2	F1	R259	2	E1	D2
C149	2	B2	B2	C166	6	C3	B3	C184	2	G5	A4	C185	7	G3	B4	R243	5	B2	F1	R260	2	C4	B4
C150	2	B2	B2	C167	7	G2	B3	C185	7	G3	B4	C186	7	G2	B4	R244	5	D2	F1	R265	7	C2	E3
C151	2	D1	C2	C168	7	G2	B3	C186	7	G2	B4					R245	6	G2	A2	R266	6	D5	C1



STATIC SENSITIVE DEVICES

A B C D E F G H

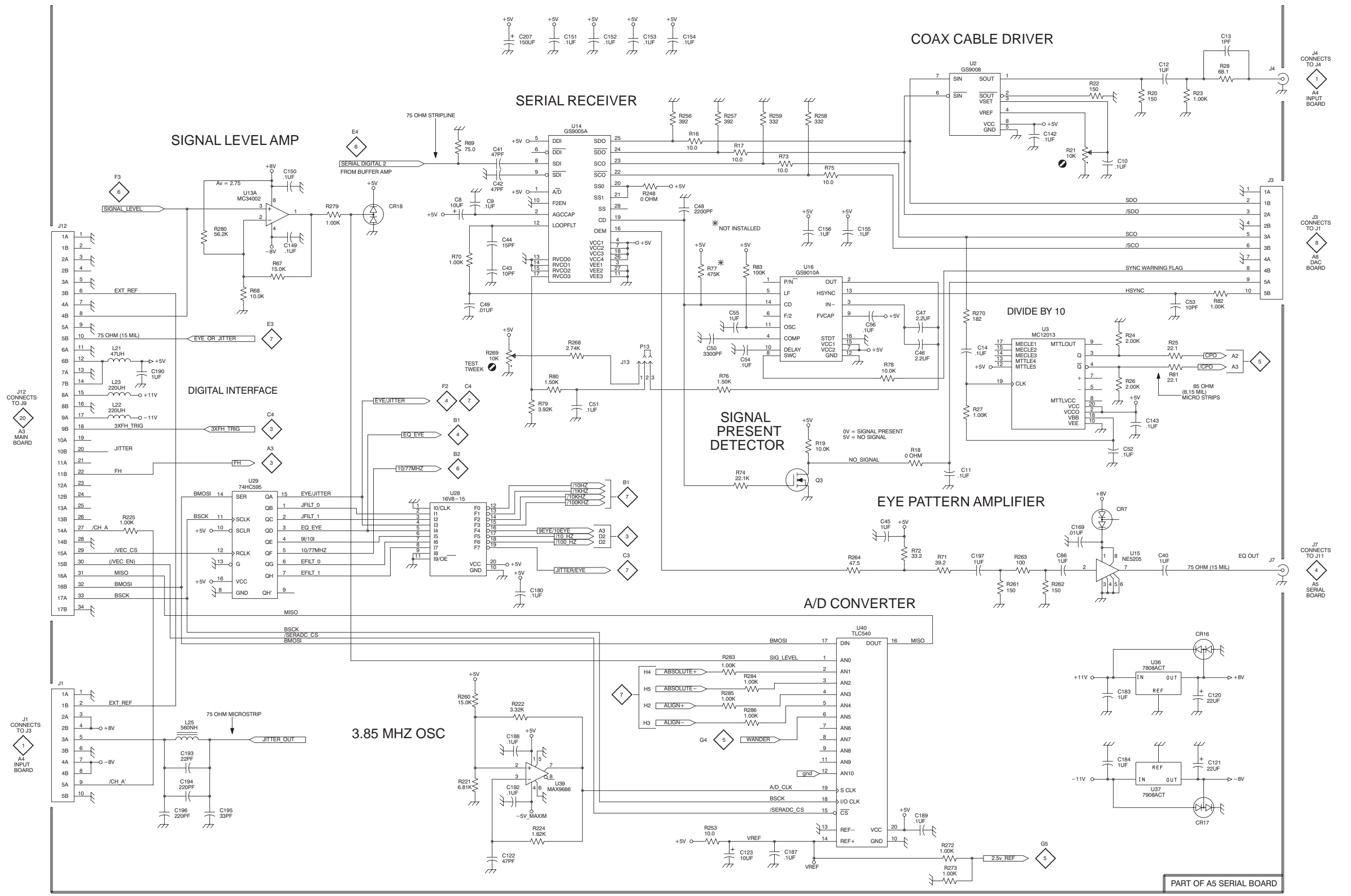
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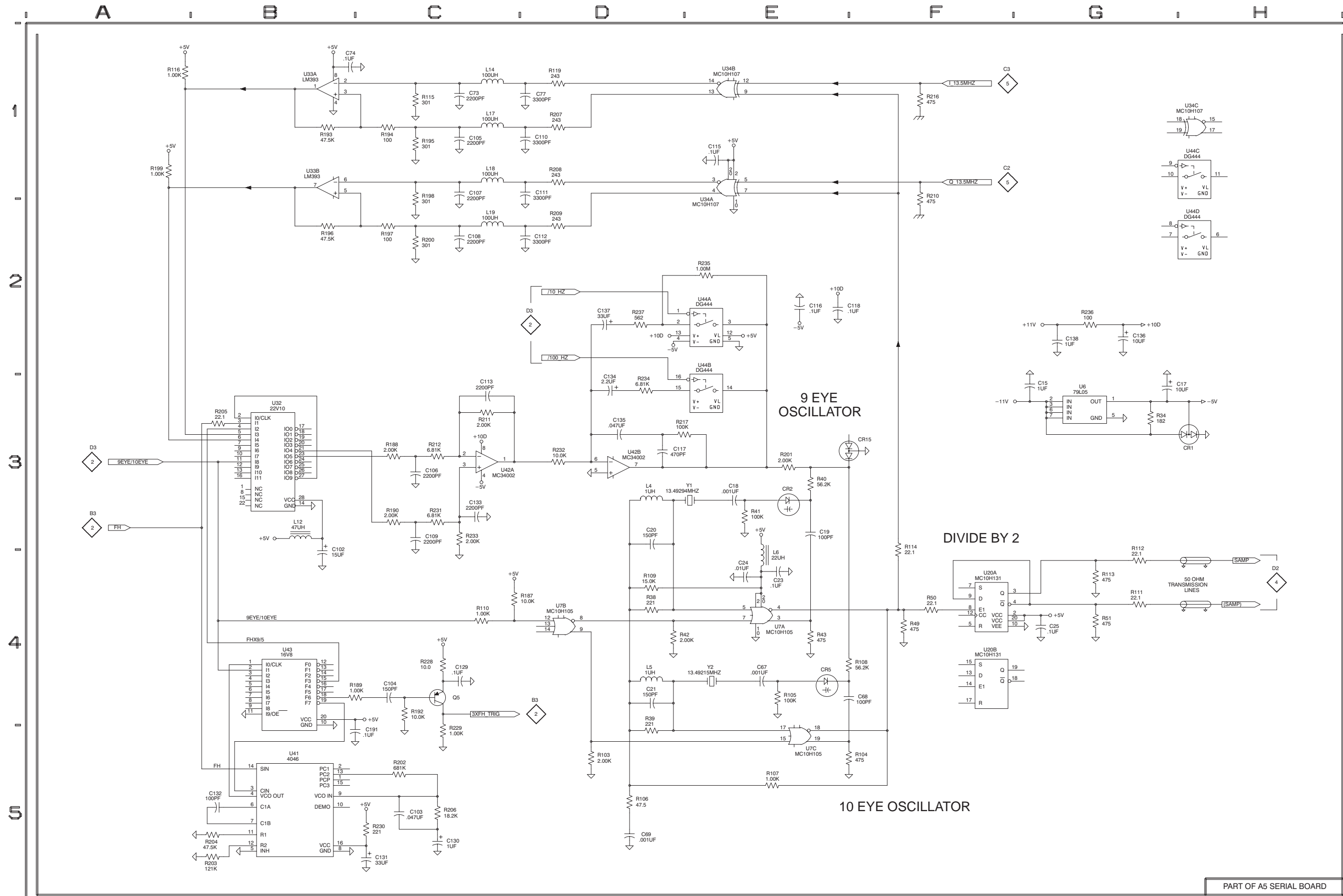
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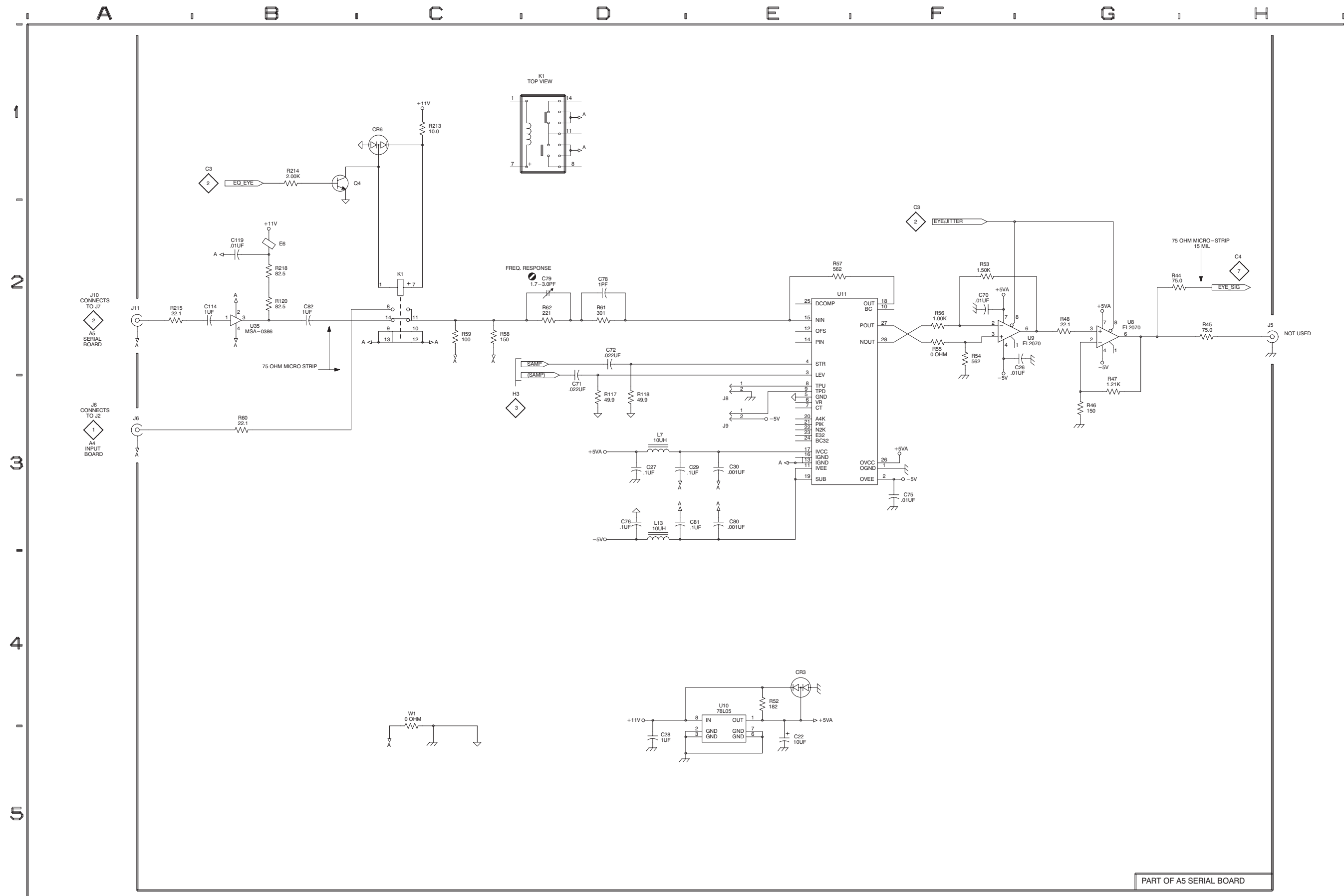
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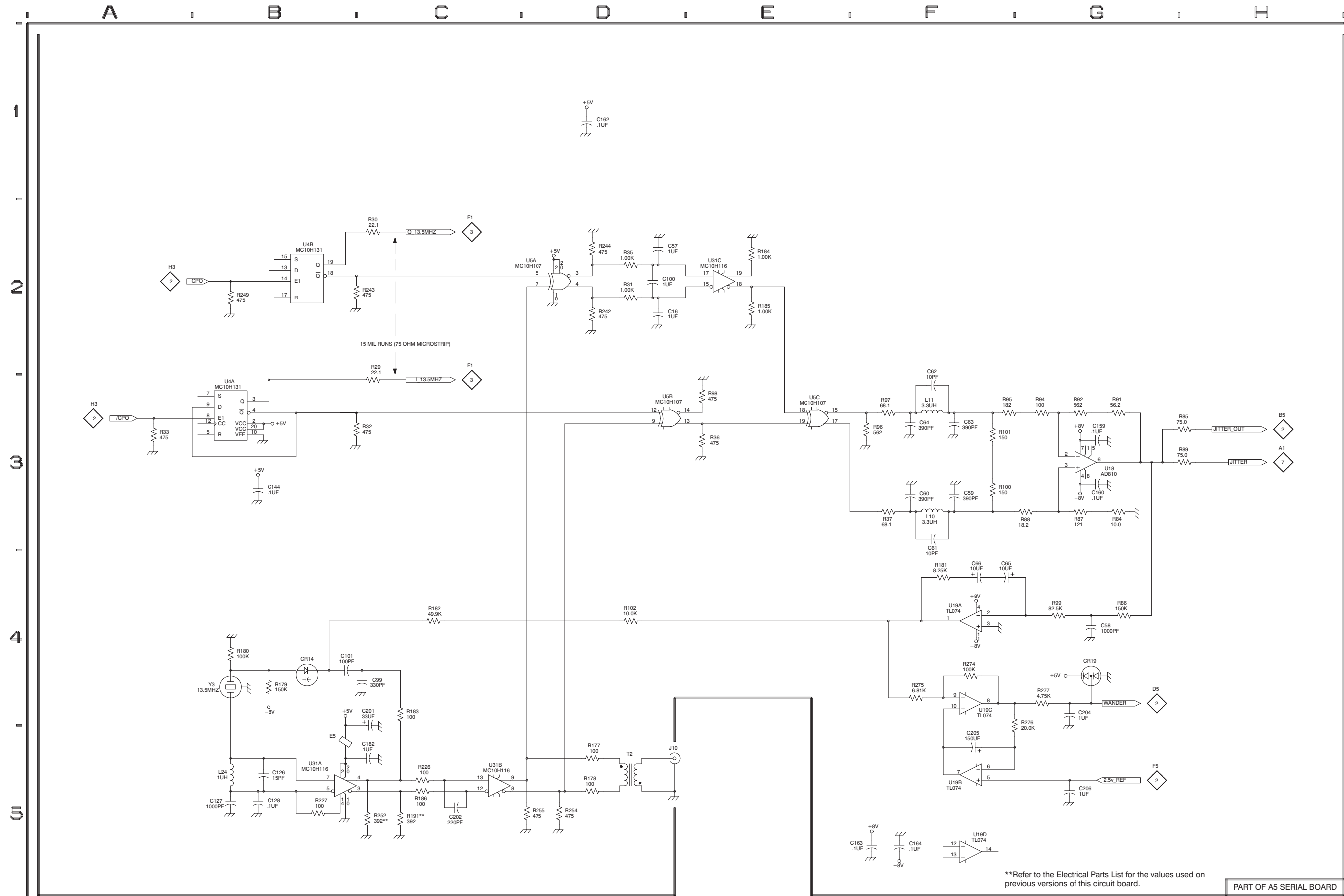
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WFM 601M SERIAL COMPONENT MONITOR

**Refer to the Electrical Parts List for the values used on previous versions of this circuit board.

PART OF A5 SERIAL BOARD

A B C D E F G H

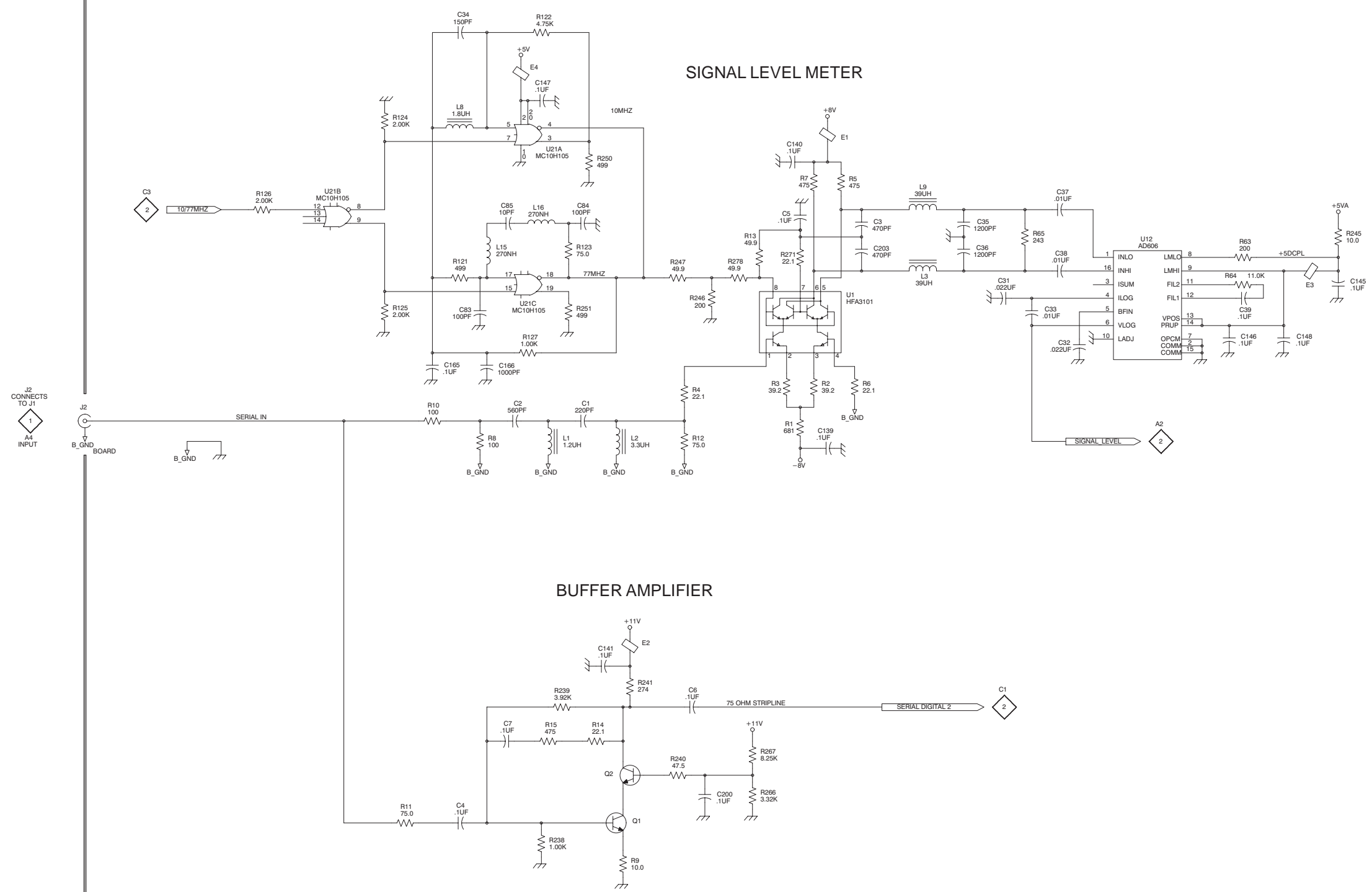
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PART OF A5 SERIAL BOARD

A B C D E F G H

1
2
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4
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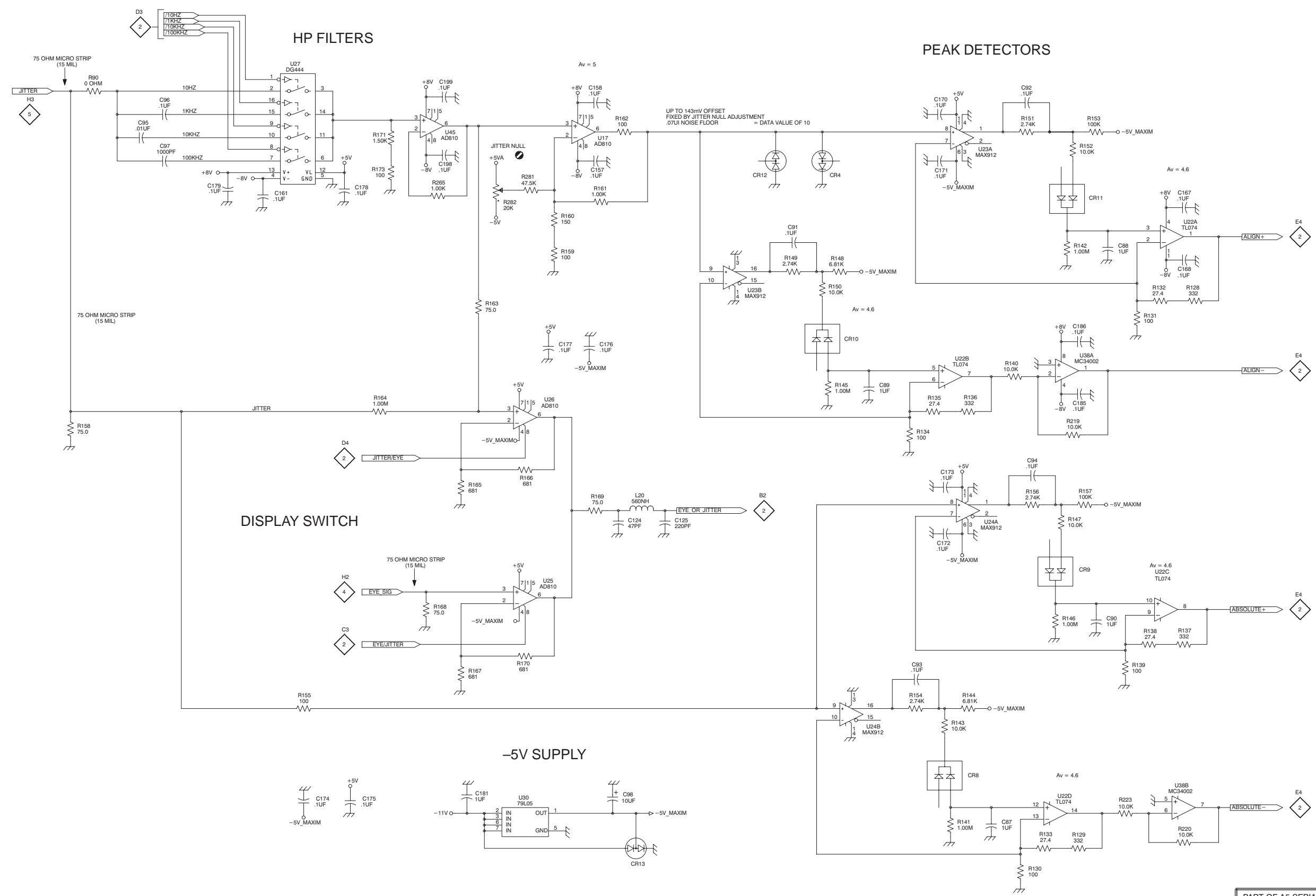


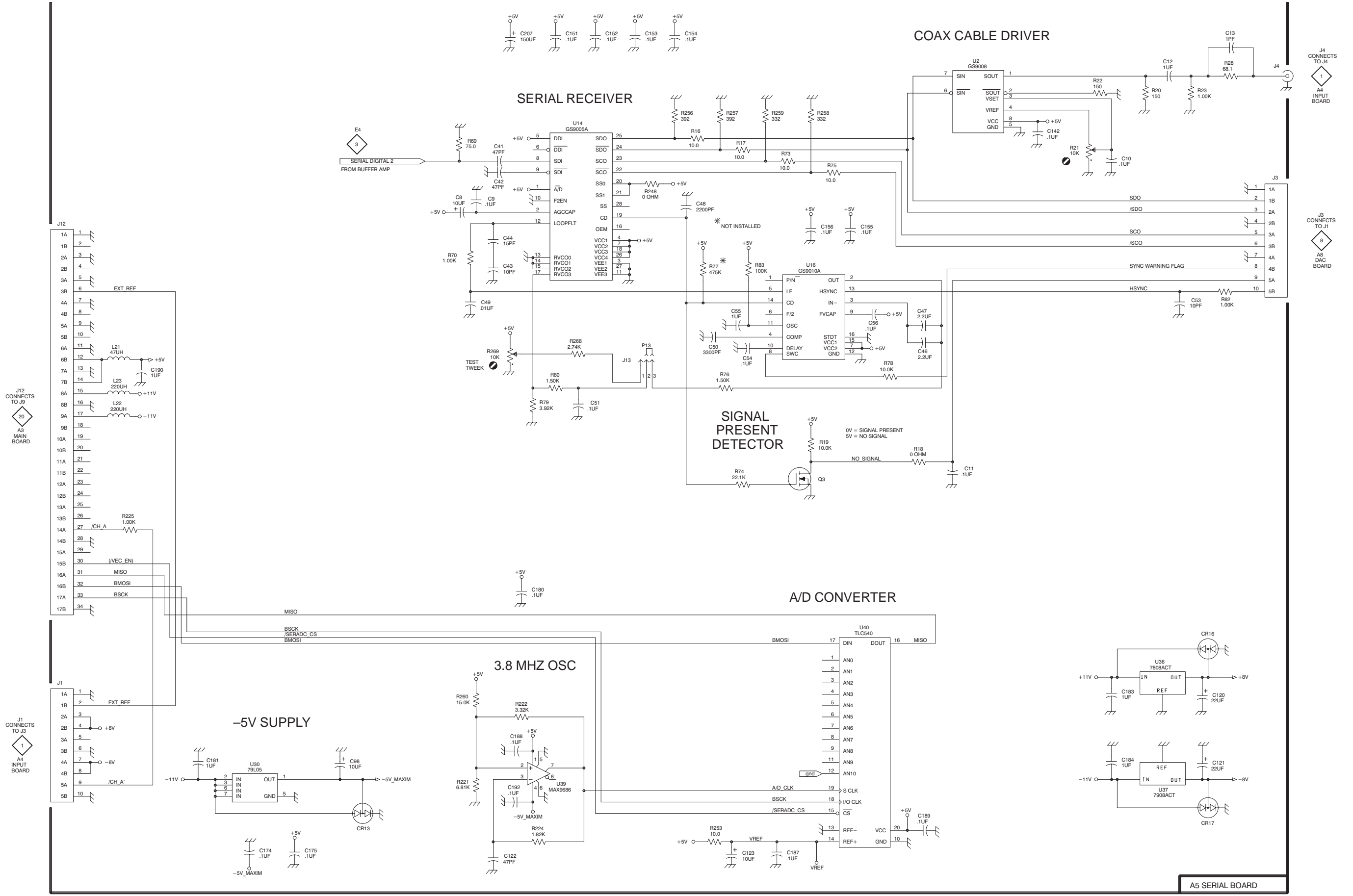
Table 1-5: WFM 601A A5 Serial board (front) component locator*

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C1	3	C4	A1	C50	2	E2	D2	CR17	2	H5	B4	P13	3	B1		R21	2	G1	E1	R221	2	C5	B4
C2	3	C4	A1	C51	2	D3	D2									R22	2	G1	E1	R222	2	D4	B4
C4	3	C3	B1	C53	2	G2	E2	E2	3	D2	C1	Q1	3	D3	B1	R23	2	G1	E1	R224	2	D5	C4
C6	3	D2	B2	C54	2	E2	E2					Q2	3	D3	B1	R28	2	H1	F1	R225	2	A3	D4
C7	3	C3	C1	C55	2	E2	E2	J1	2	A4	A1	Q3	2	E3	D2					R240	3	D3	B1
C8	2	C2	C1	C56	2	F2	E2	J2	3	A3	B1					R69	2	C1	C2	R268	3	D3	D2
C9	2	C2	C1					J3	2	H2	D1	R8	3	C4	B1	R70	2	C2	C2	R269	2	C2	C2
C10	2	G1	D1	C98	2	C5	G3	J4	2	H1	F1	R9	3	D3	B1	R73	2	E1	D2				
C11	2	F3	D1	C120	2	H4	A3	J12	2	A2	F4	R10	3	B4	B1	R74	2	E3	D2	U2	2	F1	E1
C12	2	G1	E1	C121	2	H5	B3	J13	2	D3	C2	R11	3	C3	B1	R75	2	E1	D2	U14	2	D1	C1
C13	2	H1	E1	C122	2	C5	B4					R12	3	D4	B1	R76	2	E3	D2	U16	2	E2	E2
C41	2	C1	C2	C123	2	E5	C4	L1	3	C4	A1	R14	3	D2	B1	R77	2	E2	D2	U30	2	B5	G3
C42	2	C1	C2	C174	2	B5	B5	L2	3	C4	B1	R15	3	C2	C1	R78	2	F3	D2	U36	2	G4	A4
C43	2	C2	C2	C175	2	C5	B5					R16	2	E1	D1	R79	2	D3	D2	U37	2	G5	A4
C44	2	C2	C2					L21	2	A3	F4	R17	2	E1	D1	R80	2	D3	D2	U39	2	D5	B4
C46	2	F2	D2	C207	2	C1	B2	L22	2	A3	F4	R18	2	F3	D1	R82	2	H2	E2	U40	2	E4	D4
C47	2	F2	D2					L23	2	A3	F4	R19	2	E3	D1	R83	2	E2	E2				
C48	2	E2	D2	CR13	2	C5	F3					R20	2	G1	E1								
C49	2	C2	D2	CR16	2	H4	A4																

Table 1-6: WFM 601A A5 Serial board (back) component locator*

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C141	3	D2	C1	C156	2	E2	E2	C189	2	F5	C4	R239	3	C2	B1	R258	2	E1	D2	R288	3	A2	D3
C142	2	G1	E1	C180	2	D4	F3	C190	2	A3	E4	R241	3	D3	C2	R259	2	E1	D2	R289	3	A2	D3
C151	2	D1	C2	C181	2	B5	G3	C192	2	D5	B4	R248	2	D2	D2	R260	2	C4	B4	R290	3	A2	D3
C152	2	D1	C2	C183	2	G4	A4	C200	3	D3	C2	R253	2	E5	C4	R266	6	D5	C1				
C153	2	D1	C2	C184	2	G5	A4					R256	2	D1	D1	R267	3	D3	C1				
C154	2	D1	C2	C187	2	E5	C4	R238	3	C3	B1	R257	2	E1	D1	R287	3	A2	D3				
C155	2	E2	E2	C188	2	D5	C4																

*Refer to Figure 1-5 on page 9-8 and Figure 1-6 on page 9-10 for the front and rear A5 Serial board illustrations, respectively. The board illustrations show the location of components for the three waveform monitors.



