

ULTRADRIVE PRO DCX2496



www.behringer.com

Sync Manual

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ENGLISH



This manual was created to facilitate better understanding of how the DCX2496 remote software works when used with multiple units. It will help answer questions about synchronization, link modes and remote software handling. Apart from that, it gives simple examples about what to do when connecting and synchronizing one or more DCX2496s to a personal computer for using the DCX remote editor software.

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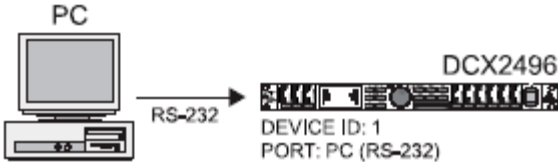
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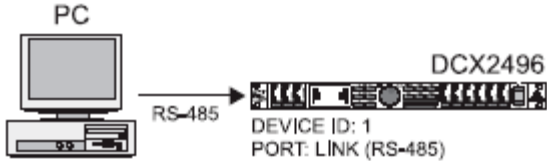
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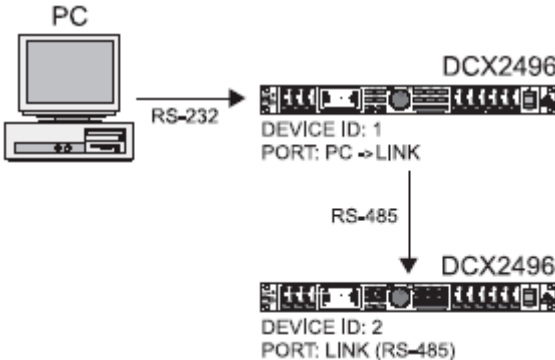
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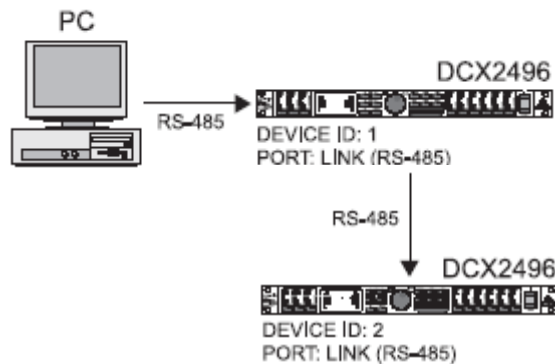


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General tips

In general, there are **3 ways (“PORT” select modes) to connect** one or more DCX2496s to a personal computer (this is also described in the user’s manual, chapter “4.2.6 MISCELLANEOUS”).

PC with 1 DCX2496 :

PC > DCX2496 (via RS-232) [PORT: “PC (RS232)”, TERM switch: on or off]
 └──┬──
 RS-232

PC > DCX (via RS-485) [PORT: “LINK (RS485)”, TERM switch: on]
 └──┬──
 RS-485

PC with 2 or more DCX2496s :

PC > DCX 1 > DCX 2 [DCX 1 PORT: “LINK (RS485)”, TERM switch: off]
 └──┬──┬── [DCX 2 PORT: “LINK (RS485)”, TERM switch: on]
 RS-485 RS-485

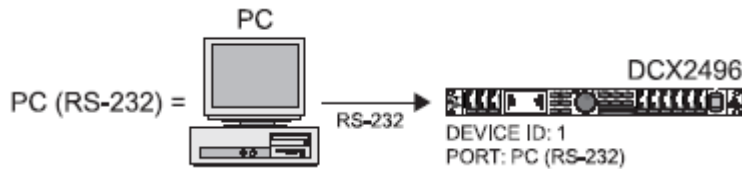
PC > DCX 1 > DCX 2 [DCX 1 PORT: “PC->LINK”, TERM switch: on]
 └──┬──┬── [DCX 2 PORT: “LINK (RS485)”, TERM switch: on]
 RS-232 RS-485

Before you launch the remote software, you first have to **select the correct link mode on SETUP page 6/6** (behind the entry “PORT”) **on the DCX2496(s) hardware**. Here you can select between three modes:

1. PC (RS232)

In this mode, you connect only one DCX2496 to your PC via the COM Port with a standard 9-pin RS-232 cable. It doesn't matter if the TERM switch is set to ON or OFF.

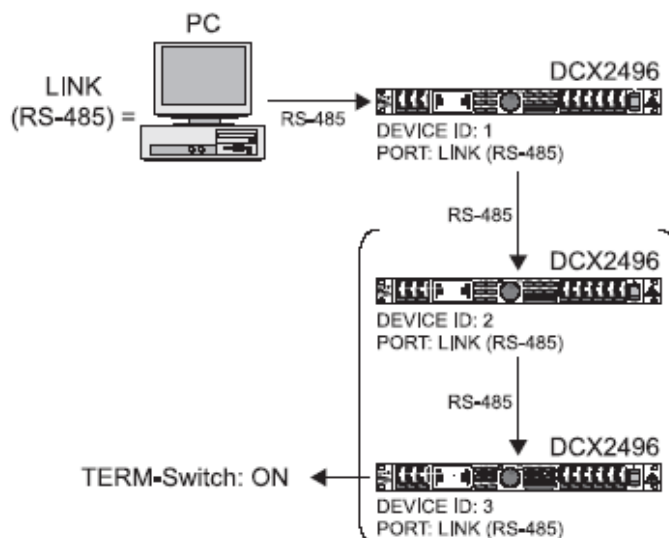
Note: If your DCX2496 is connected to your PC via RS-232 cable and you don't use additional DCX2496s, please select "PC (RS232)" on your DCX2496!



2. LINK (RS485)

In this mode, you connect one or more DCX2496s to your PC via a RS-485 card connection with an RS-485 cable. The 2nd, 3rd, 4th... DCX2496 is daisy chained via the LINK connectors on the rear, from one DCX2496 to the next. It doesn't matter if you use LINK A or B, both connections are parallel. The *last* unit in this chain has to be terminated by switching the TERM switch in the back to ON. On all other DCX2496s, selected TERM = OFF.

Note: If you only use RS-485 connections (no RS-232 in the setup), please select "LINK (RS485)" on all DCX2496s connected (directly or via daisy chain) to your PC, and push TERM = ON on the last DCX2496 in the chain!



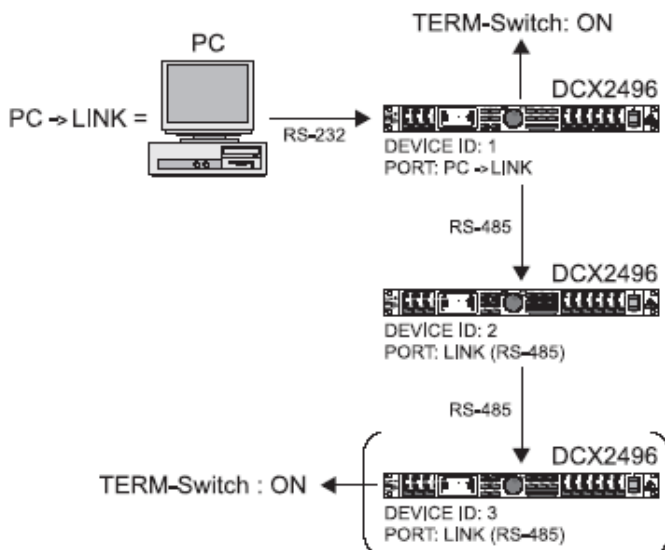
3. PC -> LINK

In this mode, you connect the first DCX2496 to the COM port of your PC via a RS-232 cable; the 2nd, 3rd, 4th... DCX2496s are daisy chained using RS-485 cables via the LINK connectors A or B on the rear of each DCX2496. It doesn't matter if you

use LINK A or B, both connections are parallel. The first and the last DCX2496 with an RS-485 (!) connection has to be terminated (back: TERM = ON), the DCX2496s in-between have to be set to TERM = OFF. In the example below, the units 1 and 3 have to be set to TERM = ON, the middle unit 2 has to be set to TERM = OFF.

Note:

- a) Please select "PC -> LINK" ONLY on the first DCX2496 (connected via RS-232 to the PC and via RS-485 to the 2nd DCX2496)
- b) Select "LINK (RS485)" on all other DCX2496s (2nd, 3rd, ...)
- c) push TERM = ON ONLY on the first and the last DCX2496



Don't forget!

In each of these three modes you have to select different device IDs for each DCX2496 (if you use two or more DCX2496s).

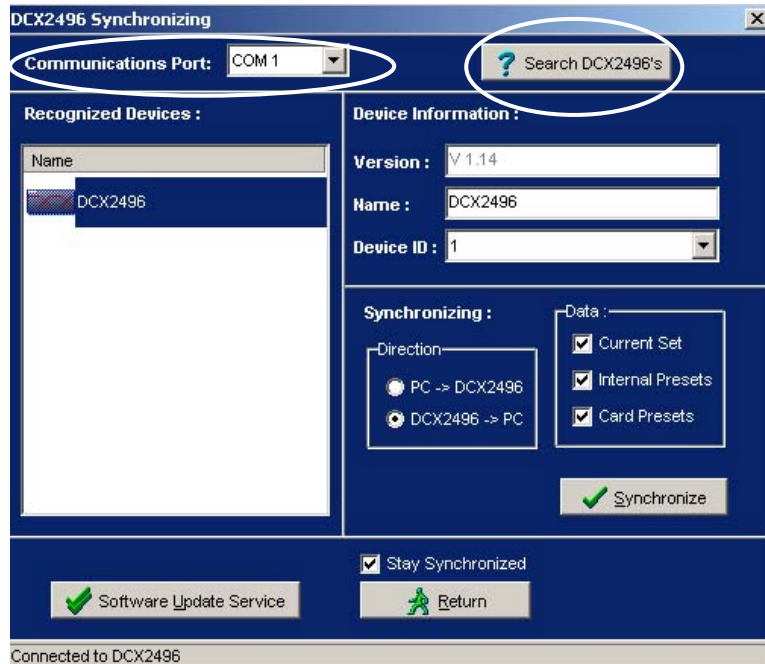
Otherwise you can not correctly address multiple DCX2496s from the remote editor software. If you select identical device IDs for two or more DCX2496s, you could get data errors while editing them from your computer!

You find the DEVICE ID allocation on SETUP page 6/6 behind the entry "DEVICE ID."

Please note that all changes you made on the SETUP page (such as new port or device ID select) **will only be stored permanently if you change to another menu page** (e.g. OUT 1) **before powering off** the DCX2496!

Detailed explanation of the “Connect” page

The most frequent source of error in communication between the PC remote software and the DCX2496 hardware are wrong settings of DCX2496 parameters DEVICE ID and PORT on the hardware (described above) as well as incorrect usage of the PC software in CONNECT menu (described below).



“Communications Port” & “?Search DCX2496s”

- On the top left you can select “**Communications Port**” (mostly COM 1 or 2, depending on your computer). Your DCX2496(s) should appear in the big white panel under “Recognized Devices.”
- If your DCX2496(s) were not found, you can click on “**?Search DCX2496s**” on the top right. Your DCX2496s should now appear under “Recognized Devices.”

TIP: If you wish to use the RS-485 connection on your computer, it is also recognized as a COM-port and appears in the “Communications Port” pull-down menu!

WARNING: If you wish to use the RS-485 connection, you need a true **RS-485 card!** A standard network card (like in many laptops) will not work correctly (no RS-485 protocol!), even if the port connection looks similar!



“Recognized Devices” & “Device Information”

- On the left window “**Recognized Devices**” you can select the particular DCX2496 that you wish to edit. In this example, there is only one unit, called “DCX2496,” so you can’t select another DCX2496.
- On the right you will find the “**Device Information**” of the selected “Recognized Device.”