A B C D E F G H

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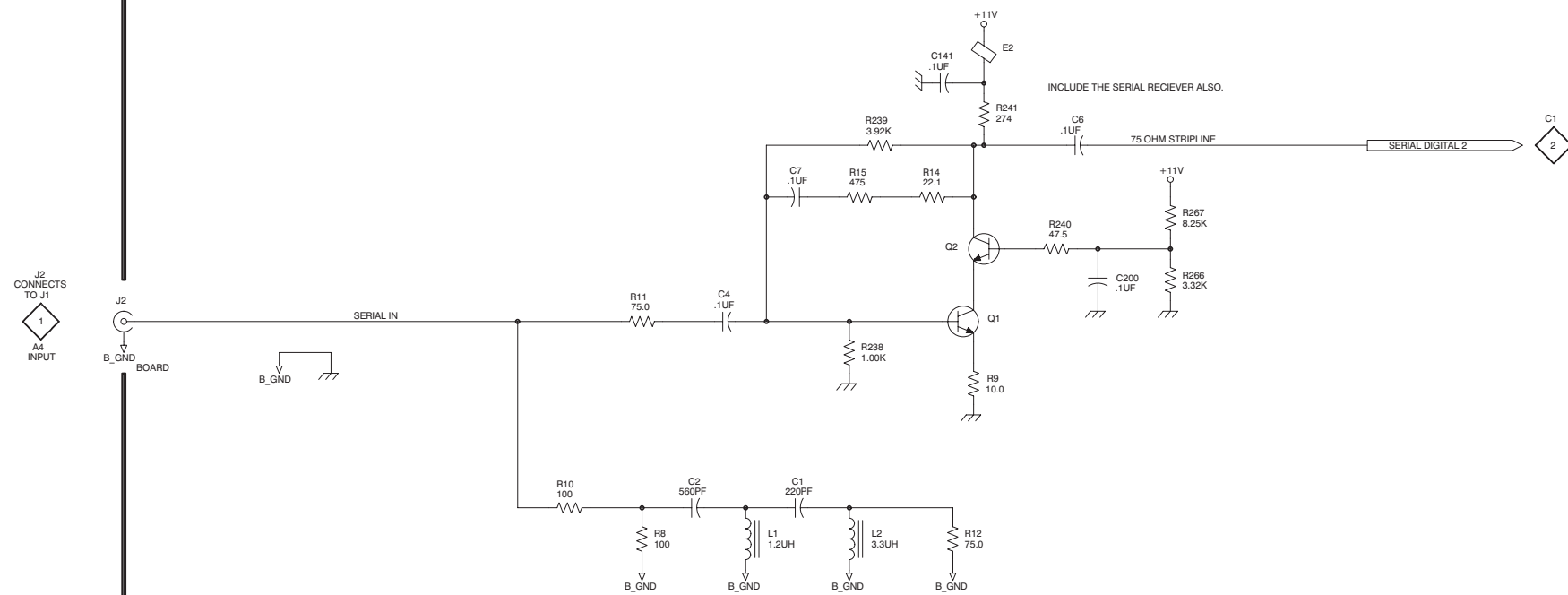
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BUFFER AMPLIFIER



A5 SERIAL BOARD

Table 1-7: WFM 601E A5 Serial board (front) component locator*

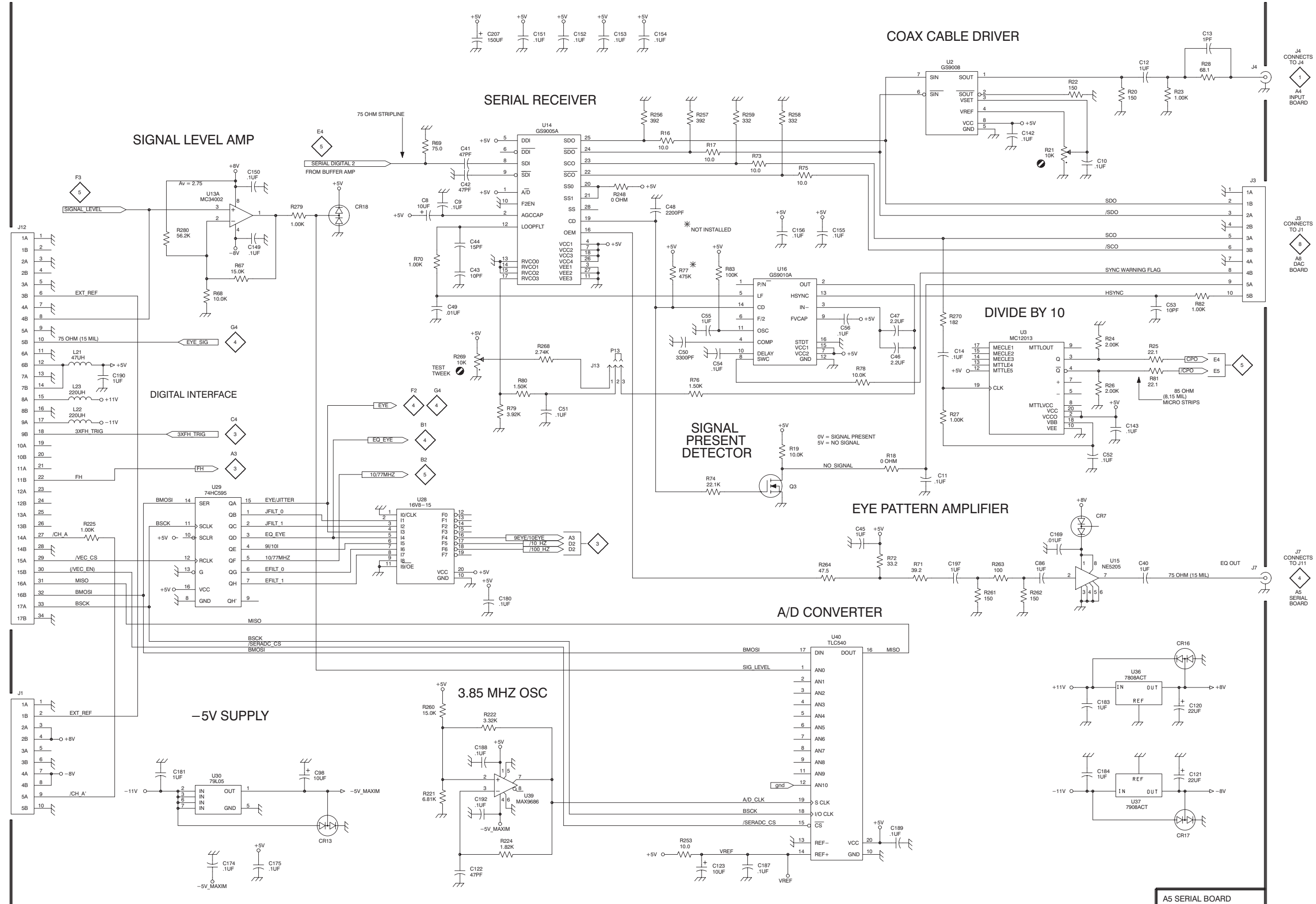
CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C1	5	C3	A1	C78	4	D2	L2	E6	4	B2	M3	R21	2	G1	E1	R110	3	C4	I2	R236	3	G2	L4
C2	5	C3	A1	C79	4	D2	L2					R22	2	G1	E1	R111	3	G4	J2	R237	3	D2	L4
C3	5	E2	A2	C80	4	E3	L2	J1	2	A4	A1	R23	2	G1	E1	R112	3	G4	J2	R240	5	C4	B1
C4	5	B4	B1	C81	4	D3	L2	J2	5	A3	B1	R24	2	G2	E1	R113	3	G4	J2	R261	2	F4	C3
C5	5	E2	B1	C82	4	B2	L2	J3	2	H2	D1	R25	2	G2	E1	R114	3	F3	J2	R262	2	G4	C3
C6	5	B4	B2	C83	5	C2	A3	J4	2	H1	F1	R26	2	G3	E1	R115	3	C1	J2	R263	2	F4	C2
C7	5	C4	C1	C84	5	C2	B3	J5	4	H2	J1	R27	2	F3	E2	R116	3	A1	J2	R264	2	E4	D2
C8	2	C2	C1	C85	5	C2	A3	J6	4	A3	M1	R28	2	H1	F1	R117	4	D3	K2	R268	2	D2	D2
C9	2	C2	C1	C86	2	G4	C2	J7	2	H4	C3	R29	5	G4	F1	R118	4	D3	K2	R269	2	C2	C2
C10	2	G1	D1	C98	2	B5	G3	J8	4	E3	K2	R30	5	G4	F1	R119	3	D1	K2	R270	2	F2	E1
C11	2	F3	D1	C102	3	B3	H3	J9	4	E3	L2	R32	5	F4	F1	R120	4	B2	L2	R271	5	E2	B1
C12	2	G1	E1	C103	3	C5	J3	J11	4	A2	M3	R33	5	E5	F2	R121	5	C2	A3	R279	2	B2	B2
C13	2	H1	E1	C104	3	C4	I3	J12	2	A2	F4	R34	3	G3	G1	R122	5	C1	A3				
C14	2	F2	E1	C105	3	C1	J3	J13	2	D3	C2	R38	3	D4	H1	R123	5	C2	A3	U1	5	D2	A1
C15	3	G3	G1	C106	3	C3	J3					R39	3	D5	H2	R124	5	B1	A3	U2	2	F1	E1
C17	3	G3	H1	C107	3	C1	J3	K1	4	C2	L2	R40	3	E3	I1	R125	5	B2	A3	U3	2	F2	E1
C18	3	E3	H1	C108	3	C2	J3					R41	3	E3	H1	R126	5	B2	A3	U4A	5	F4	F1
C19	3	E3	I1	C109	3	C3	J3	L1	5	C3	A1	R42	3	D4	I1	R127	5	C3	B3	U4B	5	F4	F1
C20	3	D3	I1	C110	3	D1	K3	L2	5	D3	B1	R43	3	E4	I1	R167	4	F5	E3	U6	3	G3	H1
C21	3	D4	I2	C111	3	D1	K3	L3	5	E2	B1	R44	4	G4	J1	R168	4	F4	E3	U7A	3	E4	I1
C22	4	G1	J1	C112	3	D2	K3	L4	3	H2	D3	R45	4	H2	J1	R169	4	F5	E3	U7B	3	D4	I1
C23	3	E4	J1	C113	3	C3	K3	L5	3	D4	I2	R46	4	G3	J1	R170	4	F5	E3	U7C	3	E5	I1
C24	3	E4	J1	C114	4	B2	L3	L6	3	E3	J1	R47	4	G3	J1	R187	3	C4	I3	U8	4	G2	J1
C25	3	G4	J1	C115	3	E1	L3	L7	4	D3	K1	R48	4	G2	J1	R188	3	C3	I3	U9	4	F2	J1
C26	4	G2	J1	C116	3	E2	L3	L8	5	C1	A2	R49	3	F4	J1	R189	3	B4	I3	U10	4	F1	K1
C27	4	D3	K1	C117	3	D3	K3	L9	5	E2	A2	R50	3	F4	J1	R190	3	C3	I3	U11	4	E2	K2
C28	4	F1	K1	C118	3	E2	L3	L12	3	B3	H2	R51	3	G4	J1	R192	3	C4	I3	U12	5	F2	B2
C29	4	D3	L1	C119	4	B2	M3	L13	4	D3	K2	R52	4	G1	K1	R193	3	B1	J3	U13A	2	B2	B3
C30	4	E3	L1	C120	2	H4	A3	L14	3	C1	K2	R53	4	F2	K1	R194	3	C1	J3	U14	2	D1	C1
C31	5	F2	A2	C121	2	H5	B3	L15	5	C2	A3	R54	4	F2	K1	R195	3	C1	J3	U15	2	G4	B2
C32	5	F3	A2	C122	2	C5	B4	L16	5	C2	B3	R55	4	F2	K1	R196	3	B2	J3	U16	2	E2	E2
C33	5	F2	A2	C123	2	E5	C4	L17	3	C1	K2	R56	4	F2	K1	R197	3	C2	J3	U20A	3	F4	J2
C34	5	C1	A3	C124	4	G4	E4	L18	3	C1	K3	R57	4	E2	L1	R198	3	C1	J3	U20B	3	F4	J2
C35	5	E2	B2	C125	4	G4	E4	L19	3	C2	K3	R58	4	C2	L1	R199	3	A1	J3	U21A	5	C2	A3
C36	5	E2	B2	C129	3	C4	I4	L20	4	G4	E4	R59	4	C2	L1	R200	3	C2	J3	U21B	5	B2	A3
C37	5	F2	B2	C130	3	C5	I4	L21	2	A3	F4	R60	4	B3	L1	R201	3	E3	J3	U21C	5	C2	A3
C38	5	F2	B2	C131	3	C5	I4	L22	2	A3	F4	R61	4	D2	L1	R202	3	C5	J3	U25	4	F4	E3
C39	5	G2	B2	C132	3	B5	J4	L23	2	A3	F4	R62	4	D2	L2	R203	3	B5	J3	U28	2	C3	F3
C41	2	C1	C2	C133	3	C3	K4					R63	5	G2	A2	R204	3	B5	J3	U29	2	B3	F4
C42	2	C1	C2	C134	3	D3	K4	Q1	5	C4	B1	R64	5	G2	A2	R205	3	B3	J3	U30	2	B5	G3
C43	2	C2	C2	C135	3	D3	K4	Q2	5	C4	B1	R65	5	F2	B2	R206	3	C5	J3	U32	3	B3	J3
C44	2	C2	C2	C136	3	G2	L3	Q3	2	E3	D2	R67	2	B2	B2	R207	3	D1	K3	U33A	3	B1	J3
C45	2	F3	C3	C137	3	D2	L4	Q4	4	B1	L2	R68	2	B2	B2	R208	3	D1	K3	U33B	3	B1	J3
C46	2	F2	D2	C138	3	G2	L4	Q5	3	C4	I4	R69	2	C1	C2	R209	3	D2	K3	U34A	3	E1	K2
C47	2	F2	D2	C169	2	G4	B2					R70	2	C2	C2	R210	3	F1	K3	U34B	3	E1	K2
C48	2	E2	D2	C197	2	F4	C3	R1	5	E3	A1	R71	2	F4	C2	R211	3	C3	K3	U34C	3	H1	K2
C49	2	C2	D2	C203	5	E2	A2	R2	5	E3	A1	R72	2	F4	C2	R212	3	C3	K3	U35	4	B2	L3
C50	2	E2	D2	C207	2	C1	B2	R3	5	D3	A1	R73	2	E1	D2	R213	4	C1	L3	U36	2	G4	A4
C51	2	D3	D2					R4	5	D3	A1	R74	2	E3	D2	R214	4	B1	L3	U37	2	G5	A4
C52	2	G3	E2	CR1	3	H3	G1	R5	5	E2	A1	R75	2	E1	D2	R215	4	A2	L3	U39	2	D5	B4
C53	2	G2	E2	CR2	3	E3	I1	R6	5	E3	A1	R76	2	E3	D2	R216	3	F1	L3	U40	2	E4	D4
C54	2	E2	E2	CR3	4	G1	K1	R7	5	E2	A1	R77	2	E2	D2	R217	3	D3	K3	U41	3	B5	J4
C55	2	E2	E2	CR5	3	E4	I2	R8	5	C3	B1	R78	2	F3	D2	R218	4	B2	M3	U42A	3	C3	K3
C56	2	F2	E2	CR6	4	C1	L2	R9	5	C4	B1	R79	2	D3	D2	R221	2	C5	B4	U42B	3	D3	K3
C67	3	E4	H2	CR7	2	G3	B2	R10	5	C3	B1	R80	2	D3	D2	R222	2	D4	B4	U43	3	B4	J4
C68	3	E4	I2	CR13	2	C5	F3	R11	5	B4	B1	R81	2	G3	E2	R224	2	D5	C4	U44A	3	E2	L3
C69	3	D5	I2	CR15	3	E3	J3	R12	5	D3	B1	R82	2	H2	E2	R225	2	A3	D4	U44B	3	E3	L3
C70	4	F2	J2	CR16	2	H4	A4	R13	5	D2	B1	R83	2	E2	E2	R228	3	C4	I4	U44C	3	H1	L3
C71	4	D2	J2	CR17	2	H5	B4	R14	5	C4	B1	R103	3	D5	I2	R229	3	C4	I4	U44D	3	H2	L3
C72	4	D2	J2	CR18	2	C2	B3	R15	5	C4	C1	R104	3	E5	I2	R230	3	C5	J4				
C73	3	C1	J2					R16	2	E1	D1	R105	3	E4	H2	R231	3	C3	K4	W1	4	D1	L1
C74	3	B1	J3	E1	5	E2	A1	R17	2	E1	D1	R106	3	D5	I2	R232	3	D3	K4	Y1	3	E3	H1
C75	4	F3	K2	E2	5	C4	C1	R18	2	F3	D1	R107	3	E5	I2	R233	3	C3	K4	Y2	3	E4	H2
C76	4	D3	K2	E3	5	G2	A2	R19	2	E3	D1	R108	3	E4	I2	R234	3	D3	L4				
C77	3	D1	K2	E4	5	C1	A2	R20	2	G1	E1	R109	3	D4	I2	R235	3	E2	L4				

*Refer to Figure 1-5 on page 9-8 and Figure 1-6 on page 9-10 for the front and rear A5 Serial board illustrations, respectively. The board illustrations show the location of components for the three waveform monitors.

Table 1-8: WFM 601E A5 Serial board (back) component locator*

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C40	2	G4	B2	C149	2	B2	B2	C165	5	C3	A3	C190	2	A3	E4	R247	5	D2	A2	R260	2	C4	B4
C139	5	E3	A1	C150	2	B2	B2	C166	5	C3	B3	C191	3	B5	K4	R248	2	D2	D2	R266	5	D4	C1
C140	5	D2	A2	C151	2	D1	C2	C174	2	B5	E3	C192	2	D5	B4	R249	5	F4	F2	R267	5	C4	C1
C141	5	C4	C1	C152	2	D1	C2	C175	2	B5	E3	C200	5	D5	C2	R250	5	C2	A3	R278	5	D2	A2
C142	2	G1	E1	C153	2	D1	C2	C180	2	D4	F3					R251	5	C2	A3	R280	2	B2	B2
C143	2	G3	E1	C154	2	D1	C2	C181	2	B5	G3	R238	5	C4	B1	R253	2	E5	C4	R287	3	A2	D3
C144	5	B3	F2	C155	2	E2	E2	C183	2	G4	A4	R239	5	B4	B1	R256	2	D1	D1	R288	3	A2	D3
C145	5	G2	A2	C156	2	E2	E2	C184	2	G5	A4	R241	5	C4	C2	R257	2	E1	D1	R289	3	A2	D3
C146	5	G2	A2	C162	5	G4	G2	C187	2	E5	C4	R243	5	G4	F1	R258	2	E1	D2	R290	3	A2	D3
C147	5	C1	A2	C163	5	G5	G2	C188	2	D5	C4	R245	5	G2	A2	R259	2	E1	D2				
C148	5	G2	B2	C164	5	G5	H2	C189	2	F5	C4	R246	5	D2	A2								

*Refer to Figure 1-5 on page 9-8 and Figure 1-6 on page 9-10 for the front and rear A5 Serial board illustrations, respectively. The board illustrations show the location of components for the three waveform monitors.



A B C D E F G H

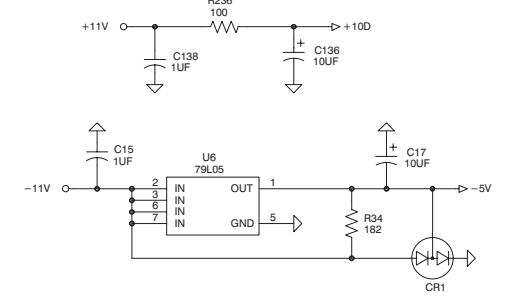
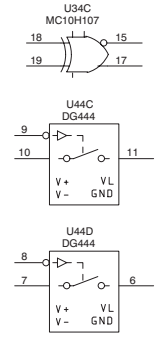
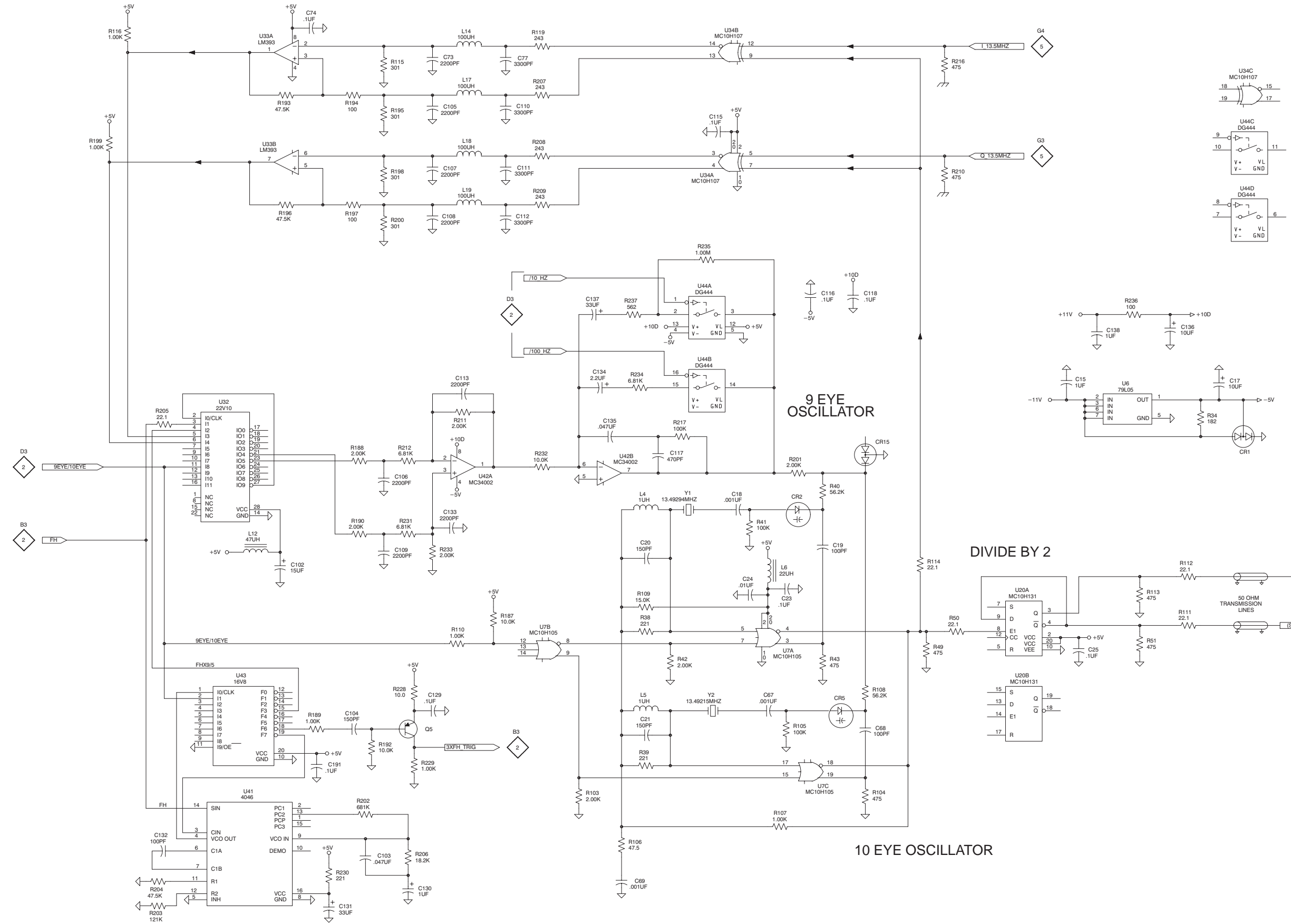
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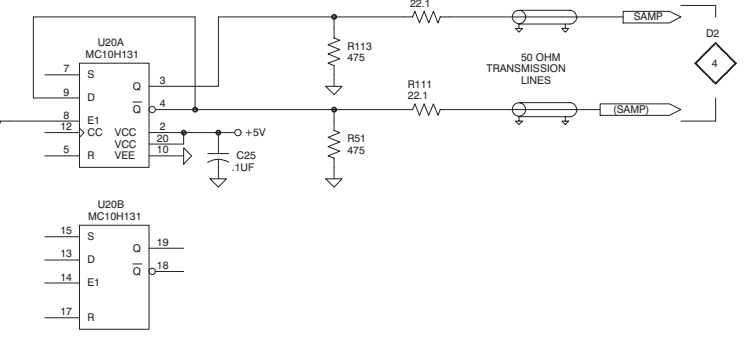
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DIVIDE BY 2



PART OF A5 SERIAL BOARD

A B C D E F G H

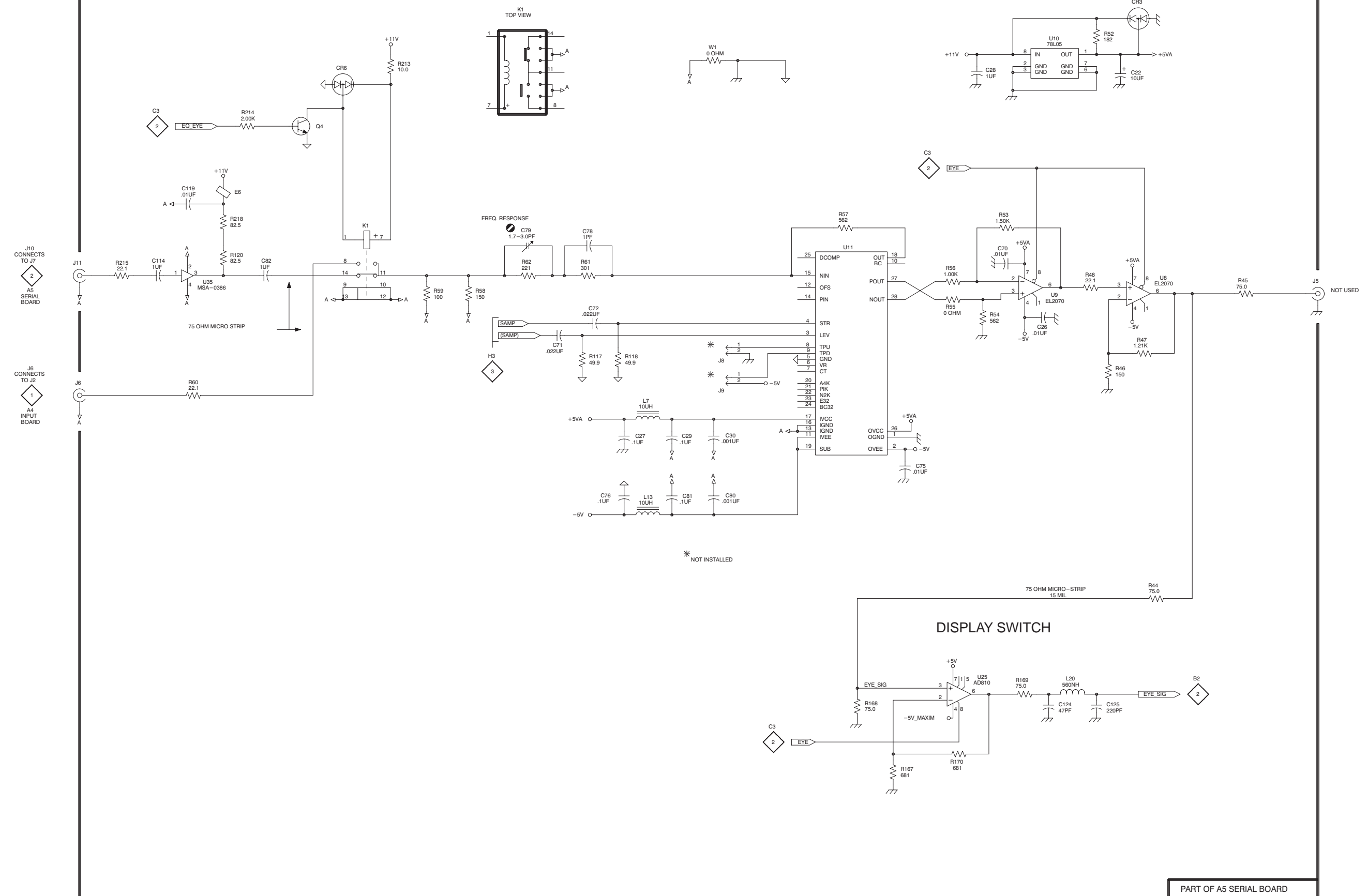
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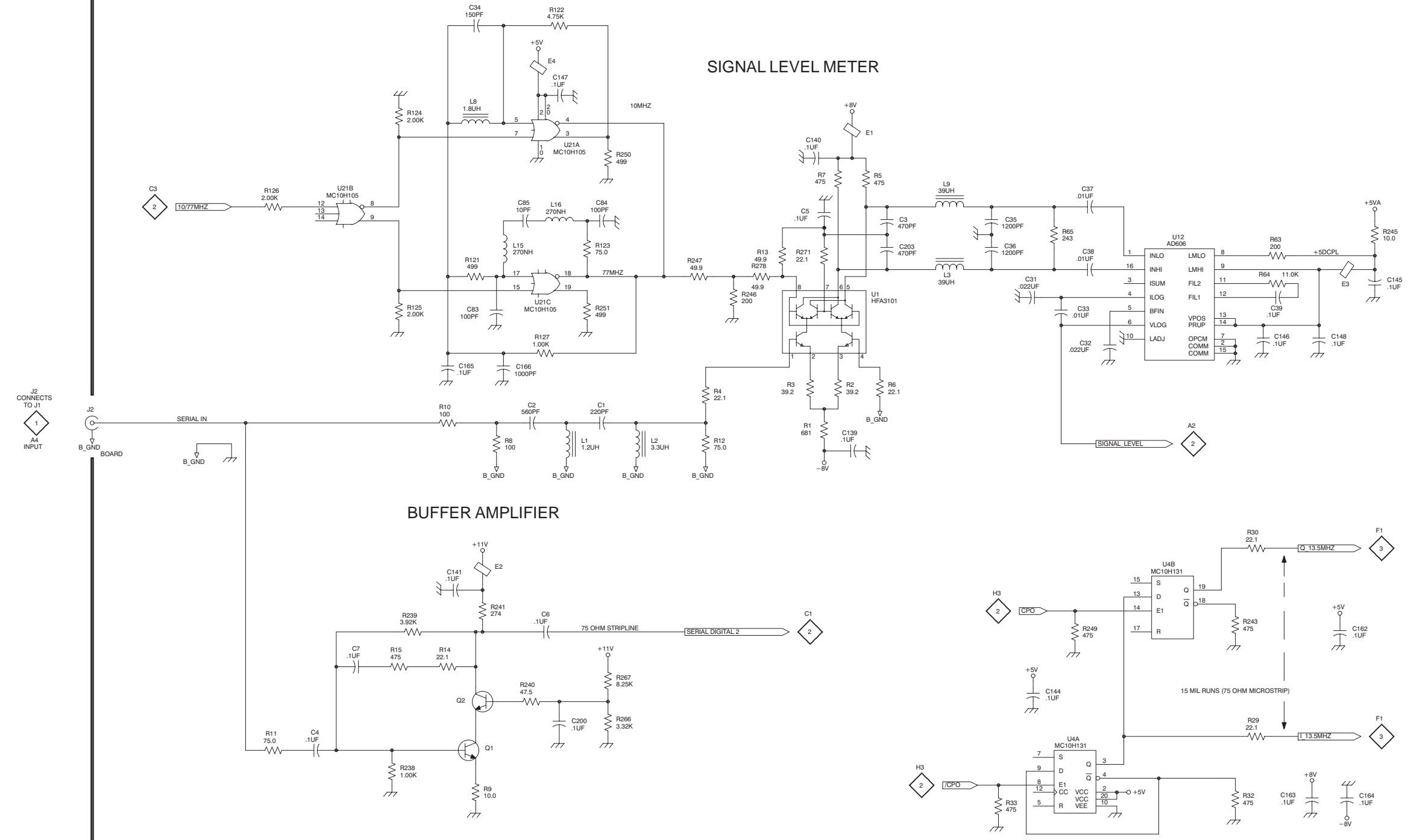
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PART OF A5 SERIAL BOARD



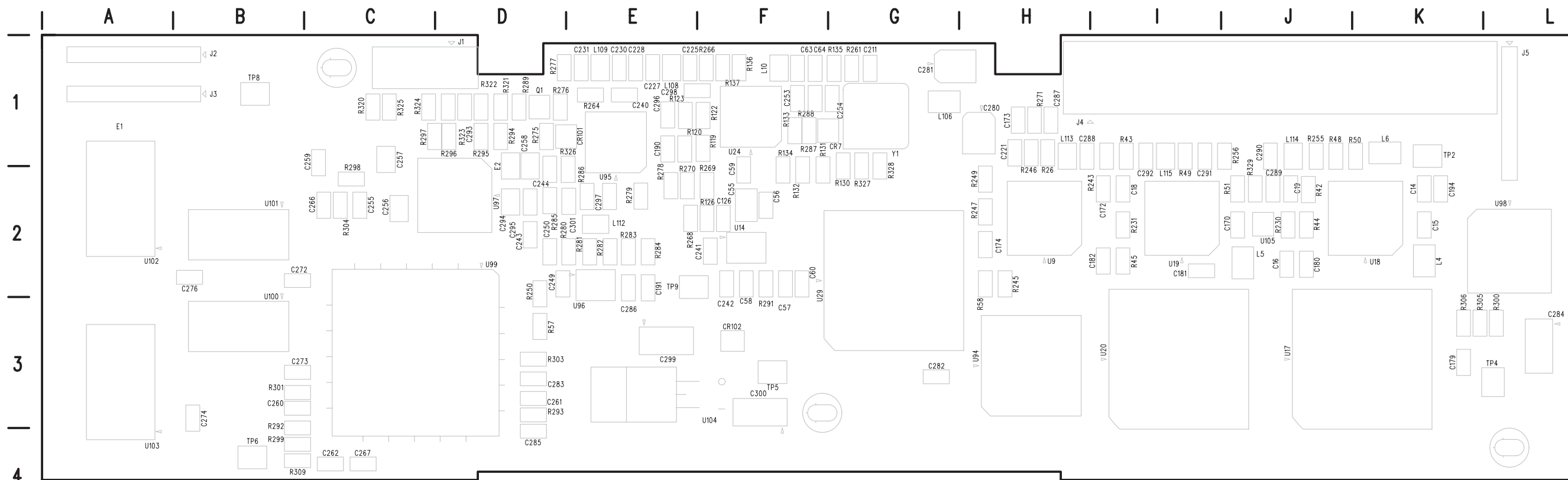
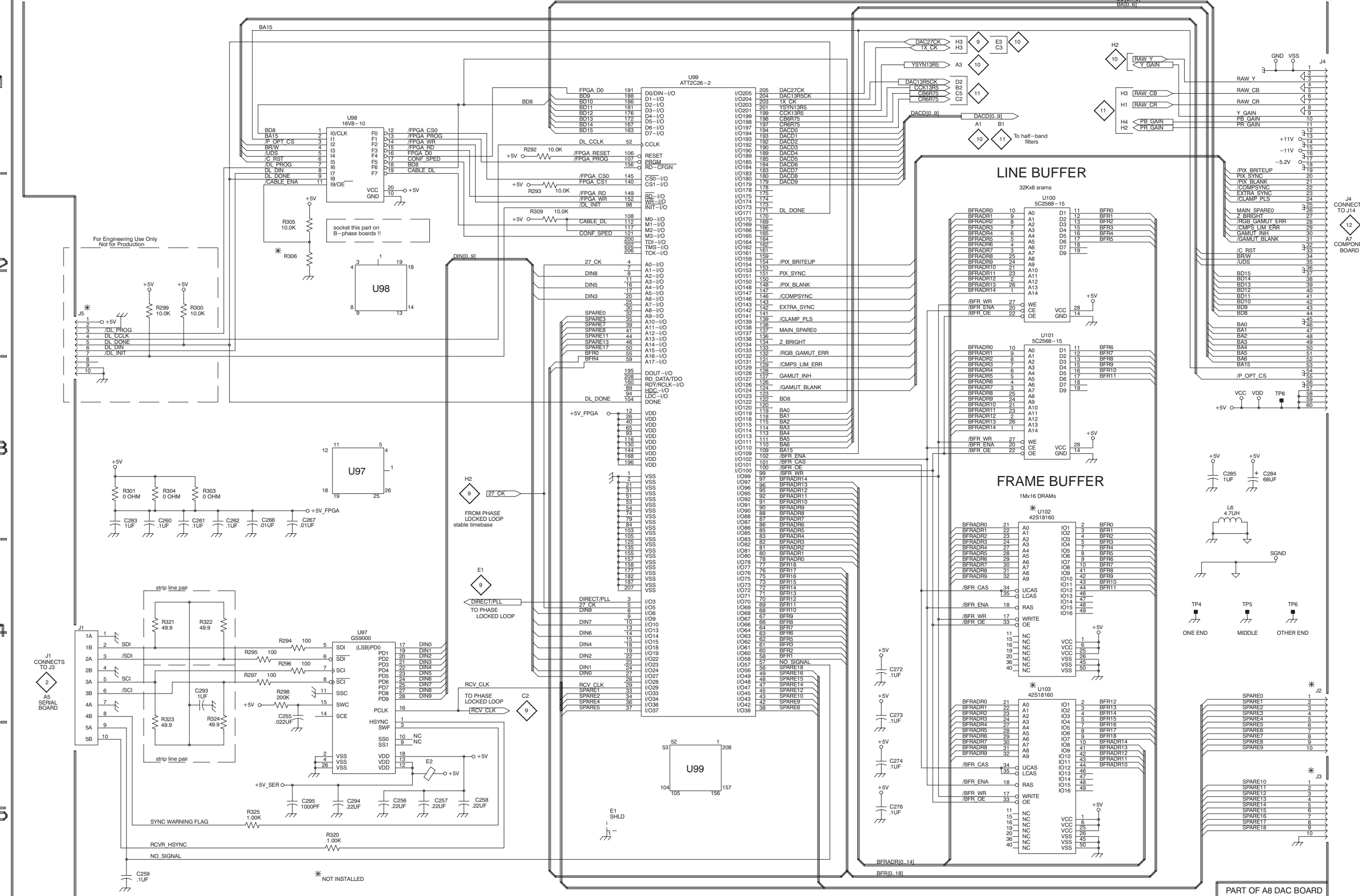


Figure 1-7: A8 DAC board

Table 1-9: A8 DAC board component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION		
C14	11	F2	K2	C244	9	D2	D2	C297	9	E3	E2	R50	11	F1	J1	R277	9	F2	D1	R327	9	A4	G2		
C15	11	E2	K2	C249	9	G2	D2	C298	9	B5	E1	R51	11	F3	J2	R278	9	E2	E2	R328	9	B4	G2		
C16	11	F4	J2	C250	9	E2	D2	C299	9	H4	E3	R57	9	G3	D3	R279	9	E2	E2	R329	11	F3	J2		
C18	11	F4	I2	C253	9	B4	F1	C300	9	G4	F3	R58	10	D3	H3	R280	9	E2	E2	TP2	10	H1	K1		
C19	11	F2	J2	C254	9	A4	G1	C301	9	E3	E2	R119	9	C3	F1	R281	9	G2	E2	TP4	8	G4	L3		
C55	9	B3	F2	C255	8	B4	C2	C329	11	F3		R120	9	C3	E1	R282	9	G2	E2	TP5	8	H4	F3		
C56	9	B3	F2	C256	8	C5	C2	CR7	9	B4	G1	R122	9	C3	F1	R283	9	G2	E2	TP6	8	H4	B4		
C57	9	B3	F3	C257	8	C5	C2	CR101	9	E2	E1	R123	9	C3	E1	R284	9	G2	E2	TP8	8	H3	B1		
C58	9	B3	F3	C258	8	C5	D1	CR102	9	G5	F3	R126	9	B3	F2	R285	9	D2	D2	TP9	9	B3	E2		
C59	9	B4	F2	C259	8	A5	C2	E1	8	D5	A1	R130	9	B3	G2	R286	9	D3	E2	U9	10	F2	H2		
C60	9	B4	F2	C260	8	A3	B3	E2	8	C5	D2	R131	9	B4	F1	R287	9	A4	F1	U14A	9	B3	F2		
C63	9	C4	F1	C261	8	A3	D3	J1	8	A4	D1	R132	9	C4	F2	R288	9	A4	F1	U14B	9	C4	F2		
C64	9	C4	F1	C262	8	B3	C4	J2	8	H4	B1	R133	9	B4	F1	R289	9	F1	D1	U17	11	C1	J3		
C126	9	B3	F2	C266	8	B3	C2	J3	8	H5	B1	R134	9	B4	F1	R291	9	B3	F3	U18	11	E1	K2		
C170	11	E4	J2	C267	8	B3	C4	J4	8	H1	H1	R135	9	C4	G1	R292	8	D1	B4	U19	11	E3	I2		
C172	10	F3	I2	C272	8	F4	B2	J5	8	A2	L1	R136	9	D4	F1	R293	8	D2	D3	U20	11	C3	I3		
C173	10	F3	H1	C273	8	F4	B3					R137	9	D4	F1	R294	8	B4	D1	U24A	9	B4	F1		
C174	11	E3	H2	C274	8	F5	B3	L4	11	E2	K2	R230	11	G1	J2	R295	8	B4	D1	U24B	9	D4	F1		
C179	11	E5	K3	C276	8	F5	B2	L5	11	E4	J2	R231	11	G4	I2	R296	8	B4	D1	U24C	9	D3	F1		
C180	11	E5	J2	C280	10	G3	H1	L6	8	H3	K1	R243	10	F2	I2	R297	8	B4	C1	U29	10	D2	F3		
C181	11	E5	I2	C281	10	E3	G1	L10	9	C4	F1	R245	10	E3	H2	R298	8	B4	C2	U94	10	C2	H3		
C182	11	F5	I2	C282	10	C5	G3	L106	10	F3	G1	R246	10	F2	H2	R299	8	A2	B4	U95A	9	D2	E2		
C190	10	D5	E1	C283	8	A3	D3	L108	9	E4	E1	R247	10	G2	H2	R300	8	A2	L3	U95B	9	F2	E2		
C191	10	D5	E2	C284	8	H3	L3	L109	9	E4	E1	R249	10	G2	H2	R301	8	A3	B3	U96	9	G2	E3		
C194	10	D5	K2	C285	8	G3	D4	L112	9	E2	E2	R250	9	G3	D3	R303	8	B3	D3	U97	8	B4	D2		
C211	9	C4	G1	C286	9	G2	E3	L113	10	H2	H1	R255	11	G1	J1	R304	8	A3	C2	U98	8	B1	L2		
C221	10	G2	H1	C287	10	G2	H1	L114	11	G1	J1	R256	11	G3	J1	R305	8	B2	K3	U99	8	D1	D2		
C225	9	D4	E1	C288	10	H2	H1	L115	11	G3	I2	R261	9	C4	G1	R306	8	B2	K3	U100	8	F2	B3		
C227	9	E4	E1	C289	11	G1	J2	Q1	9	F1	D1	R264	9	F4	E1	R309	8	D2	B4	U101	8	F2	B2		
C228	9	E4	E1	C290	11	G1	J1	R26	10	G2	H2	R266	9	D4	F1	R320	8	B5	C1	U102	8	F3	A2		
C230	9	E4	E1	C291	11	G3	I2	R42	11	F1	J2	R268	9	C3	E2	R321	8	A4	D1	U103	8	F4	A4		
C231	9	E4	E1	C292	11	G3	I2	R43	11	F4	I1	R269	9	C3	F2	R322	8	B4	D1	U104	9	G4	F3		
C240	9	F4	E1	C293	8	B4	D1	R44	11	F2	J2	R270	9	C3	E2	R323	8	A4	D1	U105	11	F2	J2		
C241	9	B3	F2	C294	8	B5	D2	R45	11	F4	I2	R271	10	G2	H1	R324	8	B4	C1	Y1	9	B4	G1		
C242	9	C3	F3	C295	8	B5	D2	R48	11	F1	J1	R275	9	E1	D1	R325	8	B5	C1						
C243	9	C2	D2	C296	9	E3	E1	R49	11	F3	I2	R276	9	F1	D1	R326	9	D2	D1						



A B C D E F G H

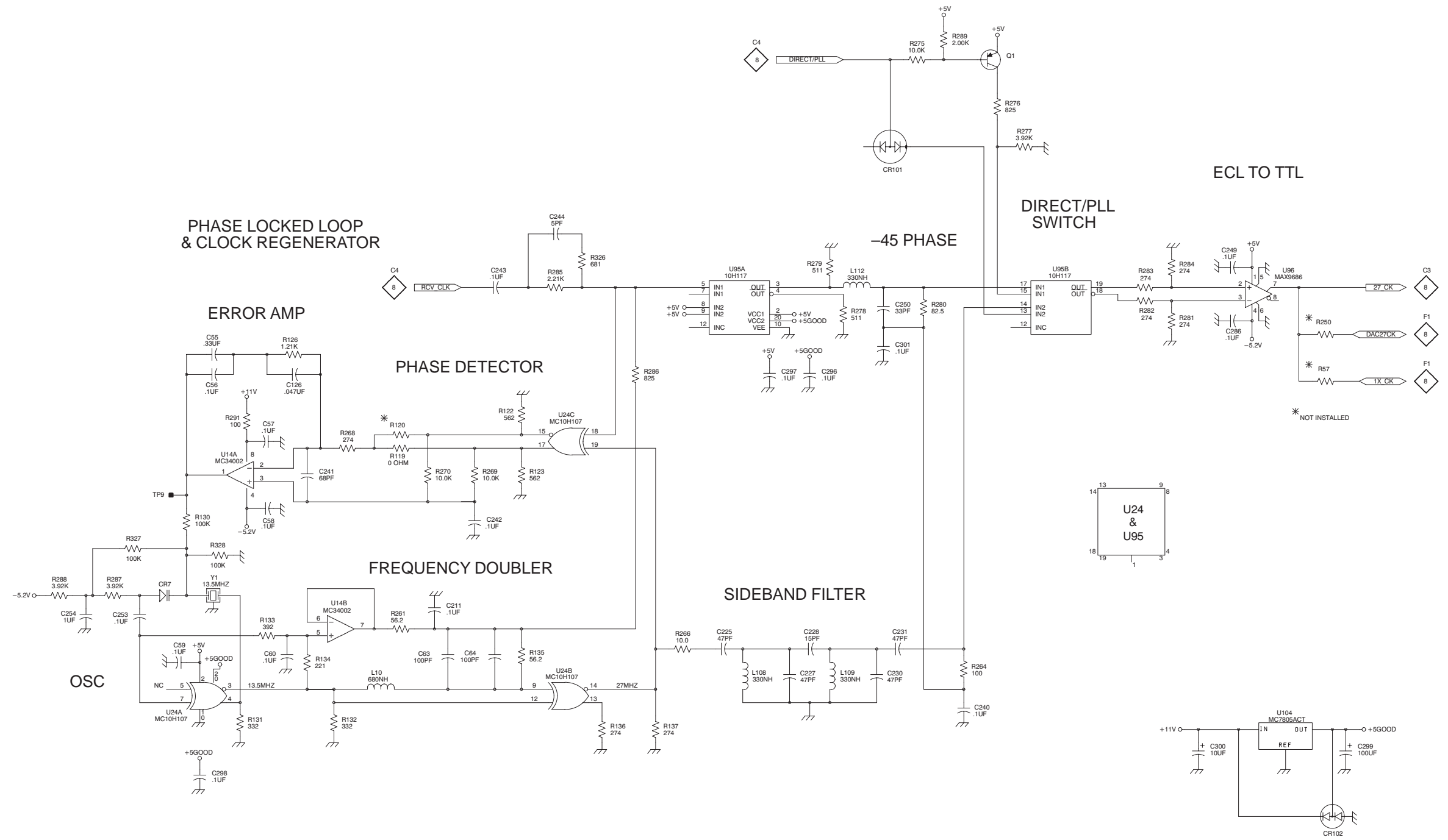
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PHASE LOCKED LOOP & CLOCK REGENERATOR

ERROR AMP

PHASE DETECTOR

FREQUENCY DOUBLER

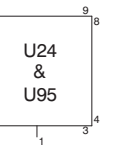
OSC

SIDEBAND FILTER

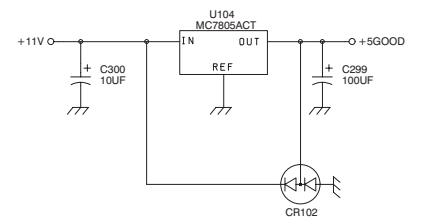
-45 PHASE

DIRECT/PLL SWITCH

ECL TO TTL



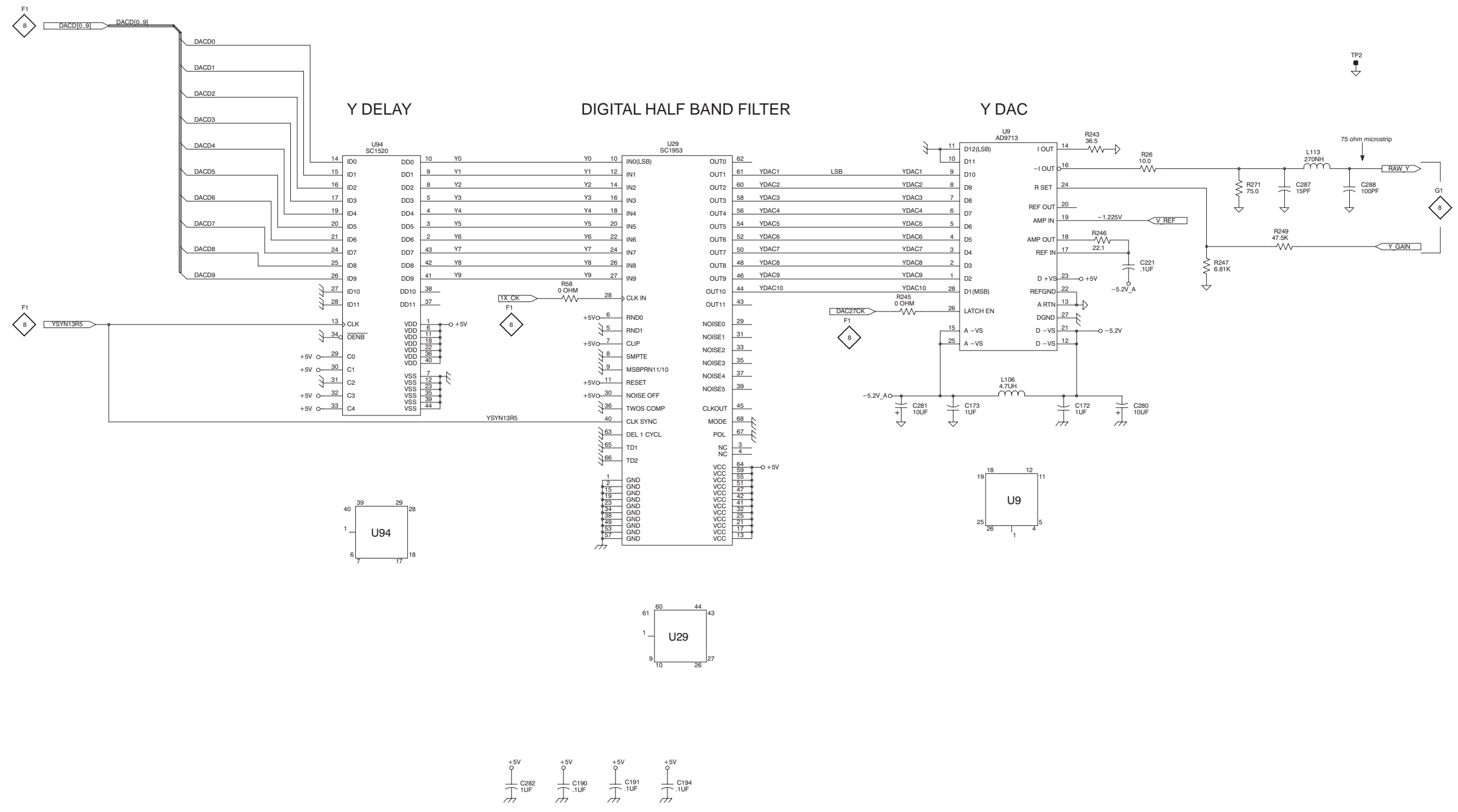
* NOT INSTALLED



PART OF A8 DAC BOARD

A B C D E F G H

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3
4
5



PART OF A8 DAC BOARD

A B C D E F G H

1

2

3

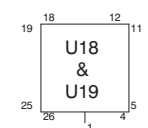
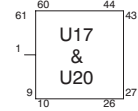
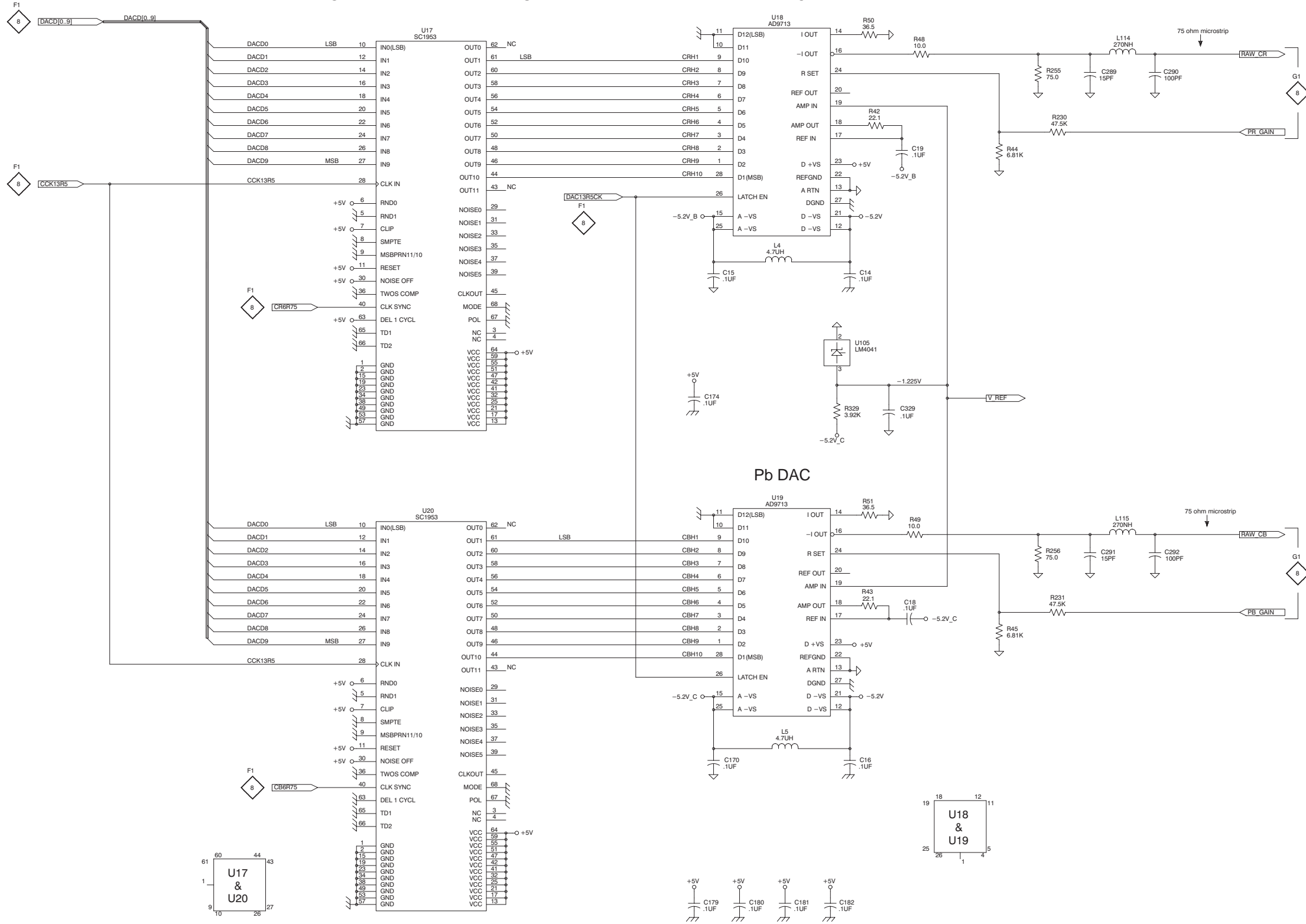
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DIGITAL HALF BAND FILTERS

Pr DAC

Pb DAC



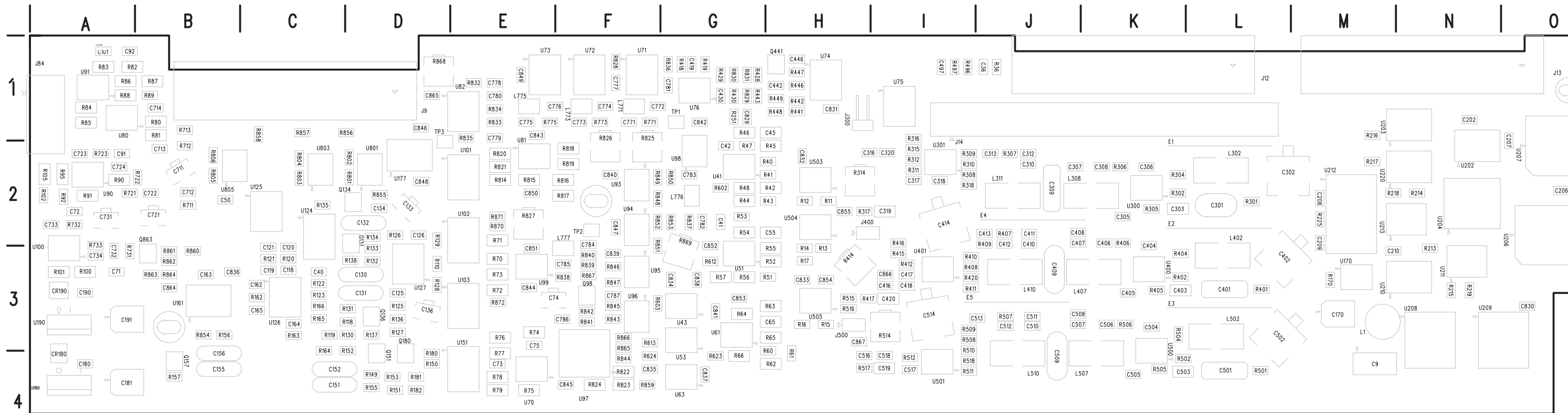
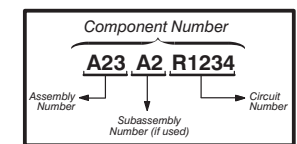


Figure 1-8: A7 Component board

Table 1-10: A7 Component board component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C9	13	D5	M4	C151	15	E5	C4	C313	13	E2	J2	C501	13	C5	L4	C734	14	F3	A3	C840	14	A5	F2
C36	12	G3	J1	C152	15	E5	C4	C316	13	F1	H2	C502	13	C5	L3	C771	14	E3	F1	C841	14	G1	G3
C40	15	C5	C3	C155	15	F5	B4	C317	13	F2	I2	C503	13	C4	K4	C772	14	E3	F1	C842	14	G1	G1
C41	14	C1	G2	C156	15	F5	B4	C318	13	F2	I2	C504	13	D5	K3	C773	14	E4	F1	C843	14	G1	E1
C42	14	C2	G2	C162	15	F4	C3	C319	13	E1	I2	C505	13	D4	K4	C774	14	E4	F1	C844	14	H1	E3
C45	14	C1	H1	C163	15	F4	B3	C320	13	F1	I2	C506	13	D5	K3	C775	14	E4	E1	C845	14	H1	F4
C50	15	C5	B2	C164	15	E4	C3	C401	13	C3	I3	C507	13	D4	J3	C776	14	E4	E1	C846	15	C5	D1
C55	14	C2	H2	C165	15	E4	C3	C402	13	C3	L3	C508	13	D4	J3	C777	14	E3	F1	C847	14	B5	F2
C65	14	C3	H3	C170	12	E3	M3	C403	13	C3	K3	C509	13	D5	J3	C778	14	F5	E1	C848	15	D5	D2
C71	14	G3	A3	C180	12	B5	A4	C404	13	D3	K3	C510	13	E4	J3	C779	14	F5	E1	C849	14	G1	E1
C72	14	G3	A2	C181	12	C5	A4	C405	13	D3	K3	C511	13	E4	J3	C780	14	F5	E1	C850	14	G1	E2
C73	15	A5	E4	C190	12	B5	A3	C406	13	D3	K2	C512	13	E5	J3	C781	14	E4	G1	C851	14	G1	E3
C74	15	A4	E3	C191	12	C5	A3	C407	13	D3	J2	C513	13	E5	I3	C782	14	C4	G2	C852	14	H1	G3
C75	15	A5	E3	C202	12	C3	N1	C408	13	D3	J2	C514	13	E5	I3	C783	14	C4	G2	C853	14	H1	G3
C91	14	H3	A2	C206	12	E4	O2	C409	13	D3	J3	C516	13	F4	H4	C784	14	C5	F3	C854	14	B3	H3
C92	14	H3	A1	C207	12	C5	O1	C410	13	E3	J3	C517	13	F5	I4	C785	14	D5	F3	C855	14	B2	H2
C101	14	H3	A1	C208	12	E3	M2	C411	13	E3	J2	C518	13	F5	I4	C786	14	B4	F3	C864	14	E1	B3
C118	15	E2	C3	C209	12	E3	M2	C412	13	E3	J3	C519	13	E4	I4	C787	14	B4	F3	C865	14	D4	D1
C119	15	E3	C3	C210	12	F2	M3	C413	13	E3	J2	C711	14	F1	B2	C829	14	H4	G1	C866	13	F3	I3
C120	15	F2	C3	C301	13	C2	L2	C414	13	E3	I2	C712	14	F1	B2	C830	12	E4	O3	C867	13	F4	H3
C121	15	F3	C3	C302	13	C2	L2	C416	13	F3	I3	C713	14	F1	B2	C831	14	H5	H1	CR180	12	B5	A4
C125	15	C1	D3	C303	13	C1	K2	C417	13	F3	I3	C714	14	F1	B1	C832	14	B2	H2	CR190	12	B5	A3
C126	15	D1	D2	C305	13	D1	K2	C418	13	F3	I3	C721	14	F2	B2	C833	14	B3	H3	E1	6	D2	K2
C130	15	E2	D3	C306	13	D2	K2	C419	14	F3	G1	C722	14	F2	B2	C834	14	E1	G3	E2	6	D2	K2
C131	15	E1	D3	C307	13	D1	J2	C420	13	E3	I3	C723	14	F2	A2	C835	14	E1	F4	E3	6	D2	K3
C132	15	F1	D2	C308	13	D2	K2	C430	14	H4	G1	C724	14	F2	A2	C836	15	C3	B3	E4	6	E2	J2
C133	15	F2	D2	C309	13	D2	J2	C442	14	G3	H1	C731	14	F3	A2	C837	14	E1	G4	E5	6	E2	I3
C134	15	F2	D2	C310	13	E1	J2	C446	14	G4	H1	C732	14	F3	A2	C838	14	E1	G3				
C136	15	D1	D3	C312	13	E2	J2	C497	15	H5	I1	C733	14	F2	A2	C839	14	A5	F3				