- **Version**” is provided only for your information (not editable) and shows the current software version of the selected DCX2496 hardware.

- Under “**Name**” you can change the name of the current device. It’s easier to work with names than numbers if you use two or more devices. Just click on the current name, enter a new one and press enter. Now the name of the “Recognized Device” (on the left) will be updated too.

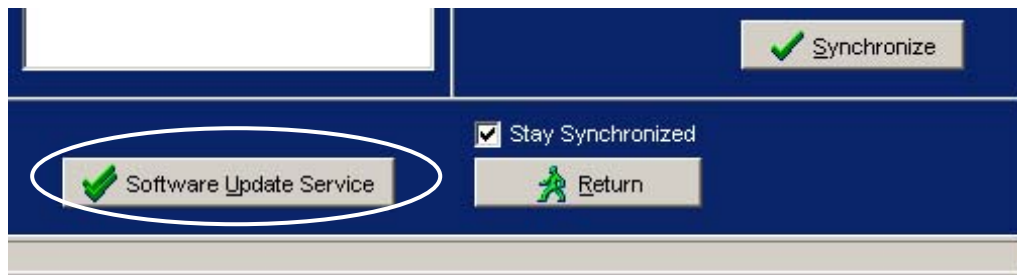
TIP: The newly entered name will be stored into the selected *hardware* device. So don’t be alarmed when you connect your DCX to another computer with the remote software for the first time and see “your name” shown.

- **The “Device ID” should not be changed by the user!** Regardless of whether you use only one DCX2496 with your PC or several DCX2496s, there is no need to change the device ID (see examples below)!

However, if you change the ID while editing, you may lose data in the PC editor and/or the DCX2496 itself, or your entire system may freeze up.

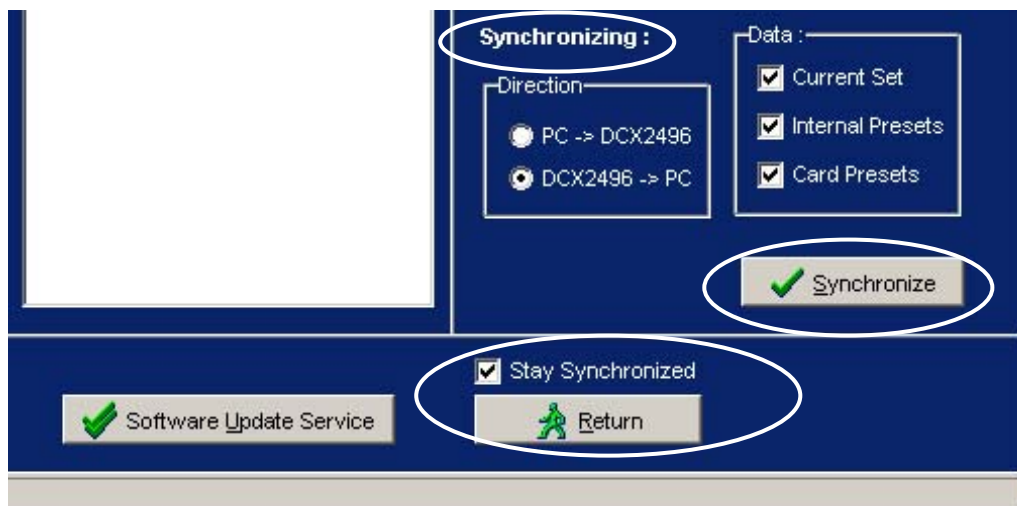
Therefore, please refrain from changing the “Device ID” in the PC software. If you want to change it, please select a new device ID only at the DCX2496 hardware!

ATTENTION: For changing DCX2496s to edit, please select the desired DCX ONLY via the left box “Recognized Devices”!



“Software Update Service”

- If you click on the “**Software Update Service**” button, you can browse your hard disk to find the DCX2496 hardware update (or the PC remote software) you downloaded from the BEHRINGER homepage (if a new version is available).



“Synchronizing”/ “Synchronize”/ “Return”

- Basically there are two ways to synchronize:
 - “**Direction: DCX2496 -> PC**” assures that the PC has the same settings as the selected DCX2496.
Note: You should do this at startup and every time you switch to another DCX2496.
 - “**Direction: PC->DCX2496**” is used **only** to store the current PC settings to the DCX2496, or if you want to transmit the data edited offline to the DCX2496.
 - With the **three “Data” clickable boxes**, you can select what kind of data should be transmitted from/to PC: only the current set or all presets from internal bank or card bank.
 - After you selected the desired direction and the desired data check mark(s), click on “**Synchronize**” to start the synchronization.

- When the synchronization is complete, hit “**Return**” to go back to the main editor program.
-
- **HINT: Normally** you should stay in “**Direction: DCX2496 -> PC**” mode and select “**Stay Synchronized.**” This way, you can edit from your computer and also in the hardware. More about this subject can be found in the remote editor software’s help file (press F1 on your PC while the remote software is running).

ATTENTION: While the software is running, if you switch to another editor page (for example from XOVER to EQ), the corresponding editor page on the DCX LCD display **WILL NOT** be updated! However, making edits (all changes you make with the mouse or the keyboard) **WILL** be updated on the DCX2496 hardware! To check if the data was updated, manually select the desired LCD screen on the DCX2496 in which you are currently editing.

Quick info about standard handling

a) PC > DCX2496

- Make the connections and pre-settings as explained above or in the examples 1 and 2 (see below).
- Power up the DCX2496 and the PC
- Start Remote Software
- Go to “**Connect**” Page
- (Push “**? Search DCX2496s**” only if your DCX2496s were not recognized automatically)
- Under “Synchronizing”: Select **DCX2496->PC / Current Set** (/Internal Presets / Card Presets)
- Click “**Synchronize**”
- Activate “**Stay Synchronized**”
- “**Return**” to the main editor and start editing
- **WARNING! If you made a parameter change on the DCX2496 hardware, please click on “Quick Synchronize To DCX” to get the change transmitted and shown in your editor software!**

TIP regarding “Data” check boxes:

Under “Synchronizing,” check ...