COMPONENT NUMBER EXAMPLE

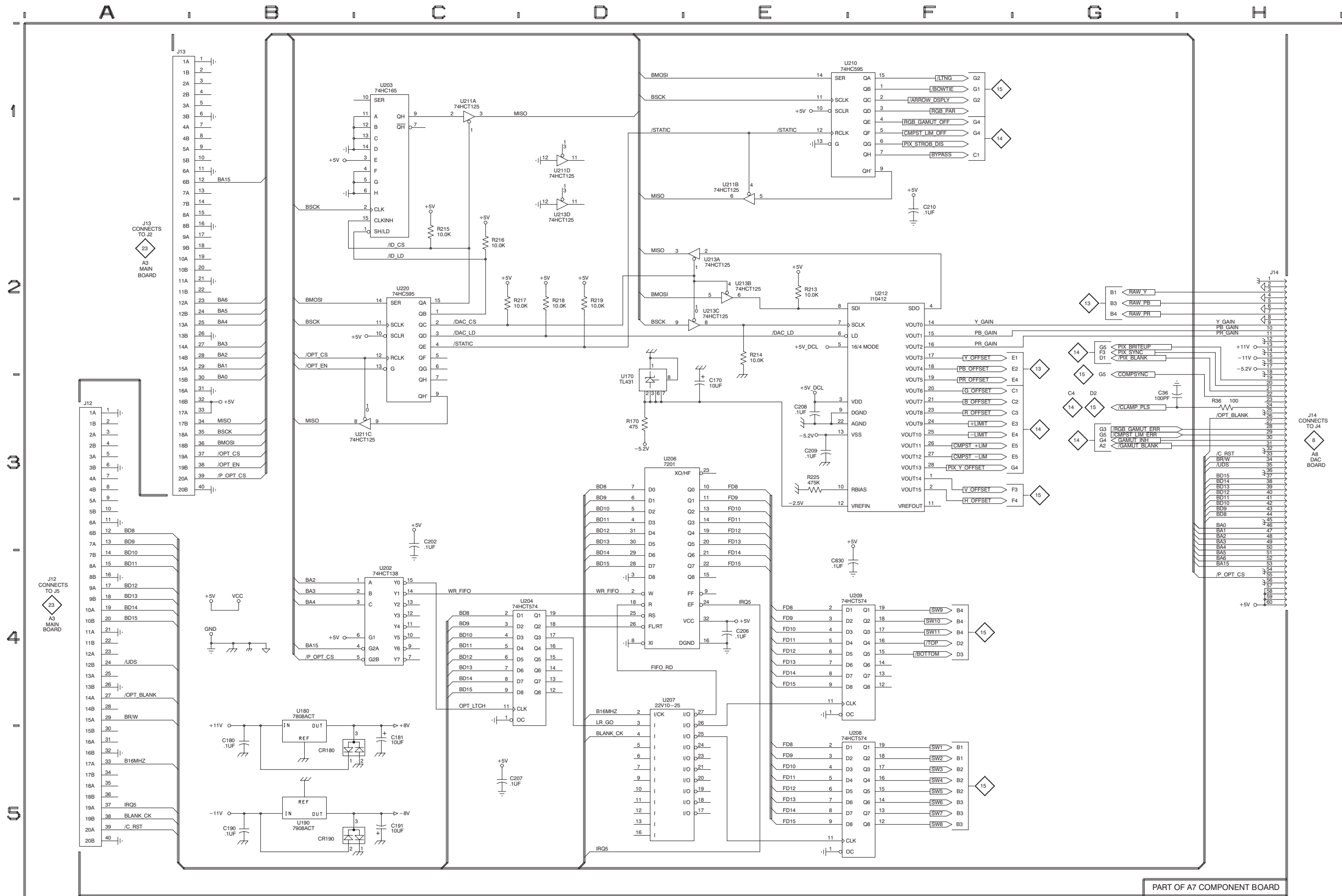


Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

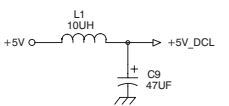
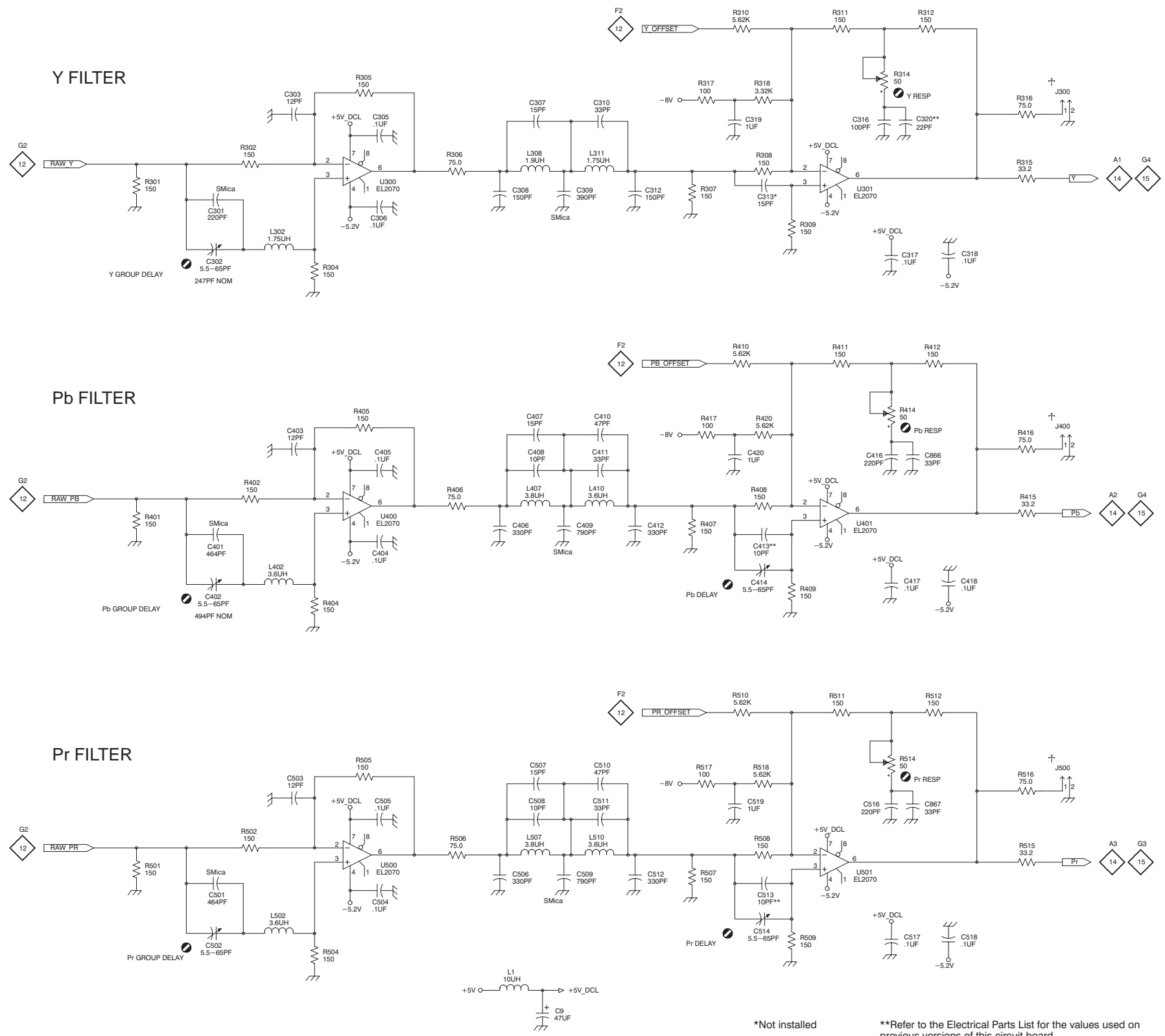
STATIC SENSITIVE DEVICES

Table 1-10: A7 Component board component locator (cont.)

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
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J12	12	A3	L1	R74	15	A5	E3	R217	12	C2	M2	R518	13	E4	I4	R855	15	F1	D2	U102D	15	C3	E2
J13	12	A1	O1	R75	15	A4	E4	R218	12	D2	M2	R602	14	D1	G2	R856	15	H3	C1	U103A	15	B1	E3
J14	12	H2	I2	R76	15	B4	E3	R219	12	D2	N3	R603	14	D1	F3	R857	15	H4	C1	U103B	15	C3	E3
J84	14	H1	A1	R77	15	B5	E4	R225	12	E3	M2	R612	14	D2	G3	R858	15	H4	C1	U103C	15	C4	E3
J300	13	G1	H1	R78	15	B5	E4	R251	14	G4	G1	R613	14	D2	F3	R859	14	C4	F4	U103D	15	B1	E3
J400	13	G3	H2	R79	15	B5	E4	R301	13	B2	L2	R623	14	D3	G4	R860	14	E1	B3	U124A	15	F3	C2
J500	13	G4	H3	R80	14	F1	B1	R302	13	C1	K2	R624	14	D3	F4	R861	14	E1	B3	U124B	15	E2	C2
L1	13	D5	M3	R81	14	G1	B1	R304	13	C2	K2	R711	14	E1	B2	R862	14	E2	B3	U124C	15	E3	C2
L302	13	C2	L2	R82	14	G1	A1	R305	13	D1	K2	R712	14	F1	B2	R863	14	E1	B3	U124D	15	F2	C2
L308	13	D1	J2	R83	14	G1	A1	R306	13	D1	K2	R713	14	F1	B1	R864	14	E1	B3	U125A	15	F2	C2
L311	13	E1	J2	R84	14	G1	A1	R307	13	E2	J2	R721	14	E2	A2	R865	14	D4	F3	U125B	15	F3	C2
L402	13	C3	L2	R85	14	H1	A1	R308	13	E1	I2	R722	14	F2	B2	R866	14	C4	F3	U125C	15	F3	C2
L407	13	D3	J3	R86	14	G1	A1	R309	13	F2	I2	R723	14	F2	A2	R867	14	C5	F3	U125D	15	F5	C2
L410	13	E3	J3	R87	14	G2	B1	R310	13	E1	I2	R731	14	E2	A3	R868	14	D4	D1	U126A	15	E3	C3
L502	13	C5	L3	R88	14	G2	A1	R311	13	F1	I2	R732	14	F2	A2	R869	14	D4	G3	U126B	15	E4	C3
L507	13	D4	J4	R89	14	G2	B1	R312	13	F1	I2	R733	14	F2	A3	R870	15	B3	E2	U126C	15	E4	C3
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L777	14	C5	F2	R101	14	G2	A3	R401	13	B3	L3	R803	15	G4	C2	TP3	14	E5	D1	U151D	15	C4	E3
Q98	14	B5	F3	R102	14	G2	A2	R402	13	C3	K3	R804	15	G4	C2					U161A	15	F4	B3
Q131	15	E1	D2	R105	14	H2	A2	R404	13	C3	K3	R805	15	G5	B2	U41	14	C1	G2	U161B	15	E4	B3
Q134	15	F1	C2	R110	15	C1	D3	R405	13	D3	K3	R806	15	G5	B2	U43	14	D1	G3	U161C	15	E4	B3
Q136	15	D1	D3	R118	15	E2	C3	R406	13	D3	K2	R814	14	D4	E2	U51	14	C2	G3	U161D	15	F4	B3
Q151	15	E5	D3	R119	15	E1	C3	R407	13	E3	J2	R815	14	E4	E2	U53	14	D2	G4	U170	12	D2	M3
Q157	15	F5	B4	R120	15	F2	C3	R408	13	E3	I3	R816	14	E5	F2	U61	14	C3	G3	U177A	15	G3	D2
Q180	15	D5	D3	R121	15	F3	C3	R409	13	F3	J3	R817	14	D5	F2	U63	14	D3	G4	U177B	15	G1	D2
Q441	14	H3	H1	R122	15	F2	C3	R410	13	E2	I3	R818	14	D5	F2	U70	15	A5	E4	U177C	15	G2	D2
Q863	14	E1	B2	R123	15	F3	C3	R411	13	F2	I3	R819	14	D5	F2	U71A	14	F3	F1	U177D	15	G2	D2
R11	14	A1	H2	R125	15	D1	D3	R412	13	F2	I3	R820	14	D5	E2	U71B	14	F3	F1	U180	12	B4	A4
R12	14	B1	H2	R126	15	D1	D2	R414	13	F3	H3	R821	14	D5	E2	U72A	14	F4	F1	U190	12	B5	A3
R13	14	A2	H3	R127	15	D1	D3	R415	13	G3	I3	R822	14	B4	F4	U72B	14	F4	F1	U202	12	C4	N2
R14	14	B2	H3	R128	15	C1	D3	R416	13	G3	I2	R823	14	B4	F4	U73A	14	F4	E1	U203	12	C1	M1
R15	14	A3	H3	R129	15	C1	D2	R417	13	E3	H3	R824	14	B4	F4	U73B	14	F4	E1	U204	12	C4	N2
R16	14	B3	H3	R130	15	E1	C3	R418	14	F3	G1	R825	14	A4	F1	U74A	14	G3	H1	U206	12	D3	O2
R17	14	B2	H3	R131	15	E1	C3	R419	14	F3	G1	R826	14	A5	F1	U74B	14	G5	H1	U207	12	D4	O2
R36	12	H3	J1	R132	15	E2	D3	R420	13	E3	I3	R827	14	D5	E2	U74C	14	H5	H1	U208	12	E5	N3
R40	14	C1	G2	R133	15	E1	D3	R428	14	H5	G1	R828	14	E3	F1	U74D	15	G2	H1	U209	12	E4	N3
R41	14	C1	G2	R134	15	F1	D2	R429	14	G4	G1	R829	14	H4	G1	U75A	14	G4	I1	U210	12	E1	M3
R42	14	C1	H2	R135	15	F1	C2	R430	14	H4	G1	R830	14	H5	G1	U75B	14	G4	I1	U211A	12	C1	N3
R43	14	B1	G2	R136	15	D1	D3	R441	14	G4	H1	R831	14	H5	G1	U75C	14	G5	I1	U211B	12	E1	N3
R44	14	C1	G2	R137	15	D1	D3	R442	14	G3	H1	R832	14	F5	E1	U76	14	H4	G1	U211C	12	C3	N3
R45	14	B1	H2	R138	15	E1	D3	R443	14	H4	G1	R833	14	F5	E1	U80	14	F1	A1	U211D	12	D1	N3
R46	14	C1	G1	R149	15	E5	D4	R446	14	G3	H1	R834	14	F5	E1	U81A	14	E5	E2	U212	12	E2	M2
R47	14	C1	G2	R150	15	C5	D4	R447	14	G3	H1	R835	14	F5	E1	U81B	14	E5	E2	U213A	12	E2	M2
R48	14	C1	G2	R151	15	D5	D4	R448	14	H4	H1	R836	14	E4	G1	U82A	14	F5	E1	U213B	12	E2	M2
R51	14	C2	G3	R152	15	E5	C4	R449	14	H3	H1	R837	14	C4	G2	U82B	14	F5	E1	U213C	12	E2	M2
R52	14	C2	H3	R153	15	E5	D4	R496	15	G5	I1	R838	14	C5	F3	U90	14	F2	A2	U213D	12	D1	M2
R53	14	B2	G2	R155	15	E5	D4	R497	15	H5	I1	R839	14	C5	F3	U91	14	G1	A1	U220	12	C2	M2
R54	14	C2	G2	R156	15	F5	B3	R501	13	B5	L4	R840	14	C5	F3	U93	14	A4	F2	U300	13	C1	K2
R55	14	C2	H3	R157	15	F5	B4	R502	13	C4	K4	R841	14	C5	F3	U94	14	A5	F2	U301	13	F1	I2
R56	14	C2	G3	R162	15	F4	C3	R504	13	C5	K3	R842	14	C5	F3	U95	14	A5	F3	U400	13	C3	K3
R57	14	C2	G3	R163	15	F4	C3	R505	13	D4	K4	R843	14	B4	F3	U96	14	B5	F3	U401	13	F3	I3
R60	14	C3	G4	R164	15	E5	C4	R506	13	D4	K3	R844	14	C5	F4	U97	14	B4	F4	U500	13	C4	K3
R61	14	C3	H3	R165	15	F4	C3	R507	13	E5	J3	R845	14	B4	F3	U98	14	D4	G2	U501	13	F4	I4
R62	14	C3	H4	R166	15	F4	C3	R508	13	E4	I3	R846	14	B4	F3	U99	14	D5	E3	U503	14	A1	H2
R63	14	C3	H3	R170	12	D3	M3	R509	13	F5	I3	R847	14	B4	F3	U100	14	F2	A3	U504	14	A2	H2
R64	14	C3	G3	R180	15	D5	D4	R510	13	E4	I4	R848	14	A4	F2	U101A	15	G1	E2	U505	14	A3	H3
R65	14	C3	H3	R181	15	D5	D4	R511	13	F4	I4	R849	14	A4	F2	U101B	15	C2	E2	U801	15	G3	D2
R66	14	C3	G4	R182	15	D5	D4	R512	13	F4	I4	R850	14	A4	G2	U101C	15	C3	E2	U803	15	G4	C2
R70	15	A1	E3	R213	12	E2	N3	R514	13	F4	I3	R851	14	A5	F2	U101D	15	C2	E2	U805	15	G5	B2
R71	15	A1	E2	R214	12	E2	N2	R515	13	G5	H3	R852	14	A5	F2	U102A	15	C3	E2				
R72	15	A3	E3	R215	12	C2	N3	R516	13	G4	H3	R853	14	A5	G2	U102B	15	B2	E2				



PART OF A7 COMPONENT BOARD

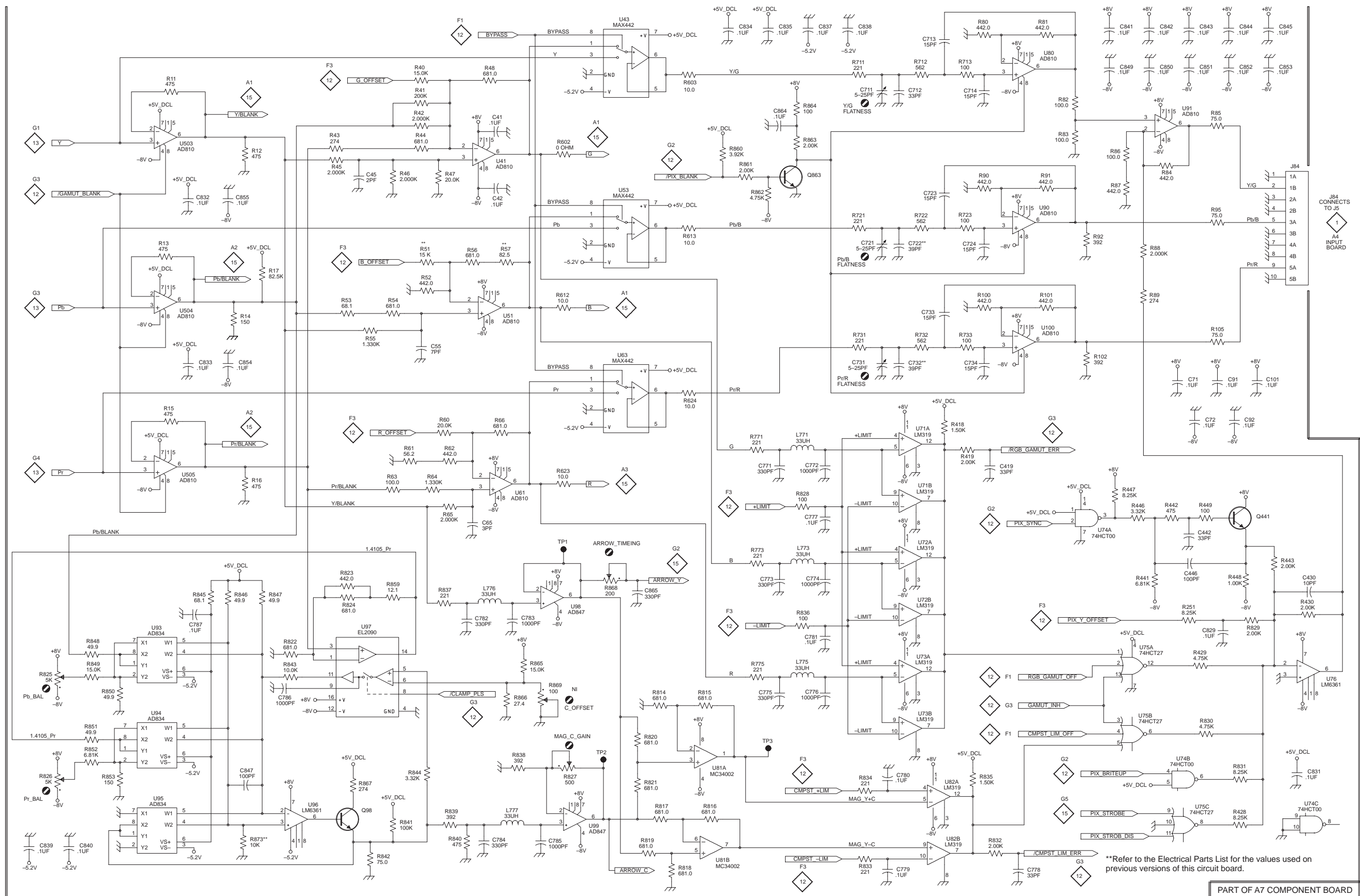


*Not installed **Refer to the Electrical Parts List for the values used on previous versions of this circuit board.

† 75 OHM COMPENSATED OUTPUTS, NOT USED.

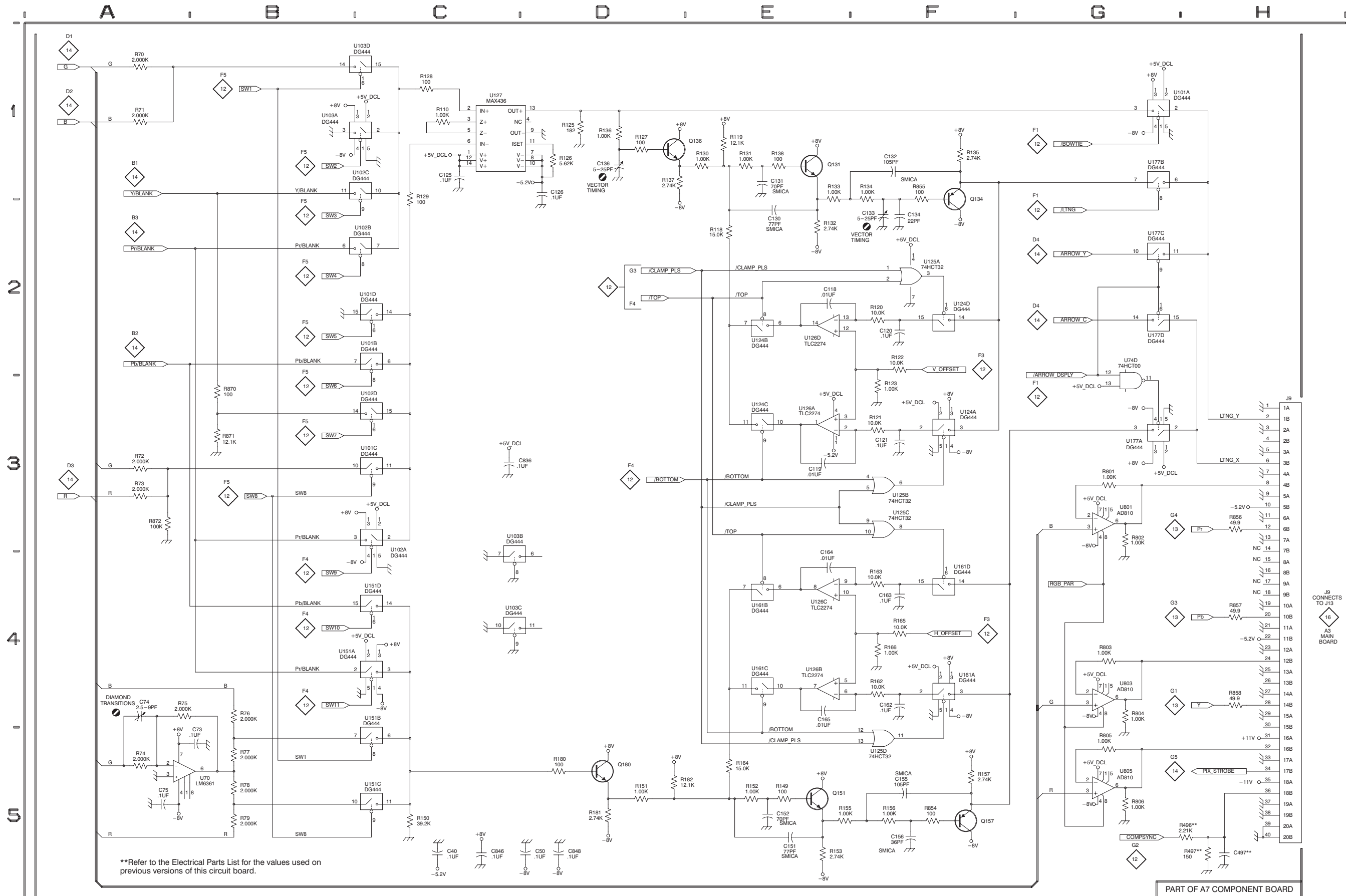
A B C D E F G H

1
2
3
4
5



**Refer to the Electrical Parts List for the values used on previous versions of this circuit board.

PART OF A7 COMPONENT BOARD

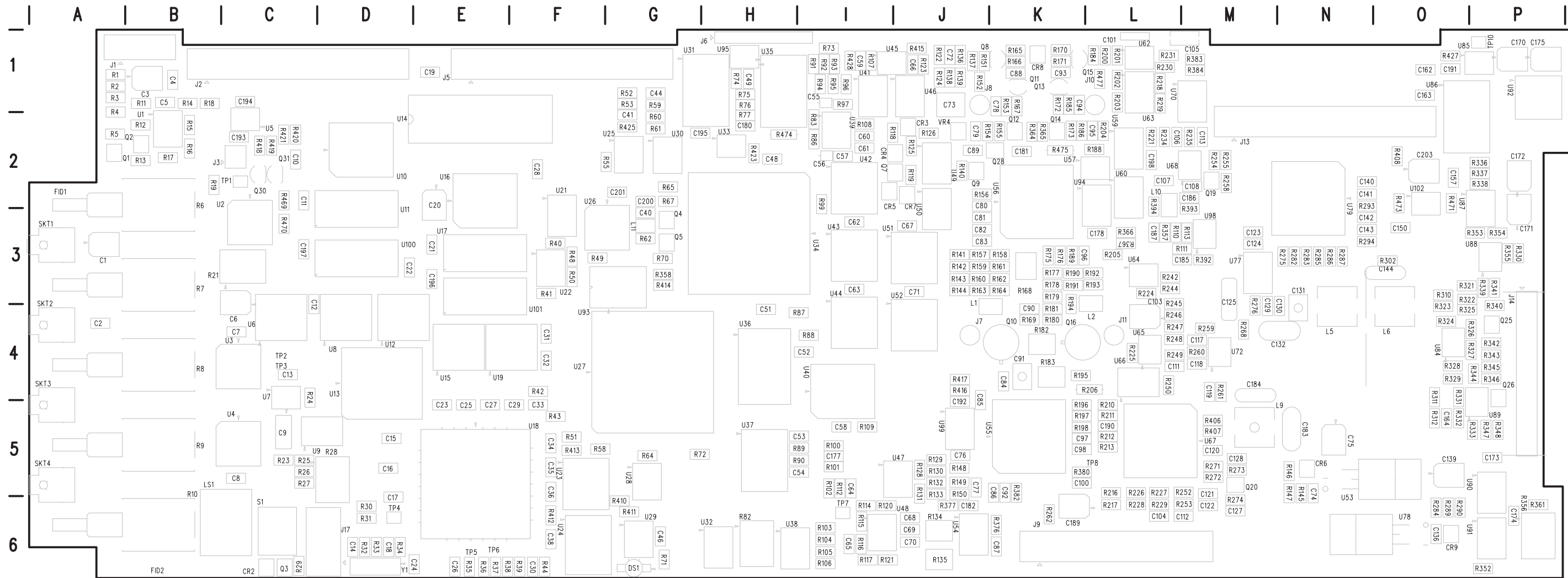


**Refer to the Electrical Parts List for the values used on previous versions of this circuit board.

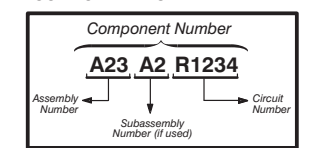
PART OF A7 COMPONENT BOARD

WFM 601M SERIAL COMPONENT MONITOR

LIGHTNING, VECTOR, & BOWTIE SWITCHING



COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.



Figure 1-9: A3 Main board (front)

Table 1-11: A3 Main board (front) component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C1	24	A5	A3	C72	18	F1	J1	C164	17	B5	O5	Q1	24	G2	A2	R48	19	C5	F3	R126	24	G3	J2
C2	24	A5	A4	C73	18	G1	J1	C170	23	C1	P1	Q2	24	G1	B2	R49	19	C5	F3	R128	18	D4	J5
C3	24	G1	B1	C74	24	D1	N5	C171	23	B1	P3	Q3	19	A1	C6	R50	19	C5	F3	R129	18	D4	J5
C4	24	E2	B1	C75	24	D1	N5	C172	23	C1	P2	Q4	20	C5	G3	R51	23	H3	F5	R130	18	D4	J5
C5	24	F2	B1	C76	17	F4	J5	C173	23	D5	P5	Q5	20	B5	G3	R52	22	F4	G1	R131	17	E5	J5
C6	19	B1	C4	C77	21	G3	J5	C174	23	E5	P6	Q7	24	G4	I2	R53	22	F5	G1	R132	17	D5	J5
C7	24	D5	C4	C78	18	F2	K1	C175	23	B1	P1	Q8	18	F1	J1	R55	22	E4	F2	R133	17	E5	J6
C8	24	D4	C5	C79	18	F2	J2	C177	17	B1	I5	Q9	18	G4	J2	R58	21	C4	F5	R134	21	G4	J6
C9	19	A4	C5	C80	18	E5	J3	C178	18	E4	L3	Q10	17	G2	K4	R59	22	E3	G1	R135	21	G3	J6
C10	19	H1	C2	C81	18	F4	J3	C180	22	E4	H2	Q11	18	F3	K1	R60	22	F2	G2	R136	18	F1	J1
C11	19	G1	C2	C82	18	E4	J3	C181	18	F3	K2	Q12	18	F3	K2	R61	22	F4	G2	R137	18	F1	J1
C12	19	D3	C3	C83	18	E4	J3	C182	21	D5	J6	Q13	18	G3	K1	R62	20	B5	G3	R138	18	F1	J1
C13	19	A4	C4	C84	17	G3	K4	C183	17	C3	N5	Q14	18	G3	K2	R64	19	G5	G5	R139	18	F1	J1
C14	19	C4	D6	C85	17	G3	J4	C184	17	C3	M4	Q15	18	G1	K1	R65	20	C5	G2	R140	18	G4	J2
C15	19	B3	D5	C86	17	G3	K5	C185	18	G5	L3	Q16	17	G2	K4	R67	20	B4	G2	R141	17	G1	J3
C16	19	B4	D5	C87	21	G3	K6	C186	18	G5	M2	Q19	16	C5	M2	R70	20	B5	G3	R142	17	F1	J3
C17	19	B4	D6	C88	18	G2	K1	C187	18	H5	L3	Q20	17	C1	M5	R71	24	F3	G6	R143	17	F2	J3
C18	19	C4	D6	C89	18	F4	J2	C189	17	E3	K6	Q25	23	C4	P4	R72	21	B4	G5	R144	17	G2	J3
C19	19	F2	E1	C90	17	G1	K4	C190	17	D4	L5	Q26	23	C4	P4	R73	24	H3	I1	R145	24	D1	N5
C20	19	H2	E2	C91	17	H3	K4	C191	22	E1	O1	Q28	18	F3	K2	R74	24	E4	H1	R146	24	D1	N5
C21	19	G3	E3	C92	17	F3	K5	C192	17	C2	J5	Q30	24	H5	C2	R75	24	E4	H1	R147	24	D1	N5
C22	19	E2	D3	C93	18	F2	K1	C193	24	F5	C2	Q31	24	H5	C2	R76	24	E4	H1	R148	18	D4	J5
C23	19	B4	E5	C94	18	G2	K1	C194	24	F5	C1	R1	24	G1	A1	R77	24	E4	H2	R149	17	D5	J5
C24	19	C4	D6	C95	18	G3	L2	C195	22	E5	G2	R2	24	G1	A1	R82	22	C2	H6	R150	17	D4	J6
C25	19	B4	E5	C96	18	F4	K3	C196	19	G4	E3	R3	24	G1	A1	R83	18	B1	I2	R151	18	F1	J1
C26	19	A3	E6	C97	17	G3	K5	C197	19	G2	C3	R4	24	H1	A2	R86	18	A2	I2	R152	18	G2	J1
C27	19	B4	E5	C98	17	F3	K5	C198	18	D4	L2	R5	24	G2	A2	R87	20	C4	H4	R153	18	F2	K1
C28	19	E3	F2	C100	17	E3	K5	C200	20	A5	G2	R6	24	A2	B3	R88	20	C2	I4	R154	18	F3	J2
C29	19	B4	F5	C101	18	C1	L1	C201	20	B5	G2	R7	24	A5	B3	R89	21	E4	H5	R155	18	F3	K2
C30	19	C4	F6	C103	16	G2	L4	C203	22	D4	O2	R8	24	A4	B4	R90	21	E4	H5	R156	18	D4	J2
C31	21	C4	F4	C104	17	F5	L6	CR2	19	A1	C6	R9	24	A4	B5	R91	22	G4	I1	R157	17	G1	J3
C32	21	C4	F4	C105	18	C2	M1	CR3	24	G3	J2	R10	24	A3	B6	R92	22	G4	I1	R158	17	G1	K3
C33	19	B4	F5	C106	20	E3	L2	CR4	24	F3	I2	R11	24	G1	B1	R93	22	G4	I1	R159	17	F1	J3
C34	19	B4	F5	C107	24	E1	L2	CR5	24	F4	I3	R12	24	G2	B2	R94	22	G3	I1	R160	17	F1	J3
C35	19	B4	F5	C108	20	E3	M2	CR6	24	D1	N5	R13	24	G2	B2	R95	22	G3	I1	R161	17	F1	K3
C36	19	C4	F5	C111	16	G2	L4	CR7	24	F4	J3	R14	24	E2	B1	R96	22	G3	I1	R162	17	F1	K3
C38	19	B5	F6	C112	17	E5	L6	CR8	18	F1	K1	R15	24	E2	B2	R97	22	G5	I1	R163	17	G1	J3
C40	20	B5	G3	C113	20	E3	M2	CR9	24	D2	O6	R16	24	F2	B2	R99	20	A4	I2	R164	17	G1	K3
C41	22	F5	G2	C117	16	F2	M4	DS1	19	A2	G6	R17	24	F2	B2	R100	17	B1	I5	R165	18	F1	K1
C44	22	F5	G1	C118	16	F2	M4	DS2	24	H1		R18	24	E2	B1	R101	17	B1	I5	R166	18	F2	K1
C46	22	B5	G6	C119	17	E5	M4	DS3	24	H1		R19	24	A5	B2	R102	18	D4	I5	R167	18	F2	K1
C48	22	F3	H2	C120	17	E3	M5	DS4	24	H2		R21	19	F3	B3	R103	21	F4	I6	R168	17	G2	K3
C49	22	E3	H1	C121	17	E3	M6	DS5	24	H2		R23	22	B5	C5	R104	21	F5	I6	R169	17	F2	K4
C51	20	C4	H4	C122	17	E4	M6	J1	24	H3	A1	R24	19	B4	C4	R105	21	F3	I6	R170	18	G1	K1
C52	20	C4	I4	C123	16	C3	M3	J2	23	F2	B1	R25	22	B5	C5	R106	21	F3	I6	R171	18	G2	K1
C53	21	E4	H5	C124	16	C2	M3	J3	24	H5	B2	R26	22	B5	C5	R107	22	G3	I1	R172	18	G2	K1
C54	21	E4	H5	C125	16	E2	M4	J5	23	G2	E1	R27	22	B5	C5	R108	22	G1	I2	R173	18	G3	K2
C55	18	B1	I1	C127	17	F5	M6	J6	24	H3	H1	R28	22	A4	D5	R109	20	C2	I5	R175	17	G1	K3
C56	18	B2	I2	C128	17	C1	M5	J7	17	H2	J4	R29	19	A1	C6	R110	18	F5	L3	R176	17	G1	K3
C57	20	H1	I2	C129	16	E2	M3	J8	18	H2	J1	R30	19	B2	D6	R111	18	G5	L3	R177	17	G1	K3
C58	20	E2	I5	C130	16	E2	M3	J9	20	H2	K6	R31	19	B3	D6	R112	18	D5	I5	R178	17	G1	K3
C59	22	G3	I1	C131	16	E2	N3	J10	18	H2	L1	R32	19	C4	D6	R113	18	G5	M3	R179	17	G1	K3
C60	22	G1	I2	C132	16	D2	M4	J11	17	H2	L4	R33	19	C4	D6	R114	21	F5	I6	R180	17	G2	K4
C61	22	G4	I2	C136	24	D2	O6	J13	16	A2	M2	R34	19	C3	D6	R115	21	F4	I6	R181	17	G1	K4
C62	20	H1	I3	C139	24	D2	O5	J14	23	B2	P3	R35	19	A3	E6	R116	21	F3	I6	R182	17	G3	K4
C63	20	F5	I3	C140	16	C3	N2	J17	19	A4	D6	R36	19	A2	E6	R117	21	F3	I6	R183	17	G3	K4
C64	18	D5	I5	C141	16	C3	N2	L1	17	G2	J4	R37	19	E5	E6	R118	24	F3	I2	R184	18	G1	L1
C65	21	F4	I6	C142	16	D3	N3	L2	17	G2	L4	R38	19	E5	E6	R119	24	G4	J2	R185	18	G2	K1
C66	22	G2	J1	C143	16	C3	N3	L5	16	D2	N4	R39	19	A2	F6	R120	21	G5	I6	R186	18	F3	K2
C67	20	F5	J3	C144	16	D2	O3	L6	16	D2	O4	R40	19	C5	F3	R121	21	G3	I6	R188	18	G4	L2
C68	21	H4	J6	C150	17	F5	O3	L9	17	C3	M5	R41	19	C5	F3	R122	18	G1	J1	R189	17	G1	K3
C69	21	F5	J6	C157	17	E5	O2	L10	18	G5	L2	R42	19	B1	F4	R123	22	G2	J1	R190	17	G1	K3
C70	21	H3	J6	C162	22	F2	O1	L11	20	A5	G3	R43	23	H3	F5	R124	18	F1	J1				
C71	20	F5	J3	C163	22	F2	O1	LS1	19	A1	B5	R44	19	A1	F6	R125	24	F3	J2				

Table 1-11: A3 Main Board (front) component locator (cont.)

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
R191	17	G1	K3	R272	17	C1	M5	R364	18	F3	K2	U1D	24	E2	B2	U34	20	B1	I3	U62A	18	C1	L1
R192	17	G2	L3	R273	17	D1	M5	R365	18	G3	K2	U2	19	E4	B2	U35	22	F3	H1	U62B	18	C2	L1
R193	17	G2	L3	R274	17	C1	M6	R366	18	F3	L3	U3	24	C4	C4	U36	21	D2	H4	U63A	18	D1	L2
R194	17	G1	K3	R275	16	C3	N3	R367	18	F3	L3	U4	24	C3	C5	U37	21	E3	H5	U63B	18	C1	L2
R195	17	G3	K4	R276	16	E2	M3	R376	21	G3	K6	U5A	24	G5	C2	U38	22	B1	H6	U63C	18	C2	L2
R196	17	H3	K5	R282	16	B3	N3	R377	21	D4	J6	U6	19	D4	C4	U39A	18	B1	I2	U63D	18	D2	L2
R197	17	H3	K5	R283	16	C4	N3	R380	17	E3	K5	U7	19	A4	C4	U39B	18	B2	I2	U64A	17	F1	L3
R198	17	H3	K5	R284	24	D2	O6	R382	17	F4	K5	U8	19	D3	D4	U39C	22	G5	I2	U64B	17	F2	L3
R200	18	G1	L1	R285	16	B3	N3	R383	18	C2	M1	U9	22	B4	C5	U39D	22	G1	I2	U65	16	G2	L4
R201	18	C1	L1	R286	16	C3	N3	R384	18	B2	M1	U10	19	H1	D2	U40	20	E1	I4	U66A	17	C3	L4
R202	18	C2	L1	R287	16	B3	N3	R392	18	G5	M3	U11	19	G1	D3	U41A	22	H3	I1	U66B	17	C4	L4
R203	18	G4	L1	R289	24	D2	O6	R393	18	G5	M3	U12	19	D3	D4	U41B	22	G5	I1	U66C	17	C4	L4
R204	18	G4	L2	R290	24	D2	O6	R394	18	G5	L2	U13	19	D1	D4	U41C	22	H5	I1	U66D	17	C3	L4
R205	17	F2	L3	R293	16	D3	N3	R406	17	D3	M5	U14	19	F1	D2	U42	20	F1	I2	U67	17	D3	M5
R206	17	G3	K4	R294	16	C2	N3	R407	17	D2	M5	U15	19	E1	E4	U43	20	F2	I3	U68	20	E3	L2
R210	17	H3	L5	R302	16	D2	O3	R408	16	A3	O2	U16	19	H2	E2	U44	20	F3	I3	U70A	16	C4	L1
R211	17	C4	L5	R310	23	C4	O3	R410	19	H5	G6	U17	19	G3	E3	U45A	22	G3	I1	U70B	18	D3	L1
R212	17	C4	L5	R311	17	B4	O4	R411	19	H5	G6	U18	19	B1	F5	U45B	22	G2	I1	U70C	18	D3	L1
R213	17	D4	L5	R312	17	B4	O5	R412	19	C4	F6	U19	19	E2	E4	U46A	22	G4	J1	U70D	16	C5	L1
R216	17	D4	L5	R321	18	B4	O3	R413	19	H5	F5	U21	19	E3	F2	U46B	22	H3	J1	U72A	16	G2	M4
R217	17	D4	L6	R322	23	C4	O3	R414	20	C3	G3	U22A	19	C5	F3	U46C	22	G3	J1	U72B	16	F2	M4
R218	18	D2	L1	R323	18	B4	O4	R415	22	H2	J1	U22B	19	D2	F3	U47A	17	B1	J5	U77	22	C3	M3
R219	18	D2	L1	R324	18	B4	O4	R416	17	C2	J4	U22C	19	C5	F3	U47B	18	D5	J5	U78	24	D2	O6
R221	18	D4	L2	R325	23	C4	O4	R417	17	C2	J4	U22D	19	C5	F3	U47C	17	E5	J5	U79	16	C2	N2
R224	17	F2	L3	R326	18	B4	O4	R418	24	G5	C2	U23	19	G5	F5	U47D	18	D5	J5	U84A	17	B3	O4
R225	16	G2	L4	R327	17	A3	O4	R419	24	G5	C2	U24	22	A1	F6	U48A	21	F4	J6	U84B	18	B4	O4
R226	17	D4	L5	R328	17	B2	O4	R420	24	G5	C2	U25A	22	E4	F5	U48B	21	F3	J6	U85	22	E2	O1
R227	17	D4	L5	R329	17	B3	O4	R421	24	G5	C2	U25B	22	C4	F2	U48C	21	H3	J6	U86	22	F1	O1
R228	17	D4	L6	R330	17	B4	P3	R423	22	E4	H2	U25C	22	E4	F2	U48D	21	H5	J6	U87A	22	E1	O2
R229	17	D4	L6	R331	17	B5	O4	R425	22	E5	G2	U25D	22	E4	F2	U49A	24	E3	J2	U87B	22	E1	O2
R230	18	B2	L1	R332	17	B5	O5	R427	22	E2	O1	U26A	20	A5	F2	U49B	24	E4	J2	U87C	22	E1	O2
R231	18	C1	L1	R333	17	B5	P5	R428	22	G3	I1	U26B	20	A5	F2	U49C	24	E4	J2	U87D	23	E3	O2
R234	20	E3	L2	R336	22	F2	P2	R469	19	F4	C2	U26C	20	C5	F2	U49D	24	E5	J2	U88A	18	B5	O3
R235	20	E3	M2	R337	22	E1	P2	R470	19	F5	C3	U26D	20	B5	F2	U50A	22	H2	J2	U88B	17	B4	O3
R242	17	F2	L3	R338	22	F1	P2	R471	22	D4	O2	U27	21	B1	F4	U50B	22	G1	J2	U89	17	B5	P5
R244	17	F2	L3	R339	18	B5	P3	R473	22	C5	O2	U28A	19	G5	G5	U50C	22	H1	J2	U90	23	D3	O5
R245	17	F2	L4	R340	18	B5	P4	R474	18	A2	H2	U28B	19	F2	G5	U51	20	F3	I3	U91	23	D2	O6
R246	17	F2	L4	R341	18	B5	P3	R475	18	G4	K2	U28C	19	H3	G5	U52	20	F4	I3	U92	23	C1	P1
R247	16	H2	L4	R342	18	B4	P4	R477	18	G2	L1	U28D	19	H4	G5	U53	24	D1	N6	U93	20	A3	F4
R248	16	G2	L4	R343	18	B4	P4	R480	21	D4	F4	U28E	19	H4	G5	U54A	21	E5	J6	U94A	18	E2	K2
R249	16	G2	L4	R344	17	B3	P4	S1	22	A5	C6	U28F	19	D2	G5	U54B	21	D4	J6	U94B	22	H4	K2
R250	17	D3	L4	R345	17	A3	P4	TP1	19	E4	C2	U29A	19	A4	G6	U54C	21	G5	J6	U94C	18	E2	K2
R252	17	E4	L5	R346	17	A3	P4	TP2	19	A3	C4	U29B	19	A2	G6	U54D	21	G3	J6	U95	22	E3	H1
R253	17	E3	L6	R347	17	B5	P5	TP3	19	A3	C4	U29C	24	F3	G6	U55	17	F3	J5	U98	18	G5	M3
R254	16	C5	M2	R348	23	C4	P5	TP4	19	B1	D6	U29D	22	C3	G6	U56	18	F4	K2	U99A	17	D2	J5
R255	16	C5	M2	R352	23	D3	P6	TP5	19	A3	E6	U30A	22	E2	G2	U57A	17	E2	K2	U100	19	G2	D3
R258	16	C4	M2	R353	17	B4	O3	TP6	19	A3	E6	U30B	22	E2	G2	U57B	17	E2	K2	U101	19	G3	F4
R259	16	F2	M4	R354	17	B4	P3	TP7	21	G4	I6	U30C	22	C1	G2	U59A	18	C5	L2	U102	22	C4	O2
R260	16	F2	M4	R355	17	B4	P3	TP8	17	F3	L5	U30D	22	E3	G2	U59B	18	D3	L2	VR4	18	F2	J2
R261	16	D1	M4	R356	23	D1	P6	TP10	22	E2	P1	U31	22	F4	G1	U59C	18	B2	L2	Y1	19	C4	D6
R262	20	H2	K6	R357	18	G5	L3	U1A	24	F1	B2	U32	22	B2	H6	U59D	18	D4	L2				
R268	16	E2	M4	R358	20	A3	G3	U1B	24	F2	B2	U33	22	E5	H2	U60	18	C3	L2				
R271	17	C1	M5	R361	20	C3	P6	U1C	24	F2	B2												

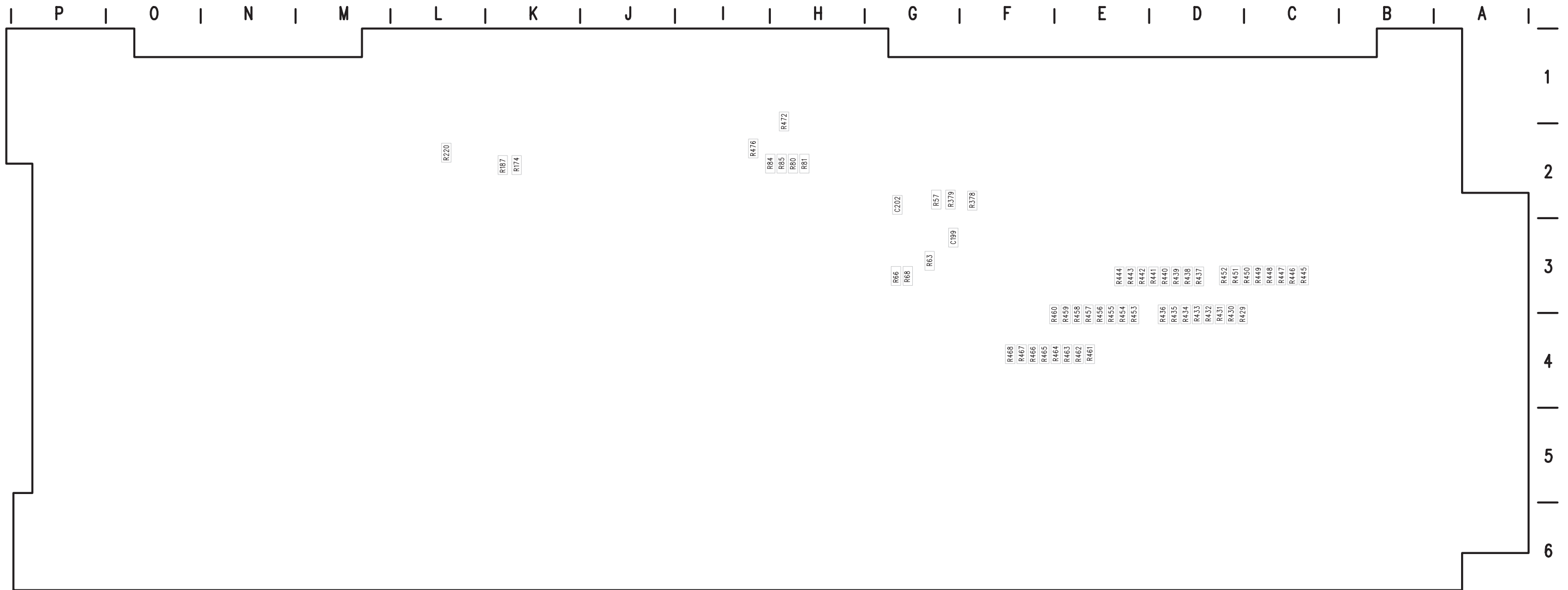
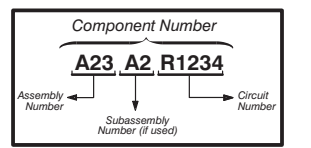


Figure 1-10: A3 Main board (back)

Table 1-12: A3 Main board (back) component locator

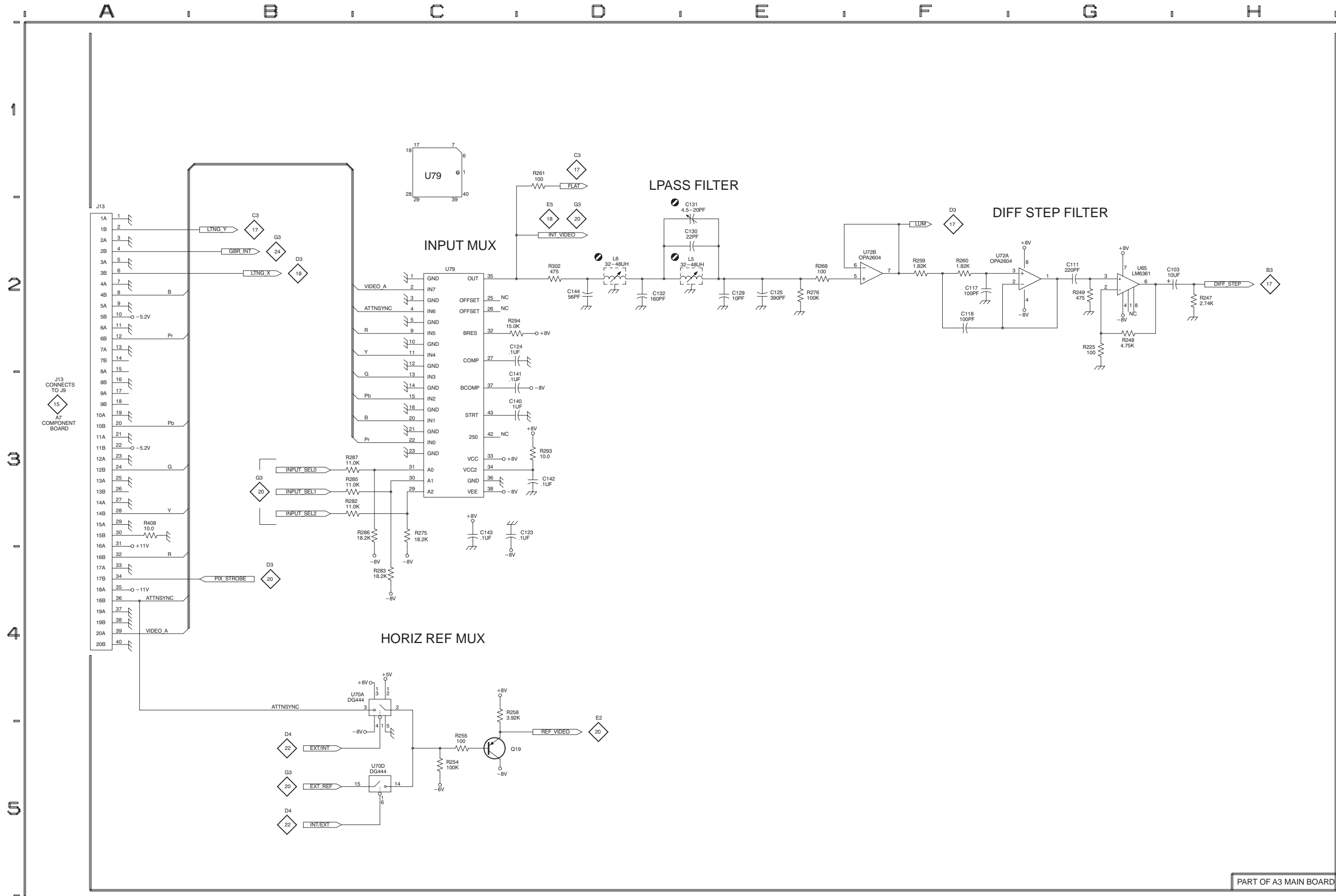
CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C1	24	A5	A3	R84	22	G2	I2	R432	19	D3	D4	R442	19	D4	E3	R452	19	D5	D3	R462	19	E2	E4
C199	20	A4	G3	R85	22	G3	H2	R433	19	D3	D4	R443	19	D4	E3	R453	19	E1	E4	R463	19	E2	E4
C202	20	C4	G2	R174	18	G4	K2	R434	19	D3	D4	R444	19	D4	E3	R454	19	E1	E4	R464	19	E2	F4
				R187	18	G4	K2	R435	19	D3	D4	R445	19	D4	C3	R455	19	E1	E4	R465	19	E2	F4
R57	20	B4	G2	R220	18	D4	L2	R436	19	D3	D4	R446	19	D4	C3	R456	19	E1	E4	R466	19	E2	F4
R63	20	B5	G3	R378	20	A5	F2	R437	19	D3	D3	R447	19	D4	C3	R457	19	E1	E4	R467	19	E2	F4
R66	20	A5	G3	R379	20	B5	G2	R438	19	D3	D3	R448	19	D4	C3	R458	19	E1	E4	R468	19	E2	F4
R68	20	A5	G3	R429	19	D3	D4	R439	19	D3	D3	R449	19	D4	C3	R459	19	E1	E4	R472	22	D4	H2
R80	22	G3	H2	R430	19	D3	D4	R440	19	D4	D3	R450	19	D4	C3	R460	19	E1	F4	R476	18	A2	I2
R81	22	G3	H2	R431	19	D3	D4	R441	19	D4	D3	R451	19	D4	D3	R461	19	E2	E4				