- only “Current Set” if you wish to edit the running preset only
- “Current Set” + “Internal Presets” if you want to load the DCX2496 internal memory bank to the remote software as well
- all three check boxes (including “Card Presets”) if you want to dump the card presets to your computer as well
- **ATTENTION:** If you select “Card Presets” and there is no formatted PCMCIA card inside your DCX2496, you will get an error message if you try synchronizing

b) PC > DCX2496 #1 > DCX2496 #2

- Make the connections and presets as explained above or in the examples 3 and 4 (see below).
- Power up all DCX2496s and the PC
- Launch Remote Software
- Go to “**Connect**” Page
- (Click “**? Search DCX2496s**” only if the devices were not recognized automatically)
- Please re-name all devices for better overview
- In the left white field, select the DCX2496 device that you wish to edit
- Select under “Synchronizing”: **DCX2496->PC / Current Set** (/Internal Presets / Card Presets)
- Click “**Synchronize**”
- Select “**Stay Synchronized**”
- “**Return**” to the main editor and start editing
- **WARNING!: If you made a parameter change on the DCX2496 hardware, please click on “Quick Synchronize To DCX” to get the change also transmitted and shown in your editor software!**

TIP regarding “Data” check boxes:

Under “Synchronizing,” select ...

- only “Current Set” if you wish to edit just the preset currently running
 - “Current Set” + “Internal Presets” if you wish to copy the contents of the DCX2496 internal memory bank to the remote software as well
 - all 3 boxes (including “Card Presets”) if you wish to dump the card presets to your computer as well
 - **ATTENTION:** If you checked the “Card Presets” box and the PCMCIA card inside your DCX2496 is not formatted, you will get an error message if you try to synchronize
- If you now wish to make **parameter changes on your second or third DCX2496**, please go back to “**Connect**” page, **select the desired device** in the left white field, click “**Synchronize**” (pay attention to the selected boxes) and then “**Return**” to the main editor. The currently selected device name is shown in the blue bar on top of the editor screen.

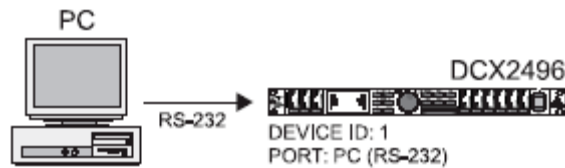
How to backup your DCX2496 on the PC

- Go to “**Connect**” Page
- (Click “**? Search DCX2496s**” only if the devices were not recognized automatically)
- In the left white field, select the device you wish to backup
- Under “Synchronizing,” select:
 - **Direction: DCX2496->PC**
 - **All clickable boxes (Current Set / Internal Presets / Card Presets)**
- Click “**Synchronize**”
- “**Return**” to the main editor
- Go to “**File**” pop-up and **save all 3 data file types** (Set / Internal Presets / Card Presets)

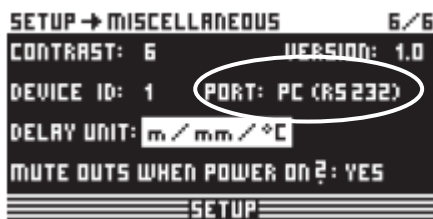
How to copy DCX2496 data to another DCX2496

- Go to “**Connect**” Page
- (Click “**? Search DCX2496s**” only if the devices were not recognized automatically)
- In the left white field, select the **DCX2496 source device** (e.g. DCX2496 #1)
- Under “Synchronizing,” select:
 - o **Direction: DCX2496->PC**
 - o **All data checkmarks (Current Set / Internal Presets / Card Presets)**
- Click “**Synchronize**”
- **Click on the 2nd DCX2496 (copying destination)** in the left white field
- Now select the **Direction: PC -> DCX2496**
- Click “**Synchronize**”
- Copying of all data from DCX2496 #1 to DCX2496 #2 is finished

Example 1: PC to 1 DCX2496 via RS-232



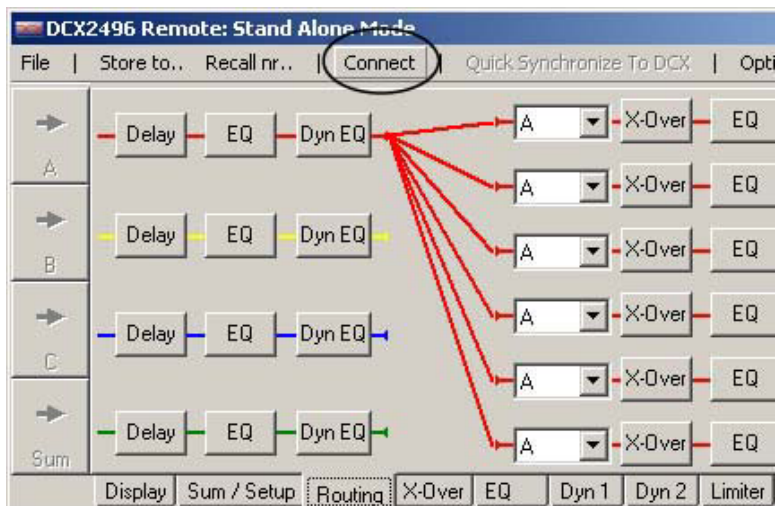
1. Connect the DCX2496 via the RS232 port with a standard 9-pin RS232 cable to a COM port of your computer.
2. Power up the DCX2496 and the PC.
3. Go to DCX2496 > SETUP page 6/6 (Miscellaneous) > select “PORT: PC (RS232)”



NOTE! All changes you have done **on the SETUP page** (like new port or device ID select) **will only be stored permanently if you change to another menu page** (e.g. OUT 1) **before powering off** the DCX2496!