COMPONENT NUMBER EXAMPLE

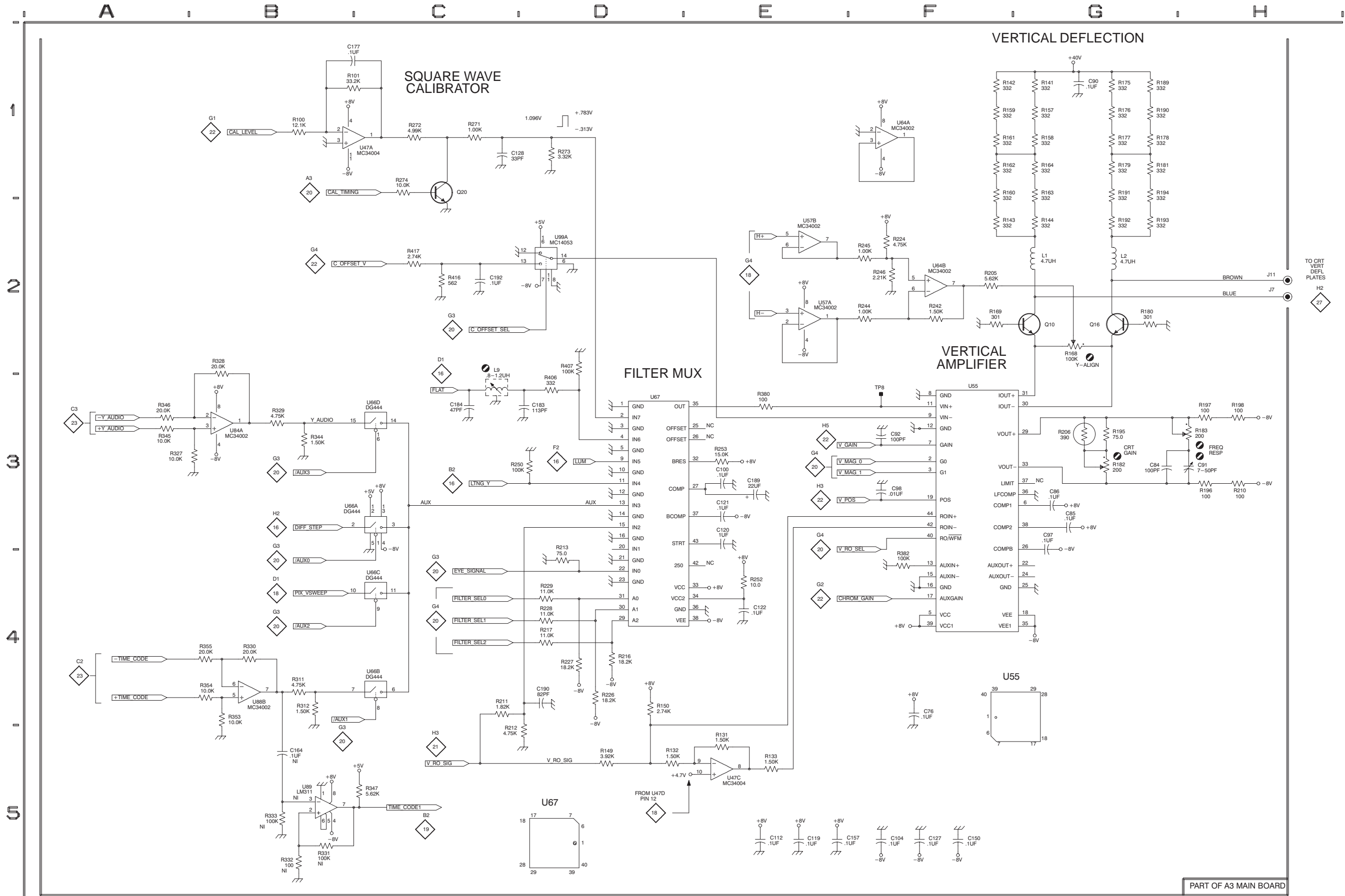


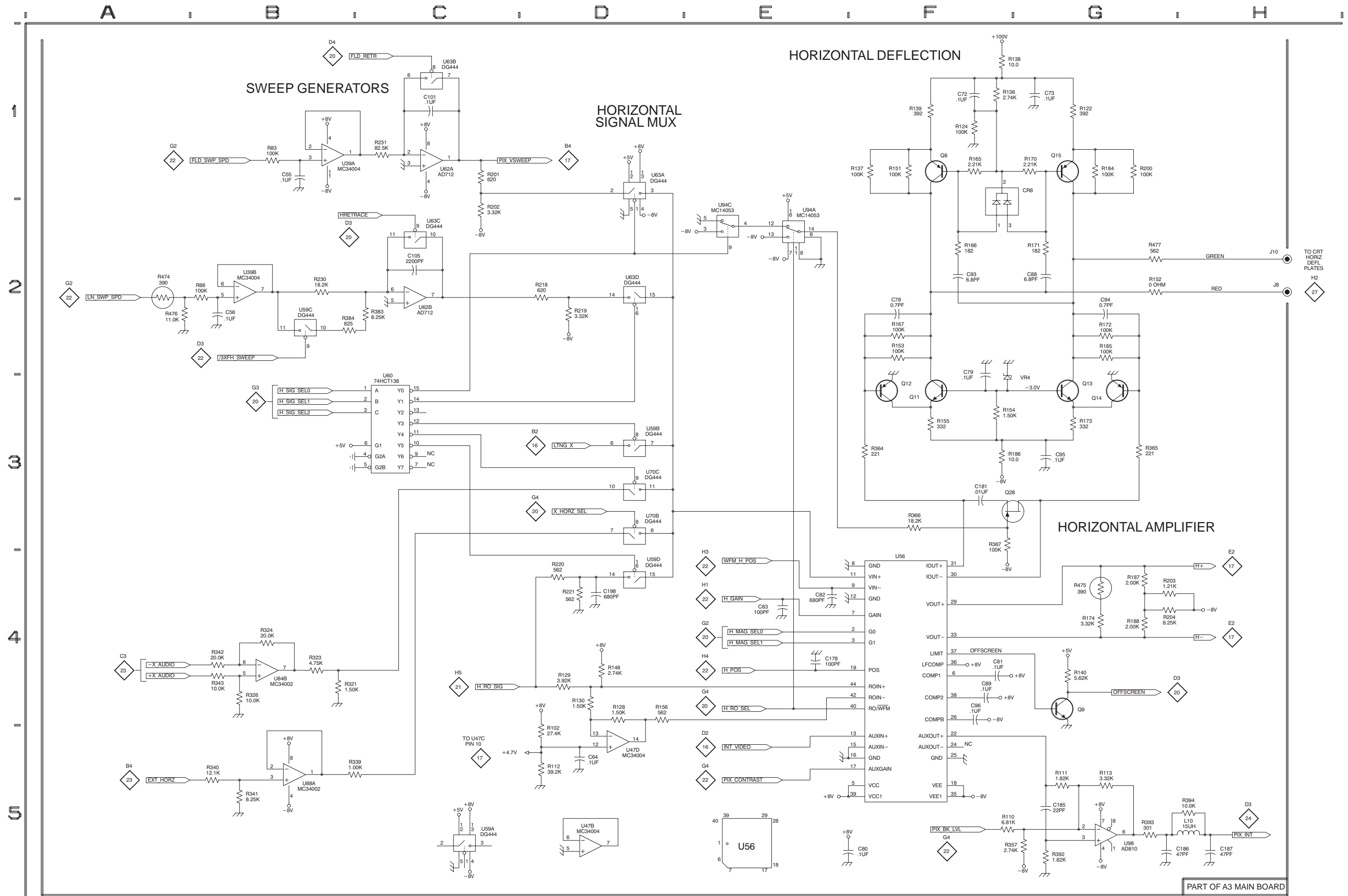
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

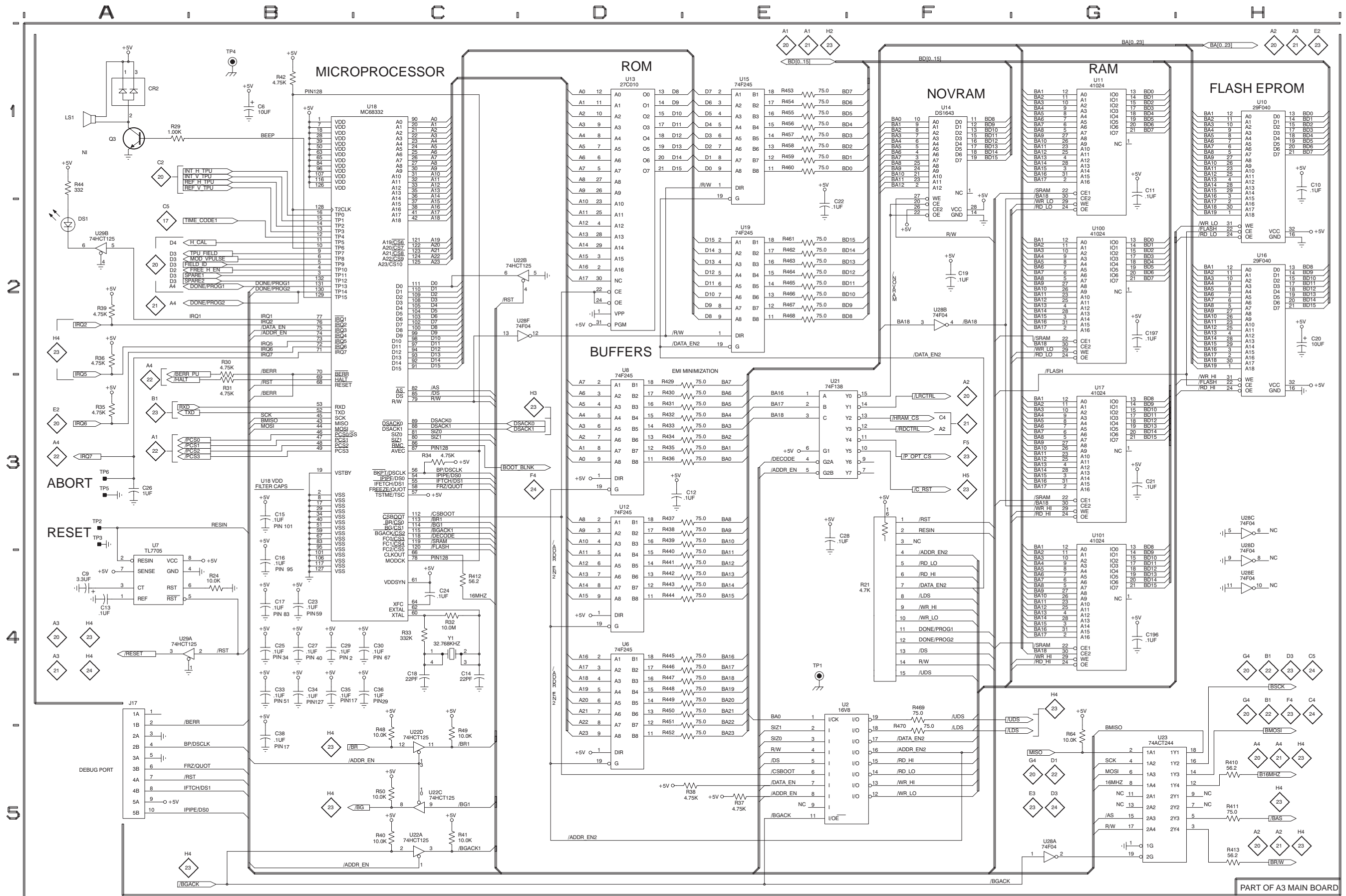
STATIC SENSITIVE DEVICES

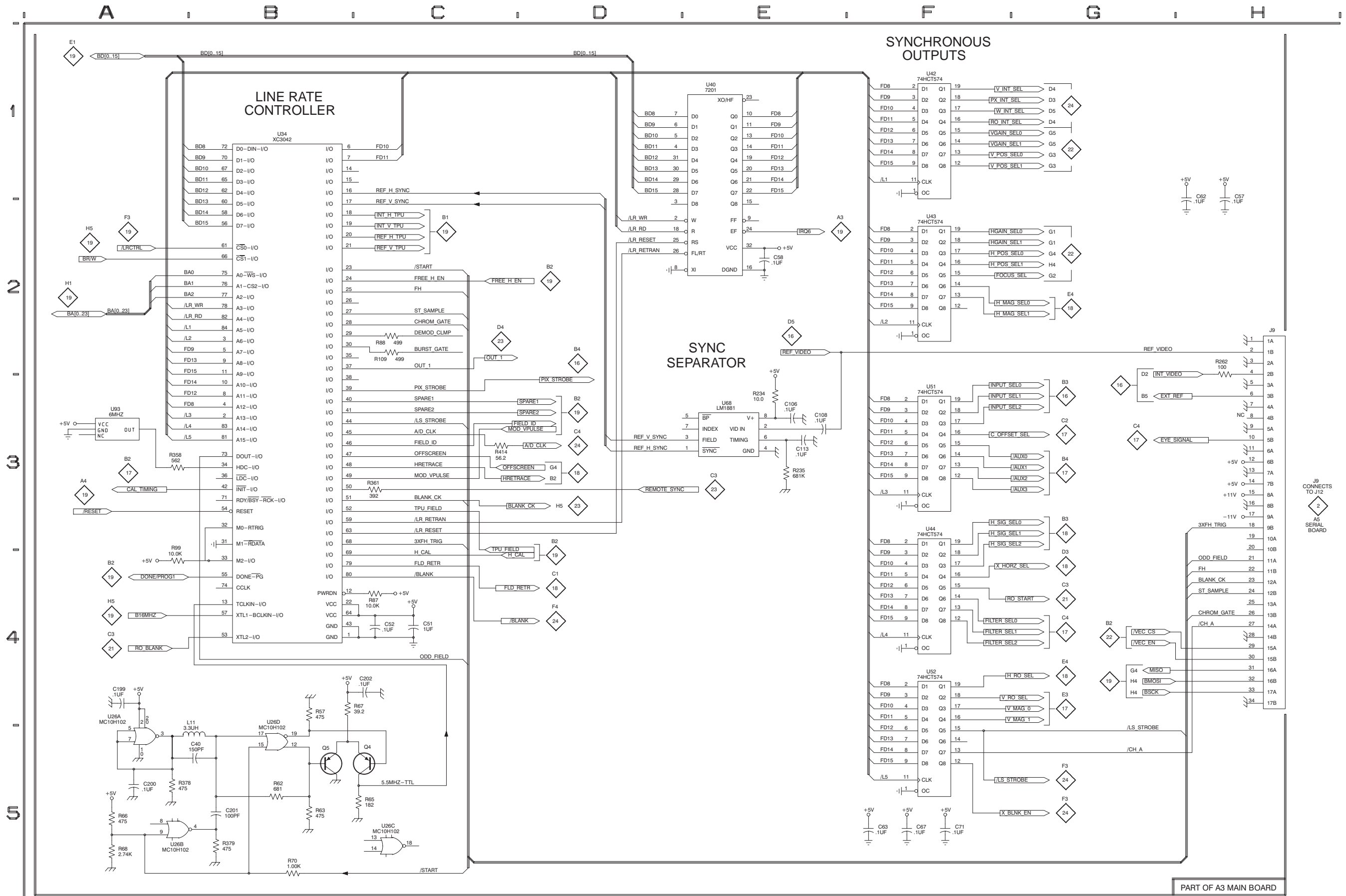


PART OF A3 MAIN BOARD

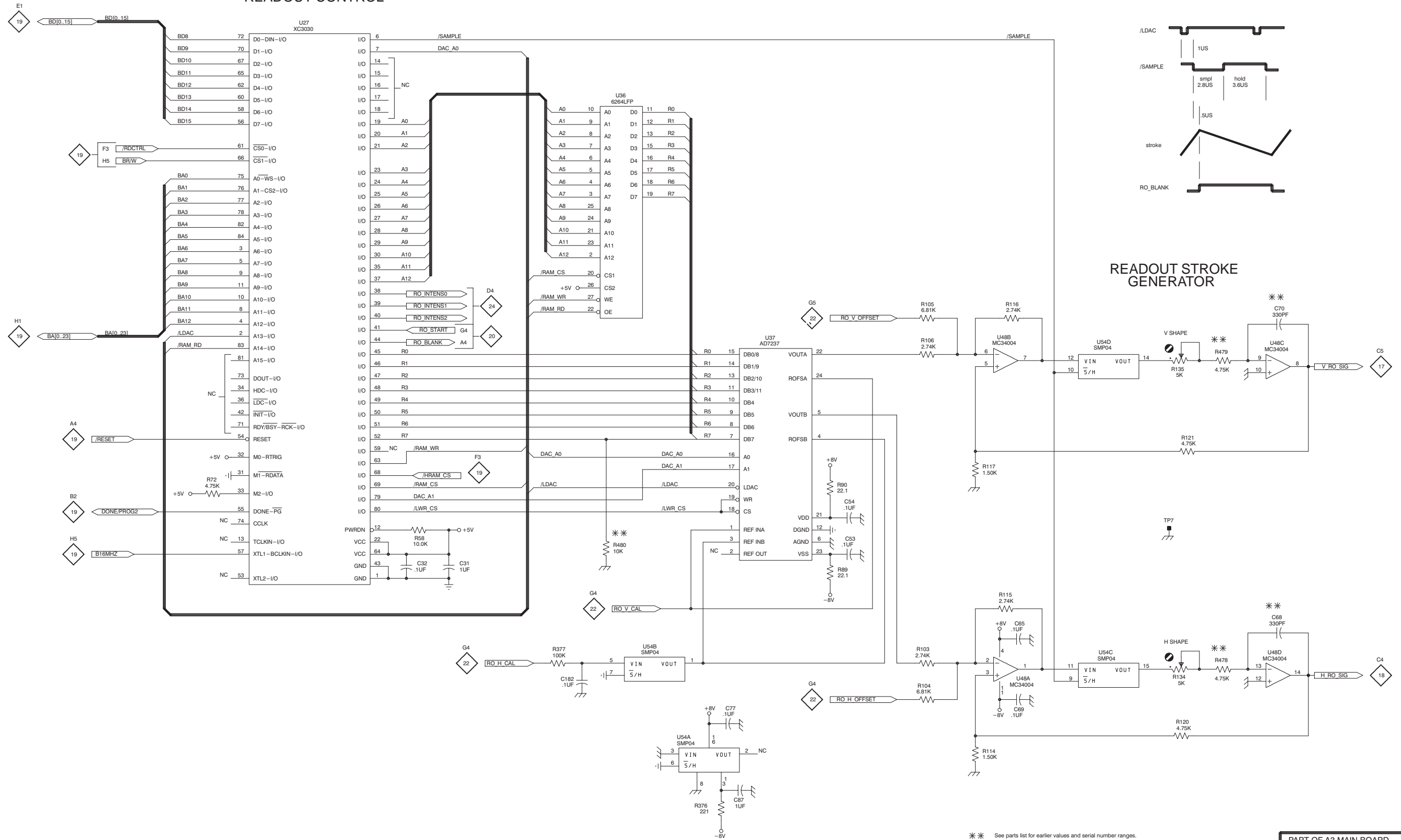






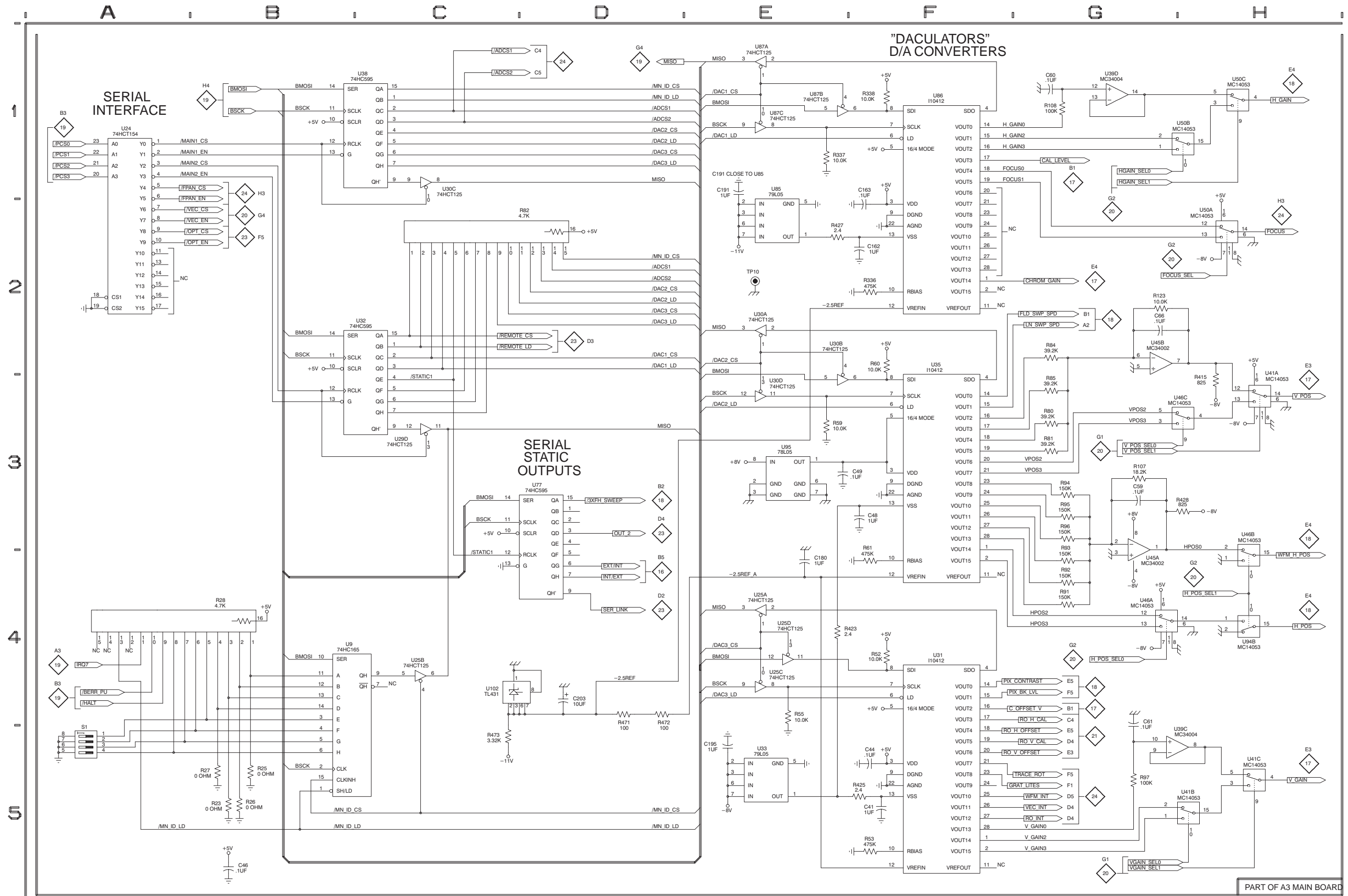


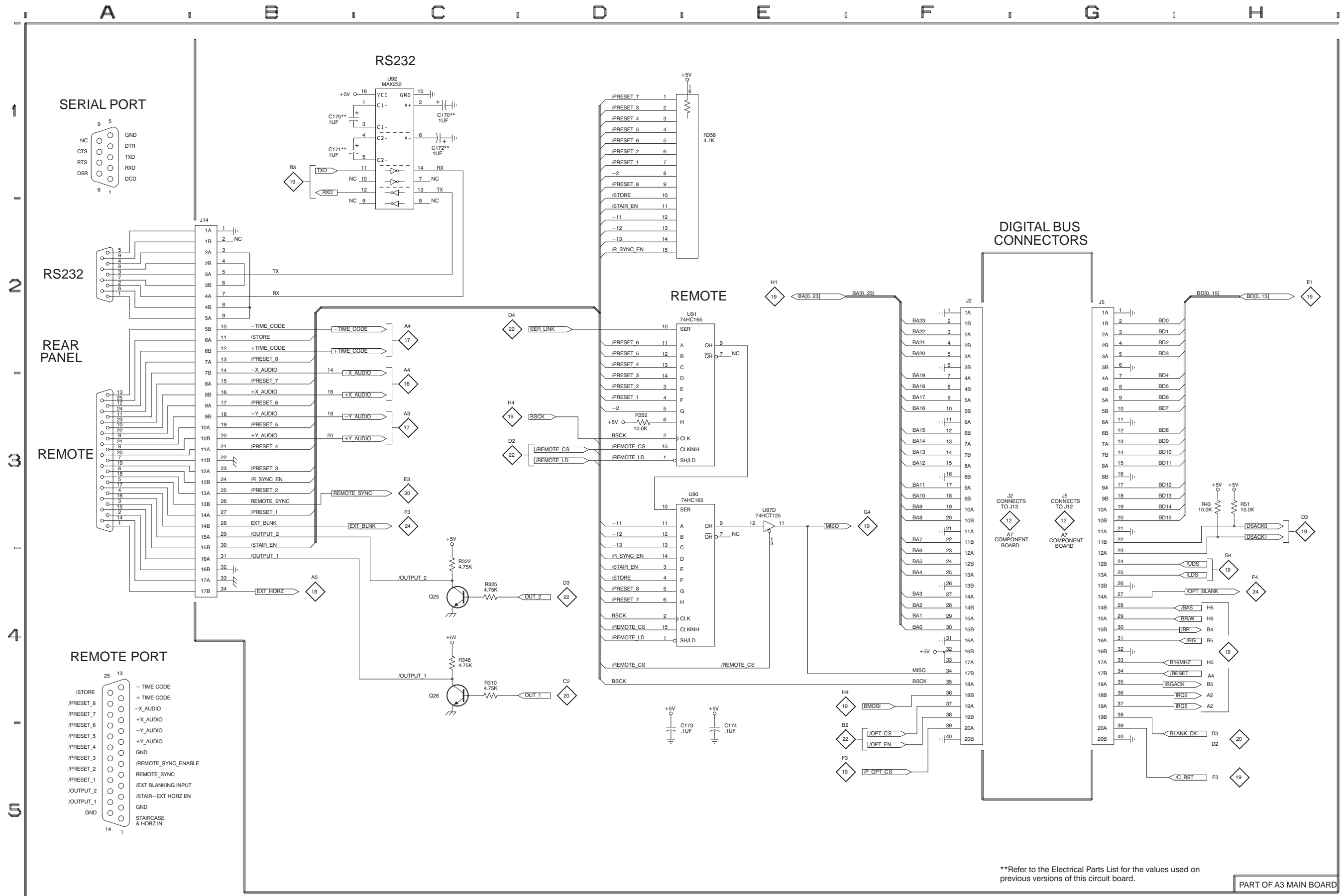
READOUT CONTROL



* * * See parts list for earlier values and serial number ranges.

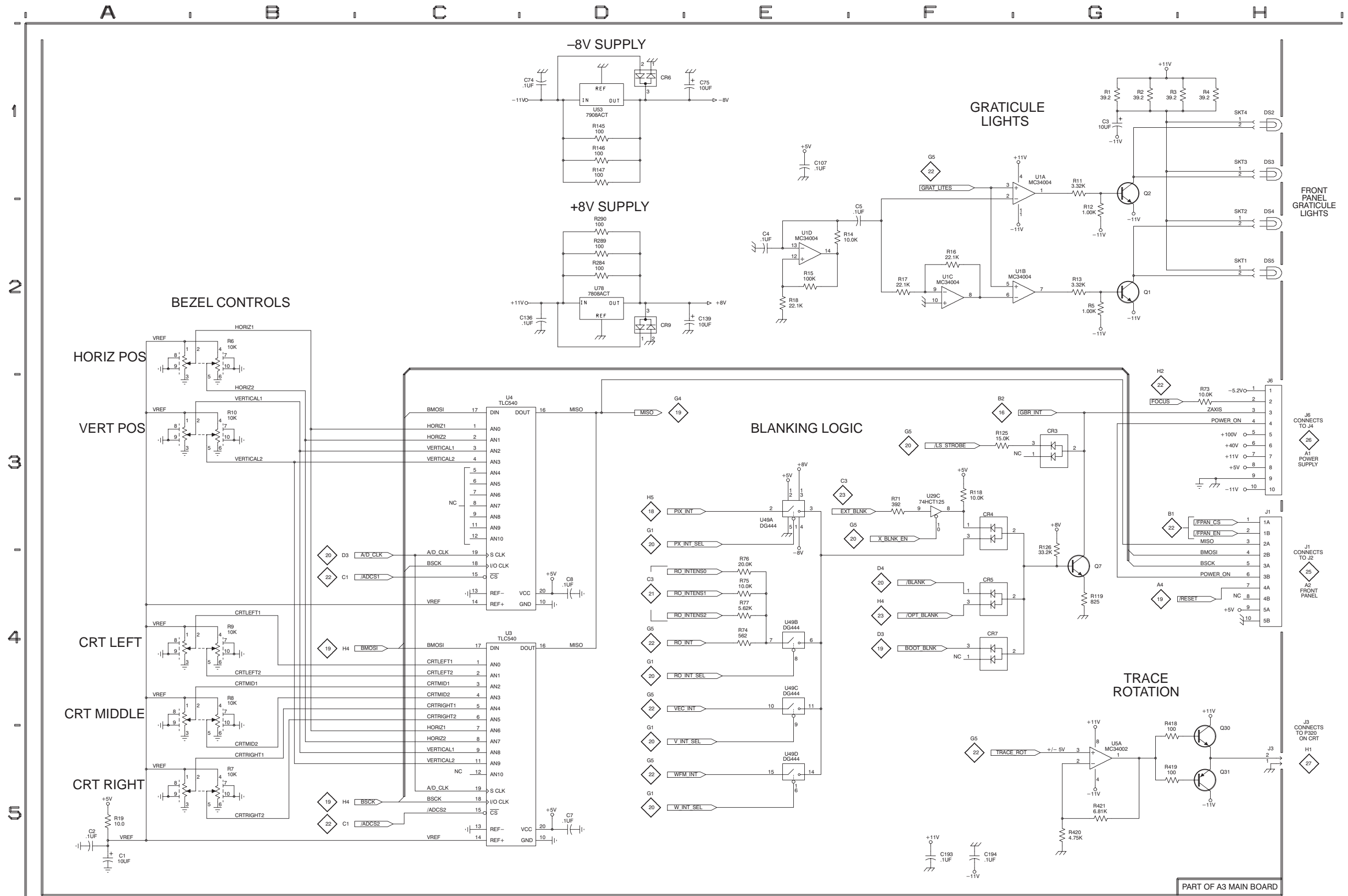
PART OF A3 MAIN BOARD





**Refer to the Electrical Parts List for the values used on previous versions of this circuit board.

PART OF A3 MAIN BOARD



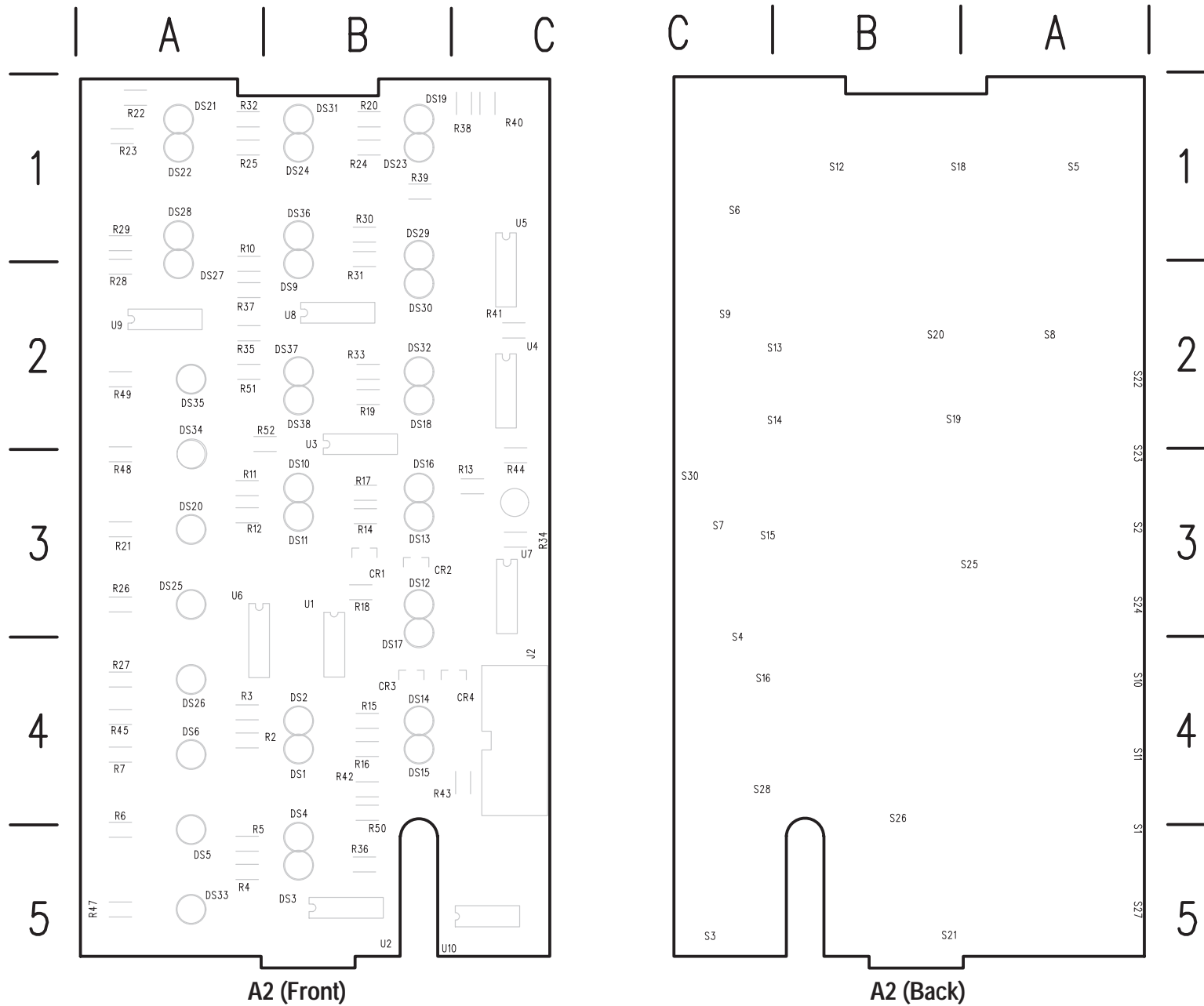


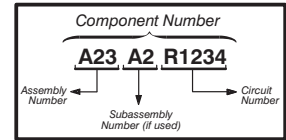
Table 1-13: A2 Front Panel board (front) component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
CR1	25	C4	B3	DS34	25	F5	A2	R32	25	H2	A1
CR2	25	C4	B3	DS35	25	F5	A2	R33	25	H2	B2
CR3	25	C4	B4	DS36	25	F5	B1	R34	25	C3	C3
CR4	25	C4	C4	DS37	25	G5	B2	R35	25	B3	A2
				DS38	25	G5	B2	R36	25	C3	B5
DS1	25	F3	B4	J2	25	A4	C4	R37	25	B3	A2
DS2	25	G3	B4	R2	25	F3	A4	R38	25	A1	B1
DS3	25	F3	B5	R3	25	G3	A4	R39	25	A1	B1
DS4	25	F3	B4	R4	25	F3	A5	R40	25	A2	C1
DS5	25	G3	A5	R5	25	F3	A5	R41	25	A2	C2
DS6	25	G3	A4	R6	25	G3	A4	R42	25	A2	B4
DS9	25	F4	B2	R7	25	G3	A4	R43	25	A2	B4
DS10	25	F4	B3	R10	25	F3	A1	R44	25	A3	C3
DS11	25	F4	B3	R11	25	F3	A3	R45	25	A3	A4
DS12	25	G4	B3	R12	25	F3	A3	R47	25	B5	A5
DS13	25	G4	B3	R13	25	G3	C3	R48	25	F4	A3
DS14	25	G4	B4	R14	25	G3	B3	R49	25	F4	A2
DS15	25	H4	B4	R15	25	G3	B4	R50	25	F4	B5
DS16	25	H4	B3	R16	25	H3	B4	R51	25	G4	A2
DS17	25	F1	B4	R17	25	H3	B3	R52	25	G4	A2
DS18	25	F1	B2	R18	25	F1	B3	U1A	25	B4	B3
DS19	25	G1	B1	R19	25	F1	B2	U1B	25	D4	B3
DS20	25	F1	A3	R20	25	G1	B1	U1C	25	D2	B3
DS21	25	F2	A1	R21	25	F1	A3	U1D	25	E5	B3
DS22	25	F2	A1	R22	25	F2	A1	U2	25	E3	B5
DS23	25	H1	B1	R23	25	F2	A1	U3	25	E4	B2
DS24	25	H1	B1	R24	25	H1	B1	U4	25	E1	C2
DS25	25	G1	A3	R25	25	H1	A1	U5	25	E2	C1
DS26	25	G1	A4	R26	25	G1	A3	U6	25	D1	A3
DS27	25	F2	A2	R27	25	G1	A4	U7	25	B3	C3
DS28	25	G2	A1	R28	25	F2	A2	U8	25	D3	B2
DS29	25	G2	B1	R29	25	G2	A1	U9	25	E5	A2
DS30	25	G2	B2	R30	25	G2	B1	U10A	25	D5	B5
DS31	25	H2	B1	R31	25	G2	B2	U10B	25	D5	B5
DS32	25	H2	B2								
DS33	25	B5	A5								

Table 1-14: A2 Front Panel board (back) component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
S1	25	B2	A4	S11	25	B3	A4	S22	25	B1	A2
S2	25	B2	A3	S12	25	B1	B1	S23	25	B1	A2
S3	25	B2	C5	S13	25	B1	B2	S24	25	B1	A3
S4	25	B2	C3	S14	25	B1	B2	S25	25	C2	B3
S5	25	B1	A1	S15	25	B2	B3	S26	25	C2	A4
S6	25	B1	C1	S16	25	B2	B4	S27	25	B5	A5
S7	25	B1	C3	S18	25	C1	B1	S28	25	B2	B4
S8	25	B2	A2	S19	25	C1	B2	S30	25	B2	C3
S9	25	B2	C2	S20	25	C1	B2				
S10	25	B2	A4	S21	25	C2	B5				

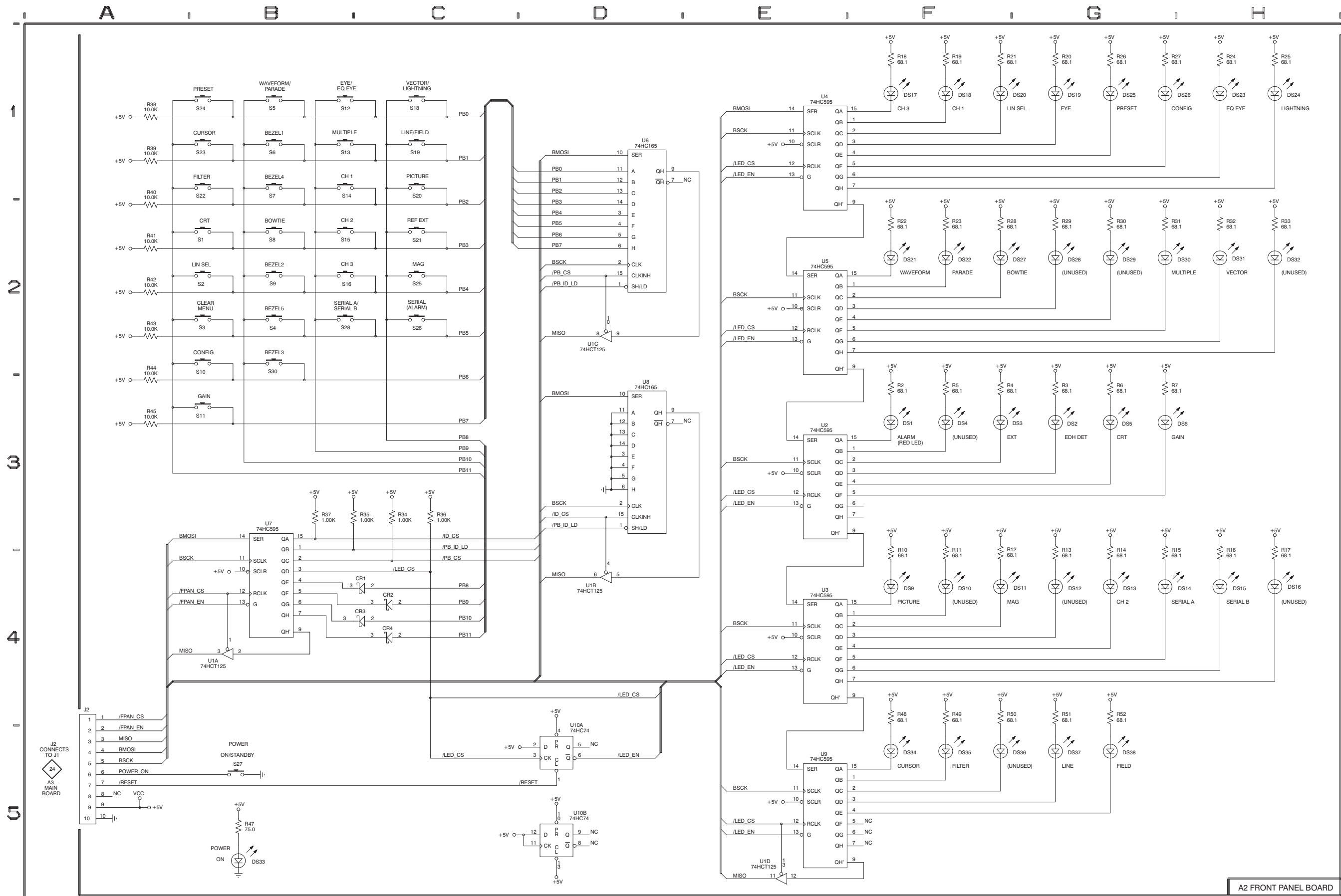
COMPONENT NUMBER EXAMPLE

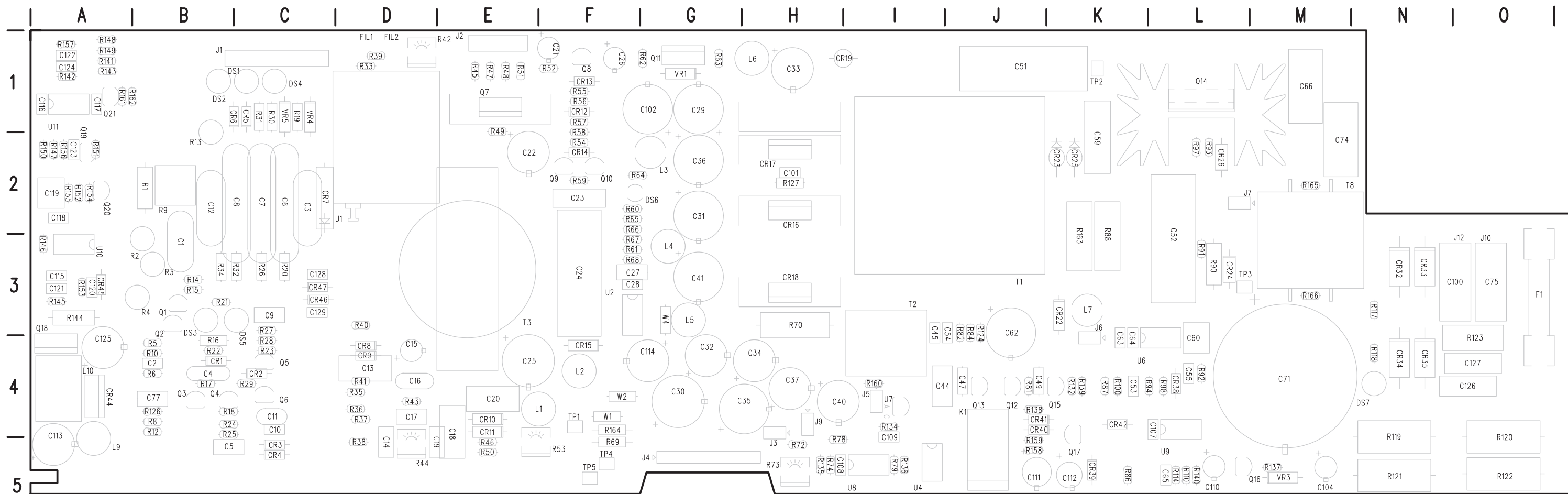


Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.



Figure 1-11: A2 Front Panel board





COMPONENT NUMBER EXAMPLE

Component Number		
A23 A2 R1234		
Assembly Number	Subassembly Number (if used)	Circuit Number

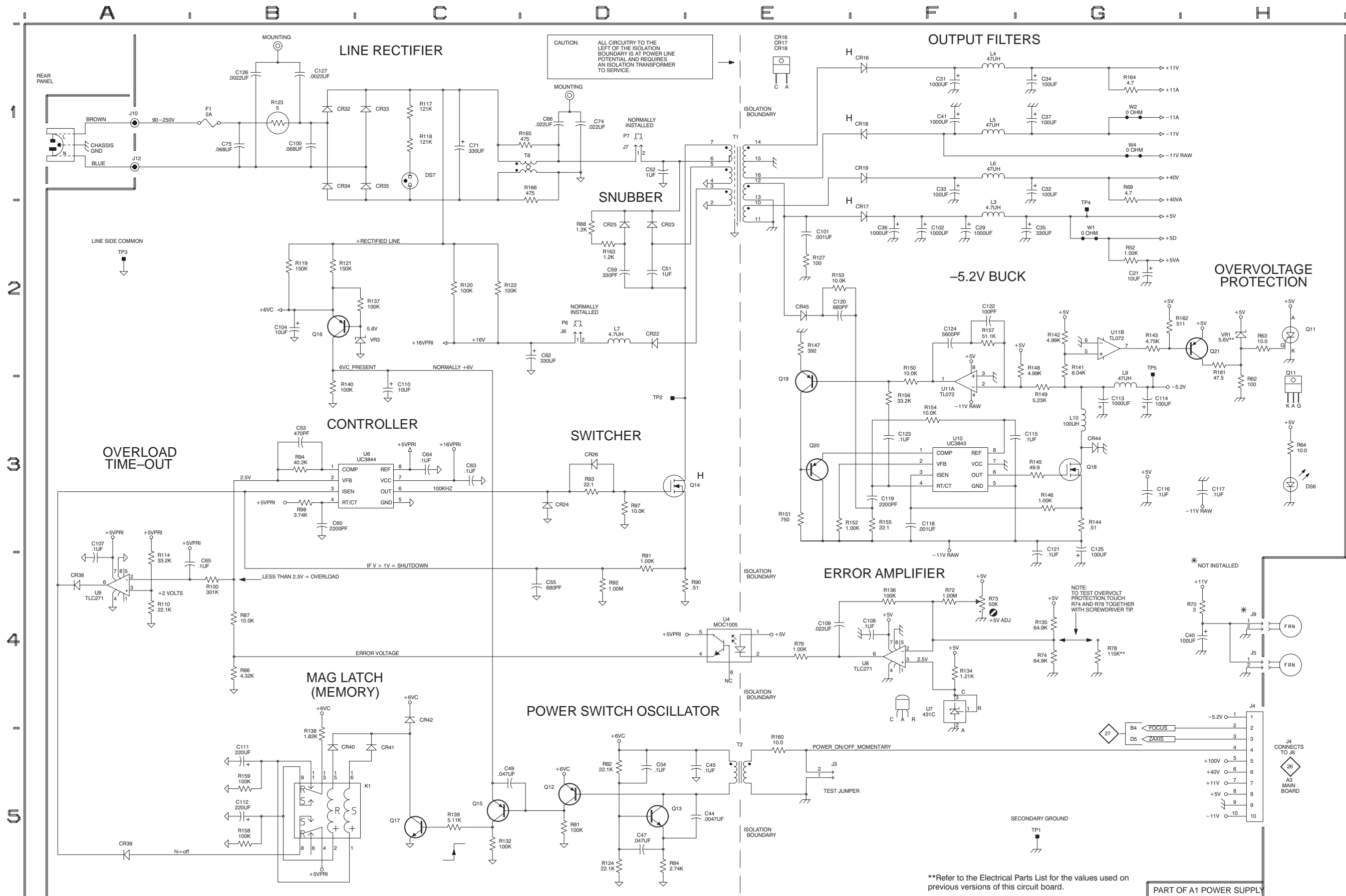
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

⚡ STATIC SENSITIVE DEVICES

Figure 1-12: A1 Power Supply board

Table 1-15: A1 Power Supply board component locator

CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM NUMBER	SCHEM LOCATION	BOARD LOCATION
C1	27	F4	B3	C74	26	D1	M2	CR34	26	B1	N4	Q16	26	B2	M5	R53	27	D2	F5	R140	26	B3	L5
C2	27	B4	B4	C75	26	B1	O3	CR35	26	C1	N4	Q17	26	C5	K5	R54	27	B2	F2	R141	26	G2	A1
C3	27	D3	C2	C77	27	C5	B4	CR38	26	A4	L4	Q18	26	G3	A3	R55	27	A2	F1	R142	26	G2	A1
C4	27	B5	B4	C100	26	B1	N3	CR39	26	A5	K5	Q19	26	E2	A1	R56	27	A2	F1	R143	26	G2	A1
C5	27	C5	B5	C101	26	E2	H2	CR40	26	B5	J5	Q20	26	E3	A2	R57	27	A2	F1	R144	26	G3	A3
C6	27	C3	C2	C102	26	F2	G1	CR41	26	C5	J4	Q21	26	H2	A1	R58	27	A2	F2	R145	26	G3	A3
C7	27	D3	C2	C104	26	B2	M5	CR42	26	C4	K4	R1	27	E4	B2	R59	27	B3	F2	R146	26	G3	A3
C8	27	E2	C2	C107	26	A4	L4	CR44	26	G3	A4	R2	27	E4	A3	R60	27	B1	F2	R147	26	E2	A2
C9	27	D4	C3	C108	26	F4	H5	CR45	26	E2	A3	R3	27	E4	B3	R61	27	C2	F3	R148	26	F2	A1
C10	27	C4	C4	C109	26	E4	I5	CR46	27	B3	C3	R4	27	E4	B3	R62	26	H2	G1	R149	26	G3	A1
C11	27	C4	C4	C110	26	C3	L5	CR47	27	C3	C3	R5	27	D5	B4	R63	26	H2	G1	R150	26	F3	A2
C12	27	E2	B2	C111	26	B5	J5	DS1	27	E2	B1	R6	27	B4	B4	R64	26	H3	F2	R151	26	E3	A2
C13	27	D2	D4	C112	26	B5	K5	DS2	27	E3	B1	R8	27	B4	B4	R65	27	A2	F2	R152	26	E3	A2
C14	27	F2	D5	C113	26	G3	A5	DS3	27	E4	B4	R9	27	F4	B2	R66	27	C2	F2	R153	26	E2	A3
C15	27	C2	D4	C114	26	G3	G4	DS4	27	D3	C1	R10	27	B4	B4	R67	27	C1	F3	R154	26	F3	A2
C16	27	D2	D4	C115	26	F3	A3	DS5	27	E4	C3	R12	27	D5	B4	R68	27	B1	F3	R155	26	F3	A2
C17	27	F3	D4	C116	26	G3	A1	DS6	26	H3	G2	R13	27	E3	B2	R69	26	G1	F5	R156	26	F3	A2
C18	27	D2	E4	C117	26	H3	A1	DS7	26	C1	N4	R14	27	E5	B3	R70	26	H4	H3	R157	26	F2	A1
C19	27	F2	D5	C118	26	F3	A2	F1	26	B1	O3	R15	27	E5	B3	R72	26	F4	H5	R158	26	B5	J5
C20	27	C2	E4	C119	26	F3	A2	FIL1	27	C3	D1	R16	27	D4	B4	R73	26	F4	H5	R159	26	B5	J5
C21	26	G2	F1	C120	26	E2	A3	FIL2	27	C3	D1	R17	27	C5	B4	R74	26	G4	H5	R160	26	E5	I4
C22	27	B2	E2	C121	26	G3	A3	J1	27	F3	B1	R18	27	C4	B4	R78	26	G4	H5	R161	26	H2	A1
C23	27	B3	F2	C122	26	F2	A1	J2	27	F2	E1	R19	27	D3	C1	R79	26	E4	I5	R162	26	G2	A1
C24	27	B2	F3	C123	26	F3	A2	J3	26	E5	H5	R20	27	C3	C3	R81	26	D5	J4	R163	26	D2	K2
C25	27	D1	E4	C124	26	F2	A1	J4	26	H4	G5	R21	27	E5	B3	R82	26	D5	J3	R164	26	G1	F4
C26	27	A2	F1	C125	26	G3	A4	J5	26	H4	I4	R22	27	B5	B4	R84	26	D5	J3	R165	26	C1	M2
C27	27	B1	F3	C126	26	B1	O4	J6	26	D2	K3	R23	27	C4	C4	R86	26	B4	K5	R166	26	C1	M3
C28	27	B1	F3	C127	26	B1	O4	J7	26	D1	L2	R24	27	C4	B4	R87	26	B4	K4	S1	26	A2	A1
C29	26	F2	G1	C128	27	B3	C3	J9	26	H4	H4	R25	27	C5	B5	R88	26	D2	K2	T1	26	E1	J3
C30	27	D1	G4	C129	27	C3	C3	J10	26	A1	O3	R26	27	D3	C3	R90	26	D4	L3	T2	26	E5	I3
C31	26	F1	G2	CR1	27	C4	B4	J12	26	A1	O3	R27	27	D4	C3	R91	26	D4	L3	T3	27	C2	E3
C32	26	G1	G4	CR2	27	D4	C4	K1	26	B5	J4	R28	27	C4	C4	R92	26	D4	L4	T8	26	C1	M2
C33	26	F1	H1	CR3	27	C4	C5	L1	27	B2	E4	R29	27	D4	C4	R93	26	D3	L2	TP1	26	G5	F4
C34	26	G1	H4	CR4	27	D5	C5	L2	27	D1	F4	R30	27	E2	C1	R94	26	B3	K4	TP2	26	D3	K1
C35	26	G2	G4	CR5	27	E2	C1	L3	26	F2	G2	R31	27	E3	C1	R97	26	D3	L2	TP3	26	A2	L3
C36	26	F2	G2	CR6	27	E2	B1	L4	26	F1	G3	R32	27	E2	B3	R98	26	B3	L4	TP4	26	G2	F5
C37	26	G1	H4	CR7	27	C3	C2	L5	26	F1	G3	R33	27	E3	D1	R100	26	B4	K4	TP5	26	G2	F5
C40	26	H4	H4	CR8	27	D2	D4	L6	26	F1	H1	R34	27	D2	B3	R110	26	A4	L5	U1	27	D1	D2
C41	26	F1	G3	CR9	27	E2	D4	L7	26	D2	K3	R35	27	F3	D4	R114	26	A3	L5	U2	27	B2	F3
C44	26	E5	I4	CR10	27	D2	E4	L9	26	G3	A5	R36	27	F1	D4	R117	26	C1	N3	U4	26	E4	I5
C45	26	E5	I3	CR11	27	D2	E4	L10	26	G3	A4	R37	27	F2	D4	R118	26	C1	N4	U6	26	B3	K4
C47	26	D5	J4	CR12	27	A2	F1	Q1	27	E5	B3	R38	27	F2	D5	R119	26	B2	N5	U7	26	F4	I4
C49	26	C5	J4	CR13	27	A2	F1	Q2	27	E5	B4	R39	27	E3	D1	R120	26	C2	O5	U8	26	F4	I5
C51	26	D2	J1	CR14	27	B2	F2	Q3	27	C4	B4	R40	27	C2	D3	R121	26	B2	N5	U9	26	A4	L5
C52	26	D1	L2	CR15	27	C1	F4	Q4	27	D4	B4	R41	27	D2	D4	R122	26	C2	O5	U10	26	F3	A3
C53	26	B3	K4	CR16	26	F1	H2	Q5	27	D4	C4	R42	27	E3	E1	R123	26	B1	O4	U11A	26	F2	A1
C54	26	D5	J3	CR17	26	F2	H2	Q6	27	D4	C4	R43	27	F3	D4	R124	26	D5	J3	U11B	26	G2	A1
C55	26	D4	L4	CR18	26	F1	H3	Q7	27	B2	E1	R44	27	F2	D5	R126	27	C5	B4	VR1	26	H2	G1
C59	26	D2	K2	CR19	26	F1	H1	Q8	27	A2	F1	R45	27	F2	E1	R127	26	E2	H2	VR3	26	B2	M5
C60	26	B3	L4	CR22	26	D2	K3	Q9	27	A2	F2	R46	27	D2	E5	R132	26	C5	K4	VR4	27	D3	C1
C62	26	D2	J4	CR23	26	D2	K2	Q10	27	B2	F2	R47	27	F2	E1	R134	26	F4	I4	VR5	27	D3	C1
C63	26	C3	K3	CR24	26	D3	L3	Q11	26	H2	G1	R48	27	F3	E1	R135	26	G4	H5	W1	26	G2	F4
C64	26	C3	K3	CR25	26	D2	K2	Q12	26	D5	J4	R49	27	B3	E2	R136	26	F4	I5	W2	26	G1	F4
C65	26	A4	L5	CR26	26	D3	L2	Q13	26	D5	J4	R50	27	D2	E5	R137	26	B2	M5	W4	26	G1	G3
C66	26	D1	M1	CR32	26	B1	N3	Q14	26	D3	L1	R51	27	F3	E1	R138	26	B4	J4				
C71	26	C1	M4	CR33	26	C1	N3	Q15	26	C5	K4	R52	26	G2	F1	R139	26	C5	K4				



**Refer to the Electrical Parts List for the values used on previous versions of this circuit board.

PART OF A1 POWER SUPPLY

A B C D E F G H

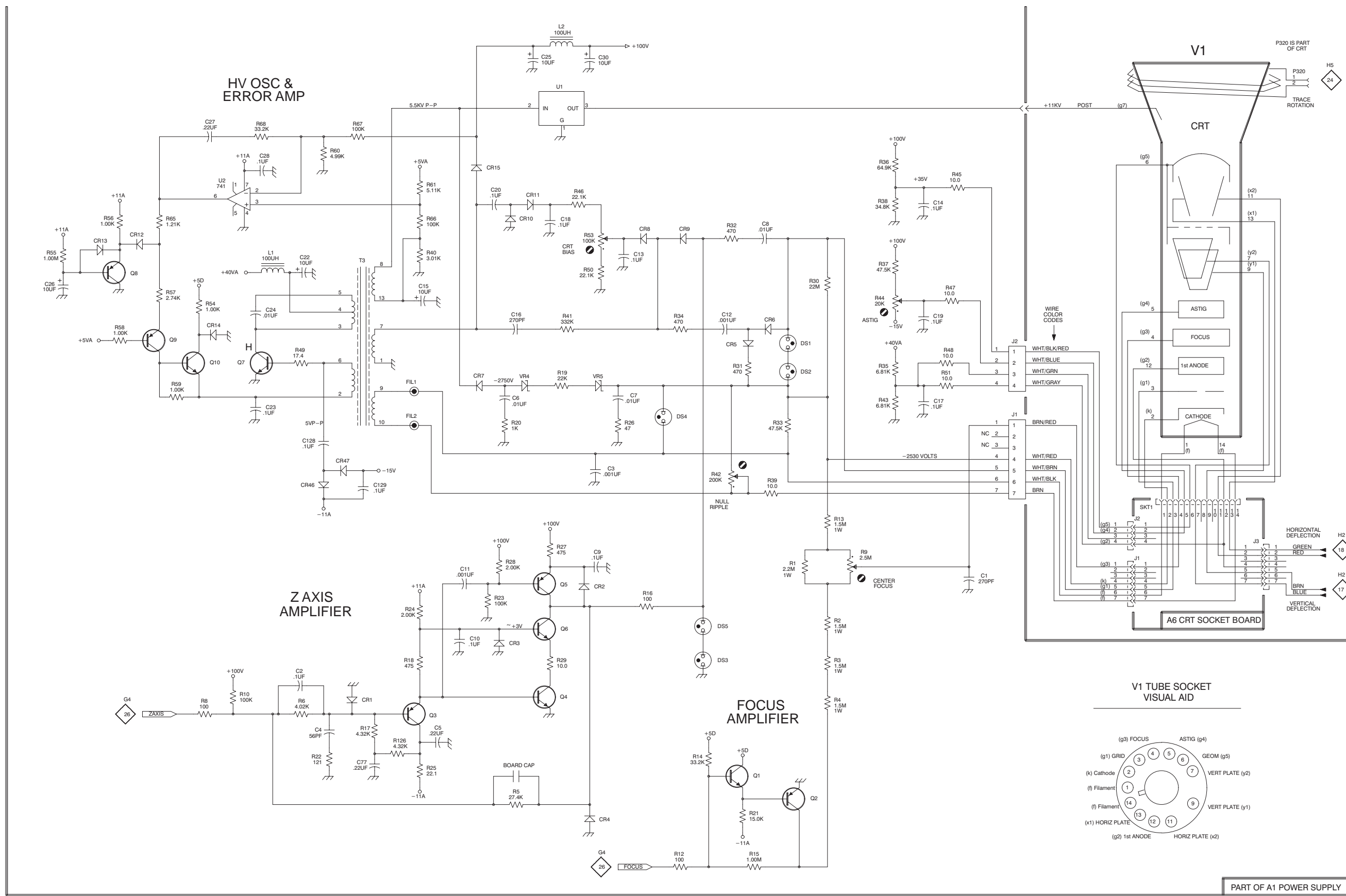
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Replaceable Mechanical Parts

This section contains a list of the replaceable mechanical components for the waveform monitors. Use this list to identify and order replacement parts.

Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order.

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix field office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Using the Replaceable Mechanical Parts List

The tabular information in the Replaceable Mechanical Parts List is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replacement parts. The following table describes the content of each column in the parts list.

Parts list column descriptions

Column	Column name	Description
1	Figure & Index Number	Items in this section are referenced by figure and index numbers to the exploded view illustrations that follow.
2	Tektronix Part Number	Use this part number when ordering replacement parts from Tektronix.
3 and 4	Serial Number	Column three indicates the serial number at which the part was first effective. Column four indicates the serial number at which the part was discontinued. No entries indicates the part is good for all serial numbers.
5	Qty	This indicates the quantity of parts used.
6	Name & Description	An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.
7	Mfr. Code	This indicates the code of the actual manufacturer of the part.
8	Mfr. Part Number	This indicates the actual manufacturer's or vendor's part number.

Abbreviations Abbreviations conform to American National Standard ANSI Y1.1-1972.

Mfr. Code to Manufacturer Cross Index The table titled Manufacturers Cross Index shows codes, names, and addresses of manufacturers or vendors of components listed in the parts list.