4. Launch Remote Editor Software on the PC.

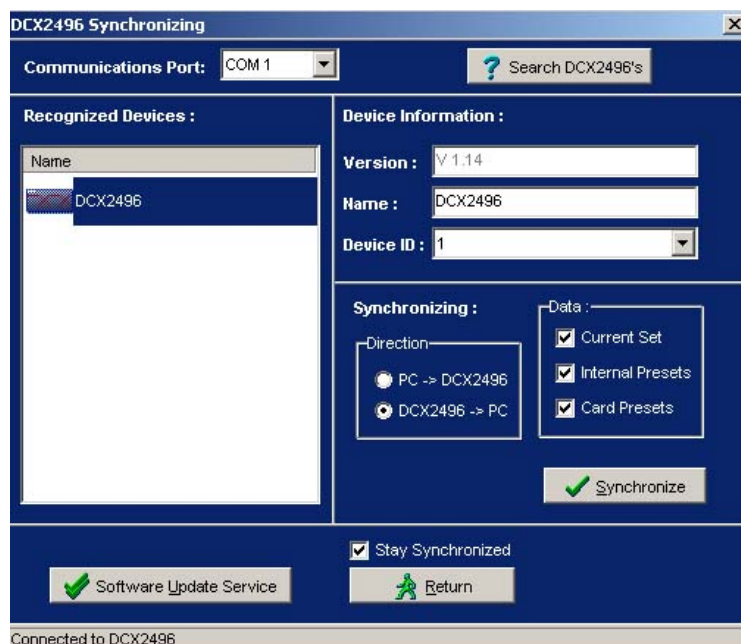
5. Go to the "Connect" page



6. If the DCX2496 hardware was not found automatically, change the "Communications Port" and click "? Search DCX2496s."

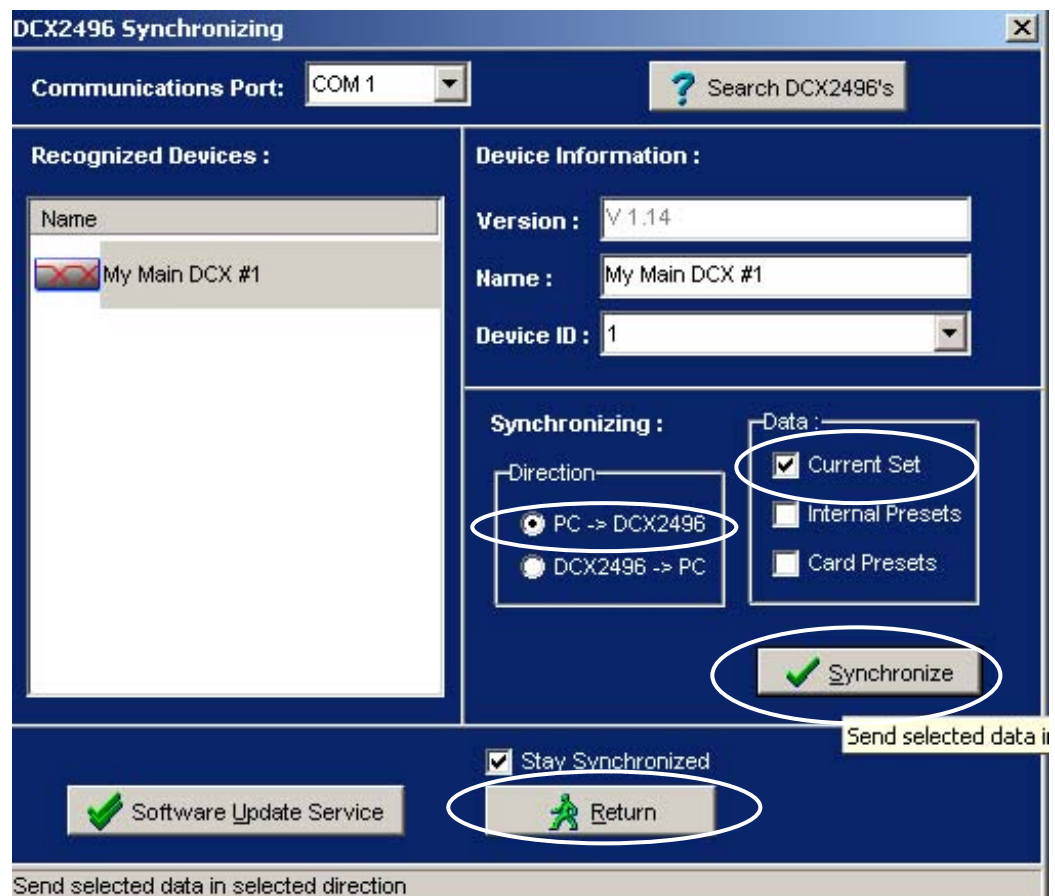


7. Now you should see the following screen:



8. You have different “Synchronizing” options:

- **Loading Presets and/or the current set from the DCX2496 to the PC:**
 - Select the “**Direction**” DCX2496 -> PC
 - Select the “**Data**” you wish to transfer (Current Set and/or Internal Presets and/or Card Presets)
 - Click “**Synchronize**” and wait until the transfer is complete
 - Click “**Return**” to go back to the main editor
- **Copying Presets and/or the current set from the PC to the DCX2496:**
 - Select “**Direction**” PC -> DCX2496
 - Select the “**Data**” you wish to transfer (Current Set and/or Internal Presets and/or Card Presets)
 - Click “**Synchronize**” and wait until the transfer is complete
 - Click “**Return**” to go back to the main editor
- If you **just wish to edit the current preset** remote-controlled from the PC, please select the following icons/check boxes:



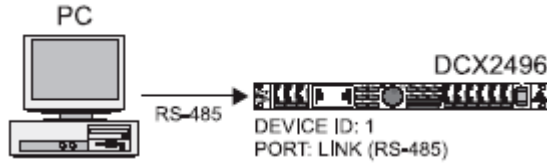
Then click “**Synchronize**” and wait until the transfer is complete

Then click “**Return**” to go back to the main editor

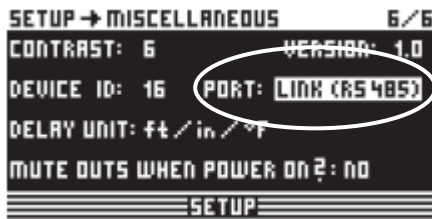
Please keep the “**Stay Synchronized**” box **always active!**

TIP: In the above screenshot the “DCX2496” has been renamed “My Main DCX #1.”