Manufacturers cross index

Mfr. code	Manufacturer	Address	City, state, zip code
05245	CORCOM INCORPORATED	1600 WINCHESTER ROAD	LIBERTYVILLE, IL 60048
05791	LYN-TRON INC	SOUTH 6001 THOMAS MALLEN RD	SPOKANE, WA 99204
0D1M6	NMB TECHNOLOGIES INC	9730 INDEPENDENCE AVE	CHATSWORTH, CA 91311
OKB01	STAUFFER SUPPLY CO	810 SE SHERMAN	PORTLAND, OR 97214-4657
OKB05	NORTH STAR NAMEPLATE INC	5750 NE MOORE COURT	HILLSBORO, OR 97124-6474
OKBZ5	Q & D PLASTICS INC	1812 - 16TH AVENUE PO BOX 487	FOREST GROVE, OR 97116-0487
18677	SCANBE CORP	A ZERO CORP COMPANY 3445 FLETCHER AVE	EL MONTE, CA 91731
20093	FRC-ELECTRICAL INDUSTRIES CORP.	691 CENTRAL AVE	MURRAY HILL, NJ 07974
22670	GM NAMEPLATE INCORPORATED	2040 15TH AVE WEST	SEATTLE, WA 98119-2783
31918	ITT SWITCH PRODUCTS	8081 WALLACE RD	EDEN PRAIRIE, MN 55344-8798
53387	3M COMPANY	ELECTRONICS PRODUCTS DIV 3M AUSTIN CENTER	AUSTIN, TX 78769-2963
54186	MICRO POWER SYSTEMS INC	3151 JAY ST	SANTA CLARA, CA 95054
73743	FISCHER SPECIAL MFG CO	111 INDUSTRIAL RD PO BOX 76500	COLD SPRINGS, KY 41076
74594	COMPONENT RESOURCES INC	BUSSMAN PARTS C/O CASEY LAKEY 14525 SW WALKER ROAD	BEAVERTON, OR 97006
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON, OR 97077-0001
80126	PACIFIC ELECTRICORD CO	747 WEST REDONDO BEACH PO BOX 10	GARDENA, CA 90247-4203
83309	ELECTRICAL SPECIALITY CO	287 WATTIS WAY	SOUTH SAN FRANCISCO, CA 94080
85471	BOYD CORPORATION	13885 RAMONA AVE	CHINO, CA 91710
85480	BRADY USA	NAMEPLATE DIVISION P O BOX 571 346 ELIZABETH BRADY RD	HILLSBOROUGH, NC 27278
86928	SEASTROM MFG CO INC	456 SEASTROM STREET	TWIN FALLS, ID 83301
8X345	NORTHWEST SPRING MFG CO	5858 SW WILLOW LANE	LAKE OSWEGO, OR 97035
93907	CAMCAR DIV OF TEXTRON INC	ATTN: ALICIA SANFORD 516 18TH AVE	ROCKFORD, IL 611045181
9M860	ESAM INC	PO BOX 376	GRANTS PASS, OR 97526
TK0588	UNIVERSAL PRECISION PRODUCT	1775 NW CORNELIUS PASS RD	HILLSBORO, OR 97124
TK1163	POLYCAST INC	9898 SW TIGARD ST	TIGARD, OR 97223
TK1547	MOORE ELECTRONICS INC	19500 SW 90TH CT PO BOX 1030	TUALATIN, OR 97062
TK1617	CRAFT FACTORY PLASTICS	17145 SW ALEXANDER	ALOHA, OR 97007
TK1935	ACCRA-FAB INC	11007 NE 37TH CIRCLE	VANCOUVER, WA 98682
TK2469	UNITREK CORPORATION	3000 LEWIS & CLARK HWY SUITE 2	VANCOUVER, WA 98661

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
TK2558	PRISM SOFTWARE PRODUCTION, LLC	15530 WOODINVILLE – REDMOND RD BLDG B, SUITE 100	WOODINVILLE, WA 98072
TK2597	MERIX CORP	1521 POPLAR LANE	FOREST GROVE, OR 97116
TK6159	RICHEY ELECTRONICS INC	3601 SW MURRY BLVD SUITE 60	BEAVERTON, OR 97005

Replaceable Mechanical Parts List

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discontinued	Qty	Name & description	Mfr. code	Mfr. part number
10-1-1	426-2456-01			1	FRAME SECT CAB:FRONT FRAME SECTION CABINET	80009	426-2456-01
-2	210-0847-00			1	WASHER,FLAT:0.164 ID X 0.5 OD X 0.01,NYLON	83309	ORDER BY DESCRIPTION
-3	214-4528-00		B010360	1	SPRING,GROUND:STAINLESS STEEL WFM601A	8X345	214-4528-00
	214-4528-00		B010202	1	SPRING,GROUND:STAINLESS STEEL WFM601E	8X345	214-4528-00
	214-4528-00		B010638	1	SPRING,GROUND:STAINLESS STEEL WFM601M	8X345	214-4528-00
	214-4528-01	B010361		1	SPRING,GROUND:STAINLESS STEEL WFM601A	8X345	214-4528-01
	214-4528-01	B010203		1	SPRING,GROUND:STAINLESS STEEL WFM601E	8X345	214-4528-01
	214-4528-01	B010639		1	SPRING,GROUND:STAINLESS STEEL WFM601M	8X345	214-4528-01
-4	210-0407-00			2	NUT,PLAIN,HEX:6-32 X 0.25,BRS CD PL	73743	3038-402
-5	671-3924-00			1	CKT BD SUBASSY:FRONT PANEL	80009	679-3924-00
-6	119-4381-00			1	KEYPAD ASSY:1740A	31918	900259
-7	361-1620-01			1	SPACER:FRONT PANEL SPACER,POLY,1740A	80009	361-1620-01
-8	333-4224-00			1	PANEL,FRONT:PANEL,FRONT, WFM601A	0KB05	333-4224-00
	333-4239-00			1	PANEL,FRONT:PANEL,FRONT, WFM601E	0KB05	333-4239-00
	333-4182-00			1	PANEL,FRONT:PANEL,FRONT, WFM601M	0KB05	333-4182-00
-9	211-0690-02			2	SCREW,MACHINE:6-32 X 0.875,PNH,SST,TORX & SLOT	93907	B20-70430
-10	333-4023-00			1	PANEL,FRONT:CRT,1740A/1750A	TK1163	333-4023-00
-11	366-0649-01			5	KNOB:GY,0.127 ID X 0.392 OD X 0.5 H	80009	366-0649-00
-12	426-2455-00			1	FRAME,CRT:BEZEL	TK1163	426-2455-00
-13	378-0258-00			1	FLTR,CONTRASTIN:GRAY,POLYCARBONATE	80009	378-0258-00

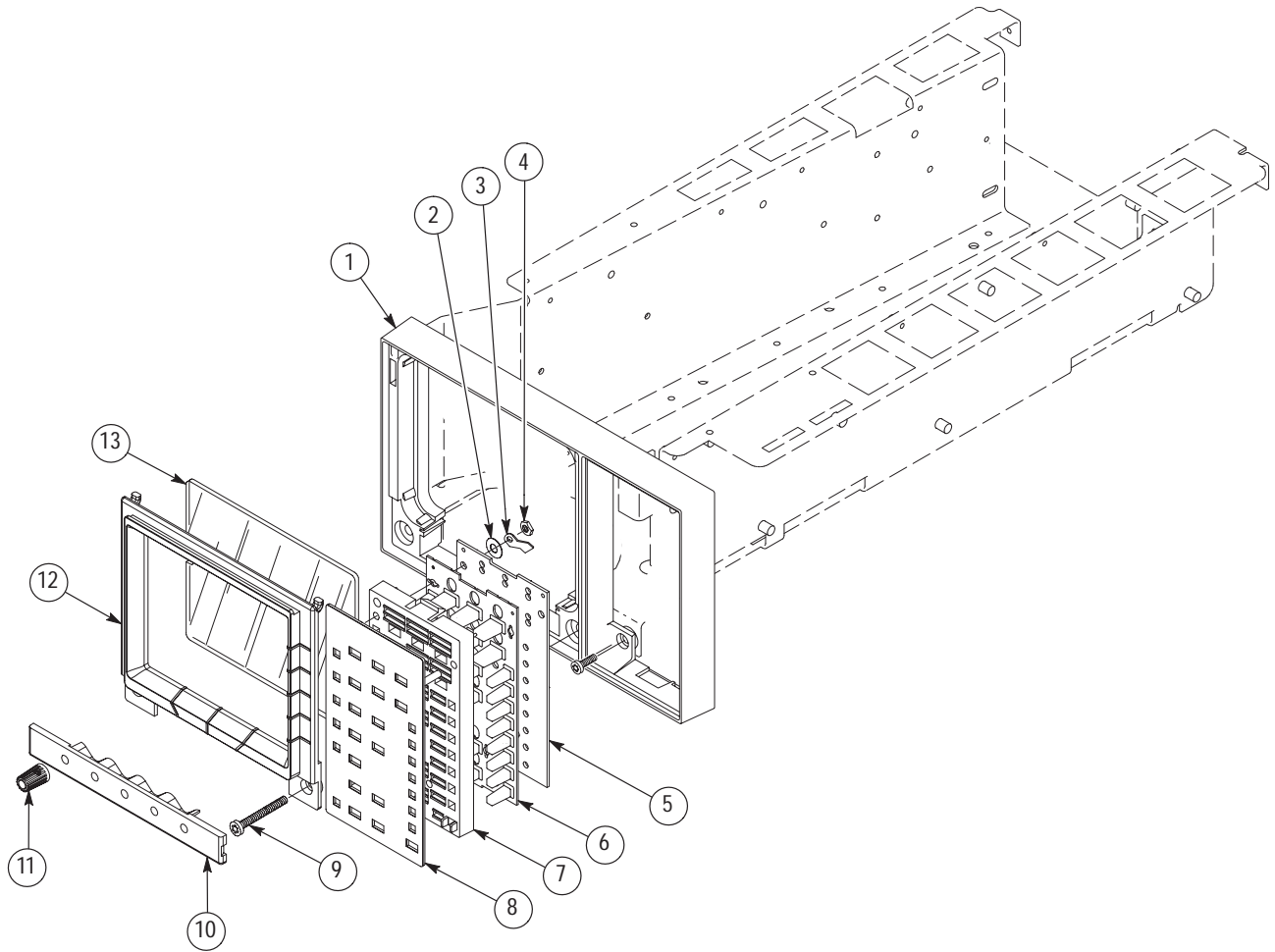


Figure 10-1: Front Panel exploded view

Replaceable mechanical parts list

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discontinued	Qty	Name & description	Mfr. code	Mfr. part number
10-2-1	174-3559-00			1	CA ASSY,SP:SHLD RIBBON,IDC,28 AWG,6.2+/-0.1 L,2X5,NON-PLZ,RCPT,SAME SIDE,	TK1547	174-3559-00
-2	671-3157-00			1	CKT BD SUBASSY:A8 DAC BD	80009	679-3157-00
-3	389-2223-00			1	CIRCUIT BOARD:SHIELD BOARD,WFM601M	TK2597	810911001
-4	211-0721-00			10	SCREW,MACHINE:6-32 X 0.375,PNH,STL,CDPL,T-15 TORX DR	0KB01	ORDER BY DESCRIPTION
-5	671-3612-00			1	CKT BD SUBASSY:A7 COMPONENT BD	80009	679-3612-00
-6	337-3838-00			1	SHEILD,ELEC:PLASTIC,COMPONENT	80009	337-3838-00
-7	337-3948-01			1	SHIELD,ELEC:COMPONENT SHIELD,WFM601	80009	337-3948-01
-8	351-0688-00			2	GUIDE,CKT BOARD:NYLON,12.0 L	18677	11633-5
-9	179-2997-01			1	WIRE HARNESS:DESCRETE,CRT ASSY 5,24AWG,5,26 AWG,1 X 4, 0.1 CTR & 1 X 7, RCPT X 1 X 4 & 1 X 7,	9M860	179-2997-01
-10	671-3637-00			1	CKT BD SUBASSY:A6 CRT SOCKET	80009	679-3637-00
-11	174-3511-01			1	CA ASSY,SP:DISCRETE,CPD,4,24 AWG, 8.0L,1X7,0.1CTR & 2, 24 AWG, 8.5L X STRAIN RELIEF PCB,	80009	174-3511-01
-12	344-0111-00			1	INSUL,SPREADER:DEFL LEADS,POLYPROPYLENE	TK1617	NA
-13	407-4395-00			1	BRACKET,CRT:BACK,0.062,ALUM, SAFETY CONTROLLED	80009	407-4395-00
-14	348-1464-00			1	MANCHET:CRT,END RUBBER MANCHET,31.5MM THK X 63MM OD,50.5 ID,	80009	348-1464-00
-15	131-6014-00			1	CA ASSY,CRT:DISCRETE,ANODE LEAD,CRT,1,22 AWG,30KV,UL3239,58MM DIA A NODE X 1.9 L,0.125 LEAD	20093	131-6014-00
-16	346-0120-00			5	STRAP,TIEDOWN,E:5.5 L MIN,PLASTIC,WHITE	74594	ORDER BY DESCRIPTION
-17	348-0171-00			1	GROMMET,PLASTIC:BLACK,U-SHAPED,0.276 ID	0KBZ5	NA
-18	337-4087-00			1	SHIELD,CRT:CRT SHIELD,METAL,1740A,	80009	337-4087-01
-19	154-0988-16			1	ELECTRON,TUBE:CRT,FINISHED,D14-375WA/988, WFM300A,WFM601,WFM6011,A846C,	80009	154-0988-16
-20	386-6911-00			4	SUPPORT, SHIELD:CRT SHIELD SUPPORT,PLASTIC,1740A	80009	386-6911-00
-21	334-1379-00			1	MARKER,IDENT:MKD HI VACUUM	22670	ORDER BY DESCRIPTION
-22	129-1444-00			6	SPACER,POST:6-32 X 0.300DP,0.975 L,0.250 HEX AL	TK0588	129-1444-00
-23	210-0407-00			14	NUT,PLAIN,HEX:6-32 X 0.25,BRS CD PL	73743	3038-402
-24	174-3560-00			1	CABLE ASSY,SP:RIBBON,IDC,28 AWG,1.8L,2X30,RCPT BOTH ENDS	TK1547	174-3560-00

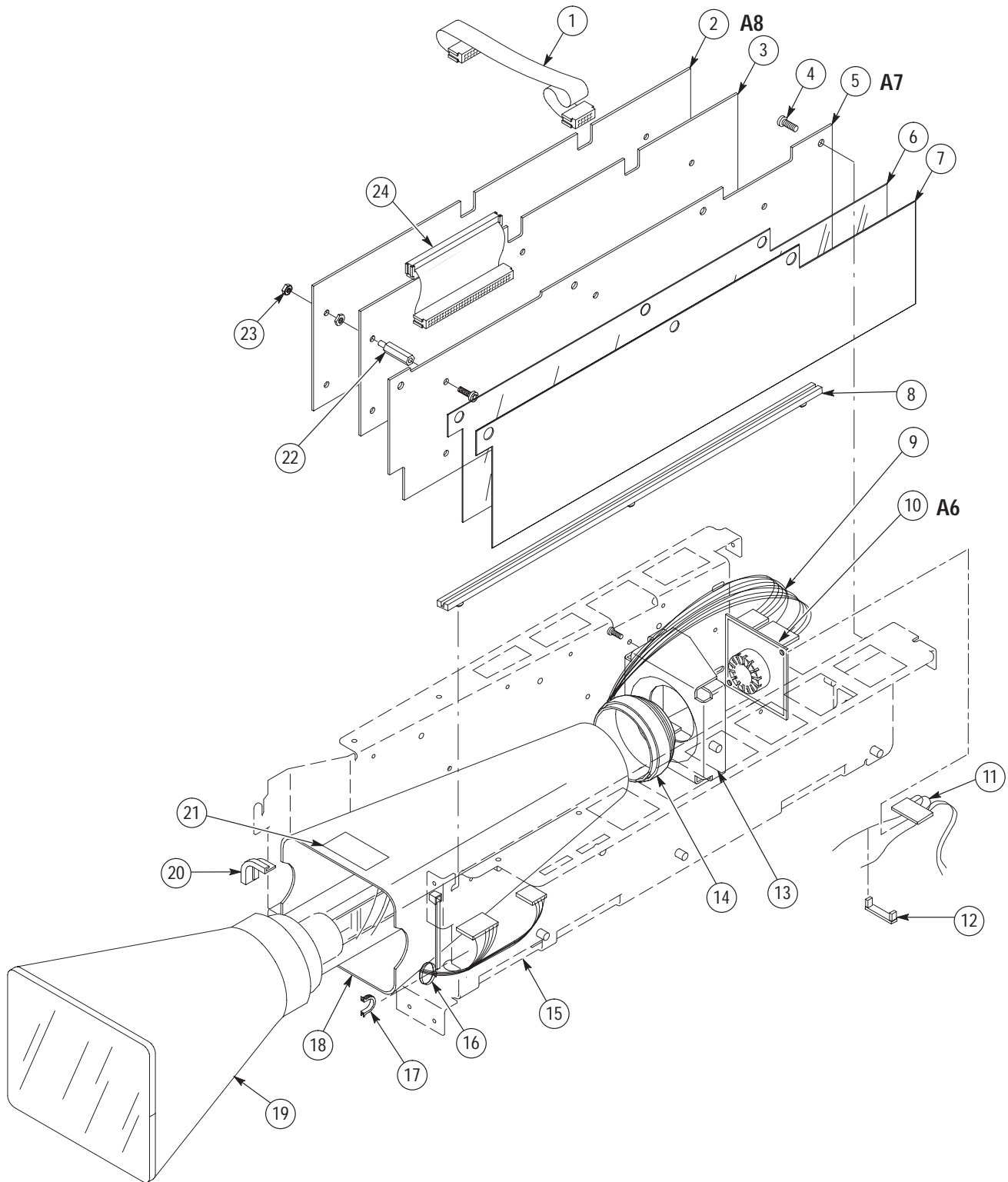


Figure 10-2: DAC Bd, Component Bd, and CRT exploded view

Replaceable mechanical parts list

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discontinued	Qty	Name & description	Mfr. code	Mfr. part number
10-3-1	174-3126-00			1	CABLE ASSY:COAX,RFD,75 OHM,2.7L,SMB,FEMALE, RTANG,EACH END	TK2469	174-3126-00
-2	671-3614-00			1	CKT BD SUBASSY:A5 SERIAL	80009	679-3614-00
-3	174-3237-00			1	CA ASSY,RF:COAXIAL,RFD,75 OHM,16.0 L,RTANG SMB BOTH ENDS (WFM 601E and WFM 601M only)	TK2469	174-3237-00
-4	174-2652-01			2 ²	CA ASSY:COAX,RFDSLDR,75 OHM,12.5L,SMB,RTANG,MALE X SMB,RTANG,MALE	80009	174-2652-01
-5	426-2533-00			1	FRAME,CHASSIS:CHASSIS FRAME	80009	426-2533-00
-6	337-4049-00			1	SHIELD,ELEC:ELEC SHIELD,0.025 AL	80009	337-4049-00
-7	337-3951-01			1	SHIELD,ELEC:POWER SUPPLY,PLASTIC	80009	337-3951-01
-8	671-3616-00			1	CKT BD SUBASSY:A1 POWER SUPPLY	80009	679-3616-00
-9	337-3952-00			1	SHIELD,ELEC:POWER SUPPLY,TOP,PLASTIC	85471	337-3952-00
-10	334-3003-00			1	MARKER,IDENT:MKD DANGER POWER LINE POTENTIAL IN THIS AREA	22670	ORDER BY DESCRIPTION
-11	211-0721-00			25	SCREW,MACHINE:6-32 X 0.375,T-15 TORX	0KB01	ORDER BY DESCRIPTION
-12	129-1410-00			4	SPACER,POST:1.312 SPACING,6-32 INT & EXT,0.250 HEX,	05791	ST6981-1.312-32
-13	174-2746-00			3	CA ASSY,SP,ELEC:2 X 20,28 AWG,5.5 L,RIBBON	53387	80-6105-18179
-14	337-3837-01			1	SHEILD,ELEC:MAIN SHIELD,PLASTIC	80009	337-3837-01
-15	671-3158-00			1	CKT BD SUBASSY:A3 MAIN	80009	679-3158-00
-16	129-1308-00			1	SPACER,POST:6-32 X 0.75,HEX,STL,CAD PL	55566	4538-632-S-3
-17	343-0013-00			1	CLAMP,LOOP:0.375 ID,PLASTIC	06915	E6 CLEAR ROUND CABLE CLAMP
-18	211-0720-01			1	SCREW,MACHINE:6-32 X 0.50,PNH,STL,TORX T-15 W/ SLOT	0KB01	211-0720-01

² Two 174-2652-01 cable assemblies for the WFM 601E and WFM 601M, one for the WFM 601A

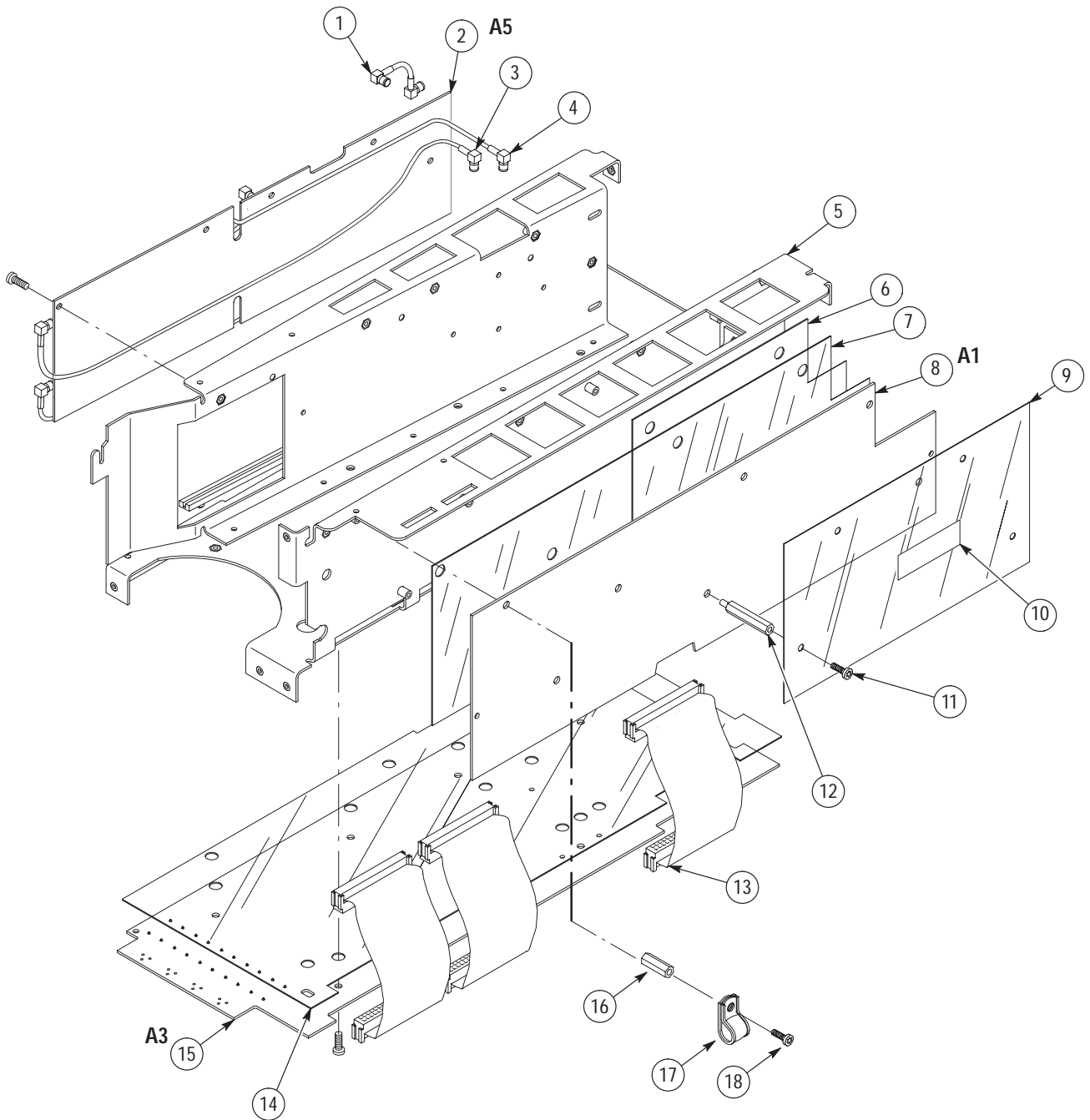


Figure 10-3: Serial, Power, and Main boards exploded view

Replaceable mechanical parts list

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discontinued	Qty	Name & description	Mfr. code	Mfr. part number
10-4-1	333-4183-01			1	PANEL,REAR:REAR PANEL,0.090 ALUM	80009	333-4183-00
-2	211-0720-01			2	SCREW,MACHINE:6-32 X 0.50,TORX T-15 WITH SLOT	0KB01	211-0720-01
-3	334-1378-00			1	MARKER,IDENT:MKD SERIAL NO,SAFETY CONTROLLED	85480	ORDER BY DESCRIPTION
-4	334-3379-00			1	MARKER,IDENT:MARKED GROUND SYMBOL	22670	ORDER BY DESCRIPTION
-5	210-0407-00			1	NUT,PLAIN,HEX:6-32 X 0.25,BRS CD PL	73743	3038-402
-6	119-0389-00			1	FILTER,RFI:3A,115/230VAC,60HZ	05245	3EF1 (F1449)
-7	131-4131-00			1	CONN,PLUG,ELEC:MALE W/LOCKING ADPTR	80126	B-0778
-8	211-0410-00			2	SCR,ASSEM WSHR:4-40 X 0.437,PNH,STL,CDPL,T-10 TORX	0KB01	211-0410-00
-9	210-0202-00			1	TERMINAL,LUG:0.146 ID,INTERNAL TOOTH,0.719 L,45 DEG	86928	A-373-158-2
-10	198-5808-00			1	WIRE SET,ELEC:DISCRETE,CUT/KIT,3,18 AWG,4.0 L,2,0.37	TK2469	198-5808-00
-11	214-3903-01			4	SCREW,JACK:4-40 X 0.312 EXT THD,4-40 INT THD	0KB01	214-3903-01
-12	200-4297-00			1	COVER,FAN:FAN COVER,0.040 ALUM	80009	200-4297-00
-13	378-0415-00			1	FILTER,AIR:2.360 X 2.360	85471	378-0415-00
					The following three fan parts (14, 15, 16) are used by these waveform analyzers and are not compatible with newer parts:		
		B010100	B012587		WFM 601A		
		B010100	B011419		WFM 601E		
		B010100	B011741		WFM 601A		
-14	407-4426-00			2	BRACKET:FAN BRACKET,0.040 ALUM	80009	407-4426-00
-15	119-5069-01			1	FAN,DC:TUBEAXIAL,12V,0.84W,70MA,3,000 RPM	0D1M6	2408NL-04W-B20
-16	348-1471-00			4	MOUNT,RESILIENT:FAN CUSHION,.760 X .774	0KBZ5	348-1471-00
					The following three fan parts (14, 15, 16) are used by these waveform analyzers:		
		B012588			WFM 601A		
		B011420			WFM 601E		
		B011742			WFM 601A		
-14	407-4426-01			2	BRACKET:FAN BRACKET,0.040 ALUM	80009	407-4426-01
-15	119-5877-00			1	FAN,DC:TUBEAXIAL,12V,0.72W,90MA,3,150 RPM	TK6159	119-5877-00
-16	348-1471-01			4	MOUNT,RESILIENT:FAN CUSHION,SILICONE RUBBER	0KBZ5	348-1471-01
-17	200-4151-00			1	GUARD,FAN:2.75 INCHS,WIRE FORM,NICKEL CHROME	54186	FG238
-18	211-0409-00			8	SCR,ASSEM WSHR:4-40 X 0.312,T-10 TORX	0KB01	211-0409-00
-19	361-1655-00			1	SLEEVE,SPACER:A SHAPED,BNC SPACER,2.9 X 3.2 X 0.063 THK ALUM,ETCH & CHROMATE,4 HOLES 0.156 DIA	80009	361-1655-00
-20	672-0367-00			1	CIRCUIT BD ASSY:A4 BNC/INPUT ASSY,WFM601M	80009	672-0367-00
-21	210-0457-00			4	NUT,PL,ASSEM WA:6-32 X 0.312,STL,W/LOCKWASHER	0KB01	ORDER BY DESCRIPTION
-22	174-3470-00			1	CA,ASSY,SP:RIBBON,IDC,28 AWG,3.5 L,RCPT,NON PLZ	TK2469	174-3470-00

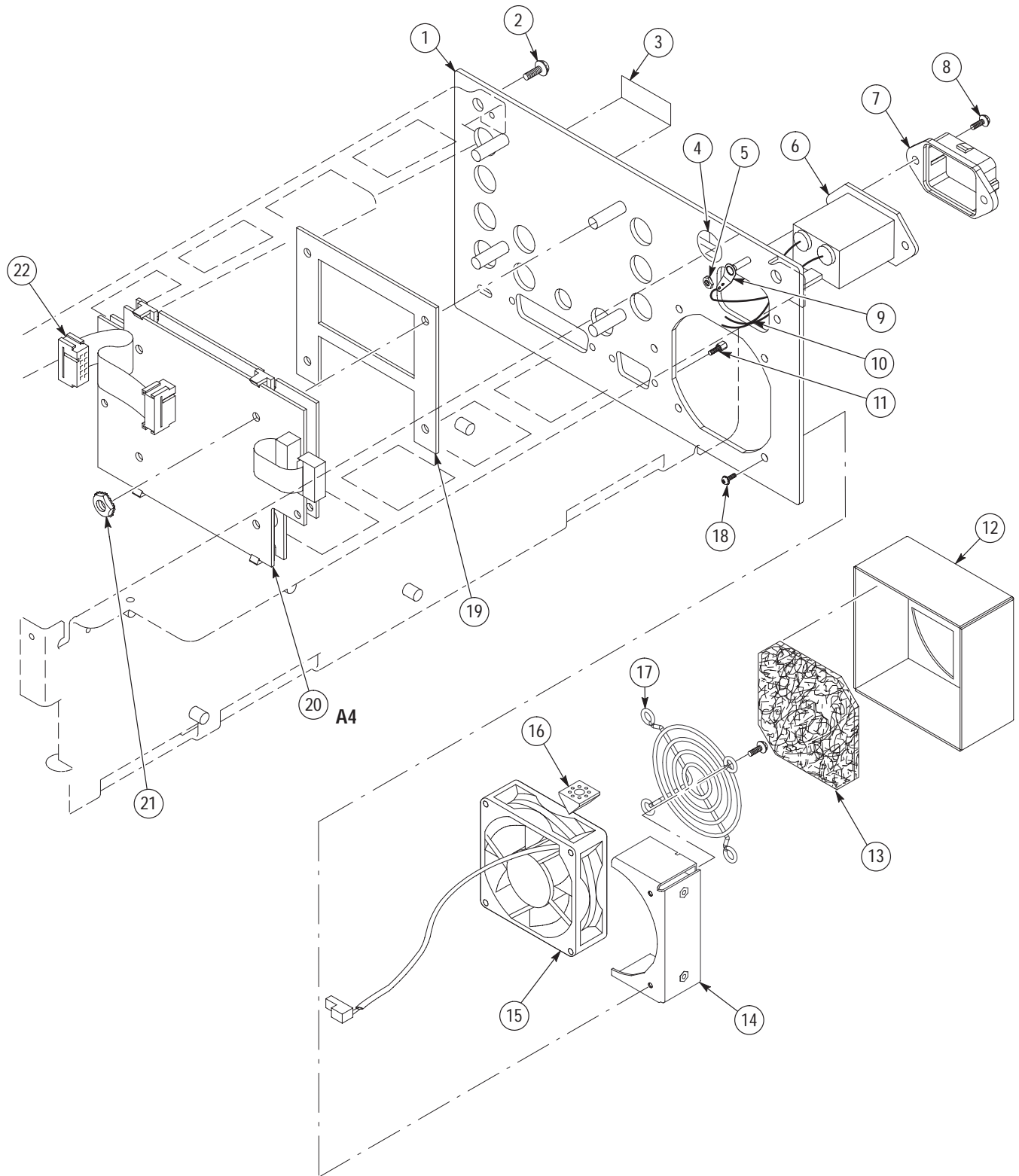


Figure 10-4: Rear panel and Fan exploded view