Example 2: PC to 1 DCX2496 via RS-485

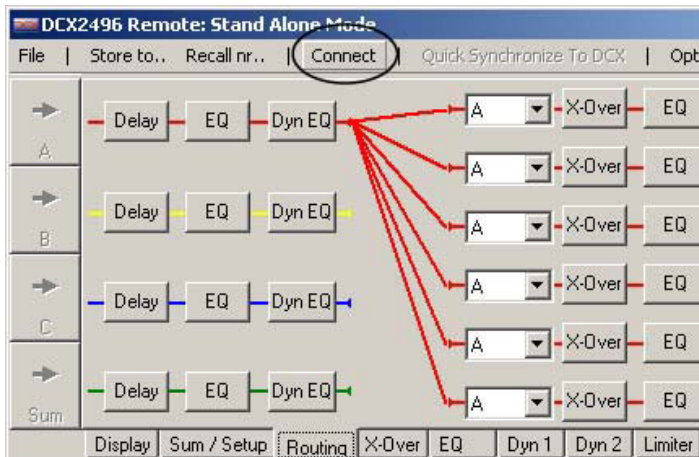


1. Connect the DCX2496 via the RS485 port (LINK A or B) with the RS-485 card on your computer and **set the TERM switch** on the DCX2496s rear to “on.”
2. Power up the DCX2496 and the PC.
3. Go to DCX > SETUP page 6/6 (Miscellaneous) > select “PORT: LINK (RS485)”



NOTE! All changes you have done on the SETUP page (like new port or device ID select) will only be stored permanently if you change to another menu page (e.g. OUT 1) before powering off the DCX2496!

4. Launch the Remote Editor Software on the PC.
5. Go to the “Connect” page



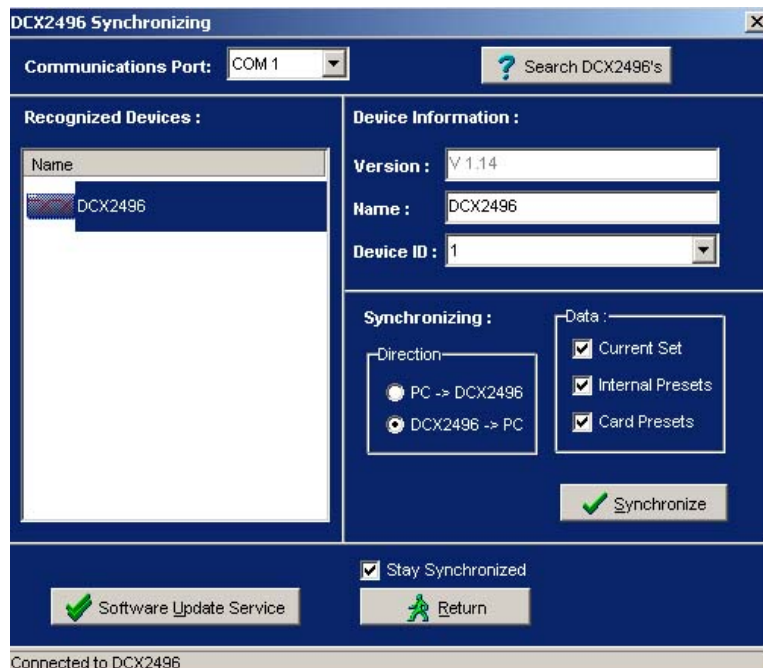
6. If the DCX2496 hardware was not found automatically, change the “Communications Port” and click “?Search DCX2496s”.



TIPS:

- If you wish to use the RS-485 connection, it also appears as a COM port in the “Communications Port” entry!
- **If you wish to use the RS-485 connection, you need a true RS-485 card on your computer!** A standard network card (e.g. like those found in laptops) will not work correctly (no RS-485 protocol!), even if the port connection looks similar!

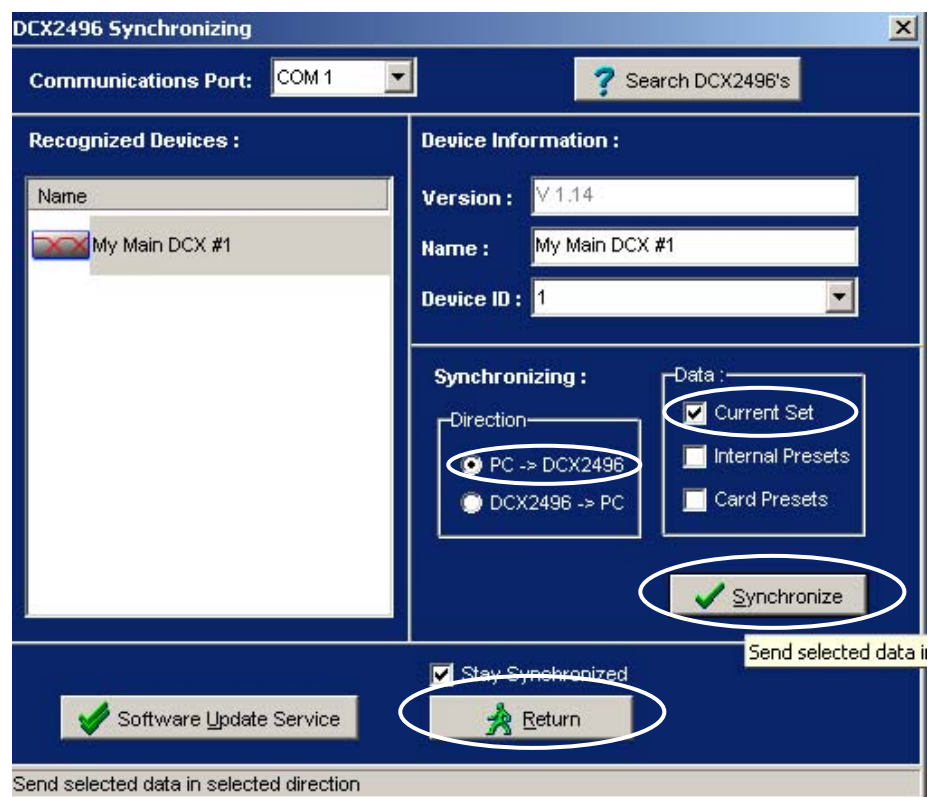
7. Now you should see the following screen:



8. You have different “Synchronizing” options (identical to Example 1):

- **Loading Presets and/or the current set from the DCX2496 to the PC:**
 - Select “Direction” DCX2496 -> PC
 - Select the “Data” you wish to transfer (Current Set and/or Internal Presets and/or Card Presets)
 - Click “Synchronize” and wait until the transfer is complete

- Click **“Return”** to go back to the main editor
- **Copying Presets and/or the current set from the PC to the DCX2496:**
 - Select **“Direction”** PC -> DCX2496
 - Select the **“Data”** you wish to transfer (Current Set and/or Internal Presets and/or Card Presets)
 - Click **“Synchronize”** and wait until the transfer is complete
 - Click **“Return”** to go back to the main editor
- If you **just wish to edit the current preset** remote-controlled from the PC, please select the following icons/check boxes:



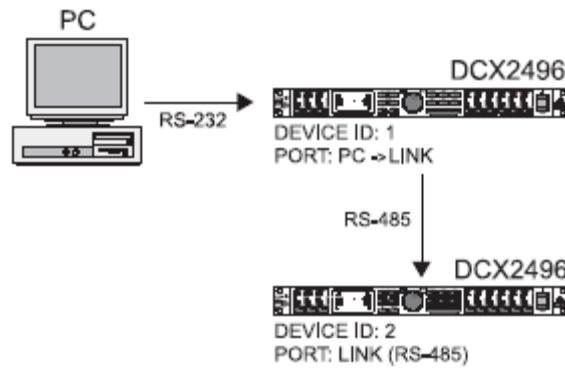
Then click **“Synchronize”** and wait until the transfer is complete

Then click **“Return”** to go back to the main editor

Please keep the **“Stay Synchronized”** box **always active!**

TIP: In the screenshot, the “DCX2496” has been renamed “My Main DCX #1.”

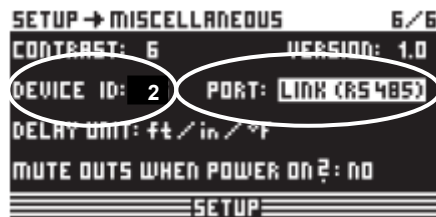
Example 3: PC to two DCX2496s (PC<RS232>1st DCX<RS485>2nd DCX)



1. Connect the **first DCX2496** via the RS232 port to the COM port on your computer.
2. Connect the **first DCX2496** via its LINK A (or B) port (RS485) to the LINK A (or B) port (RS485) of the **second DCX2496**.
3. Push the **TERM** switch to **ON** at both **DCX2496s**.
4. Power up both DCX2496s and the PC.
5. Go to **first DCX2496** to SETUP page 6/6 (Miscellaneous)
 - select "DEVICE ID: 1"
 - select "PORT: PC -> LINK"



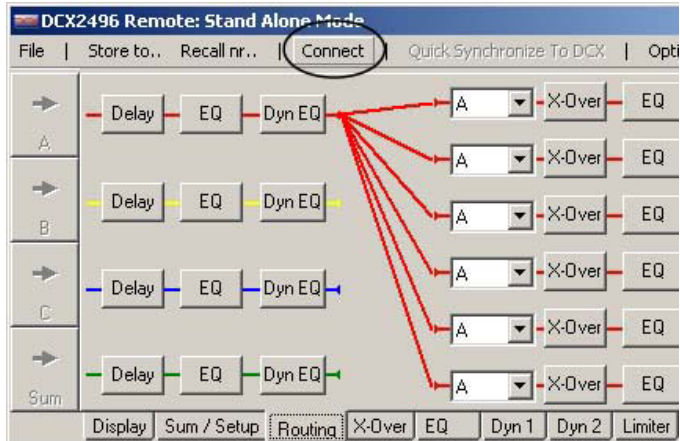
6. Go to **second DCX2496** to SETUP page 6/6 (Miscellaneous)
 - select "DEVICE ID: 2"
 - select "PORT: LINK (RS485)"



NOTE! All changes you have done **on the SETUP page** (like new port or device ID select) **will only be stored permanently if you change to another menu page** (e.g. OUT 1) **before powering off** the DCX2496!

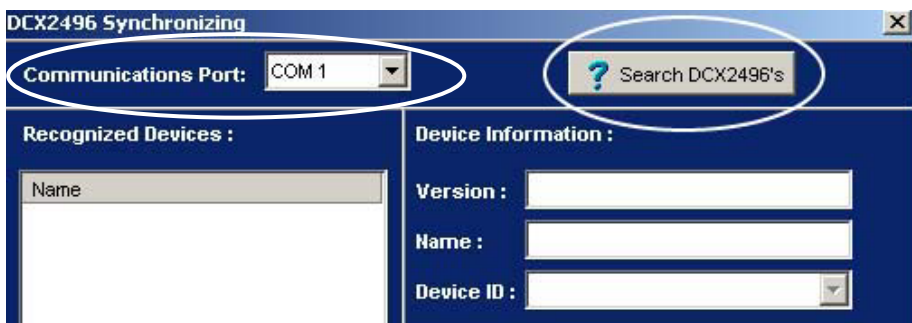
7. Start the Remote Editor Software on the PC.

8. Go to the “Connect” page

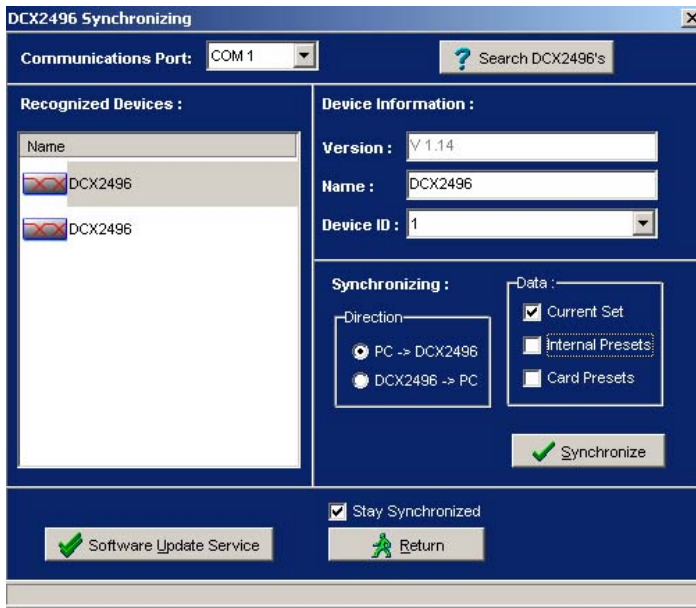


9. a) If both DCX2496s were not found automatically, change the “**Communications Port**” and push “**?Search DCX2496s.**”

b) If only one DCX2496 was found automatically, push “**?Search DCX2496s**” (without changing the Communication Port).



10. Now you should see the following screen:



11. Now you have the same “**Synchronizing**” options (per DCX2496 device) like in “Examples 1 & 2” (see above)!
- After selecting the “**Direction**” and “**Data**” settings, click “**Synchronize**” and “**Return**” to go back to the main editor.
-

How to switch between first and second DCX2496 for PC editing

Let’s look at an example. Say you want to do the following:

- a) edit the input A EQ curve of preset 19 at DCX2496 ID 1 and then
- b) edit the input A EQ curve of preset 20 at DCX2496 ID 2

Preparation:

To check the correctness of changes on the DCX2496 displays, select IN A and then page 3/5 (“IN A -> EQ 3/5”) on both DCX2496s.

Then, RECALL on DCX2496#1 > internal preset 19 (“F1220”) and on DCX2496#2 > internal preset 20 (“F1520”).

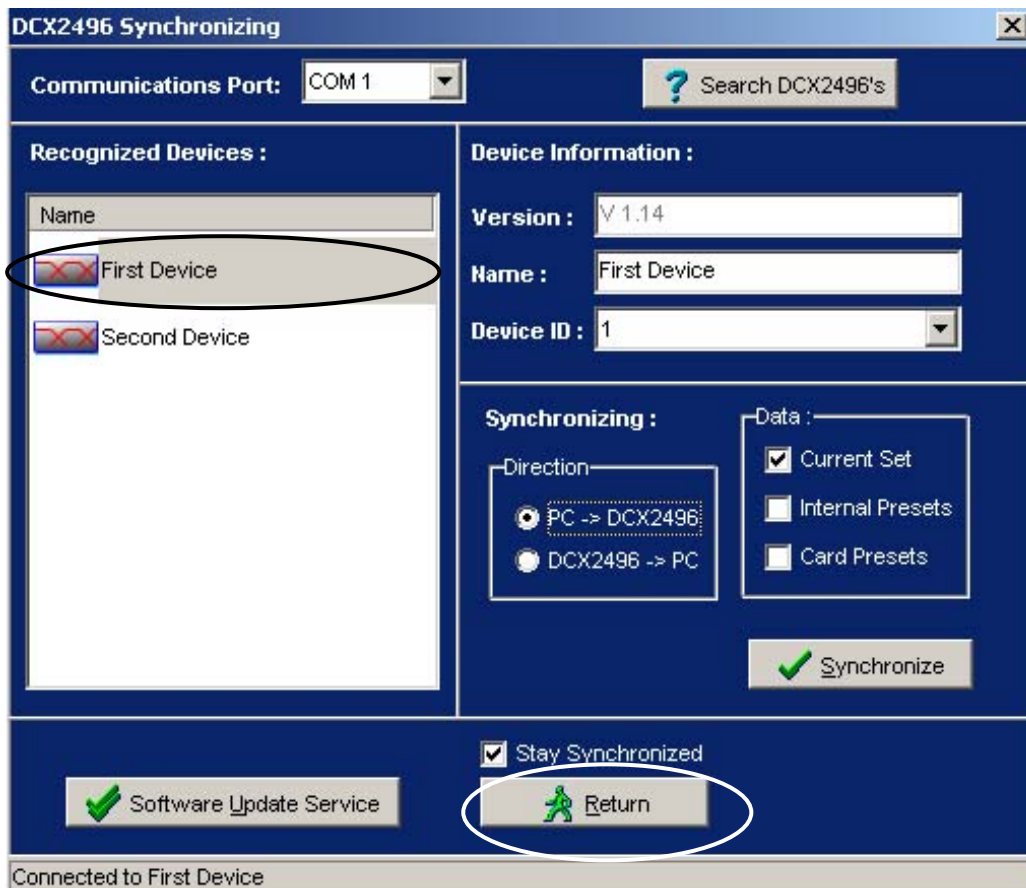
Procedure 1 (Edits on DCX2496 ID 1):

Now start on the PC:

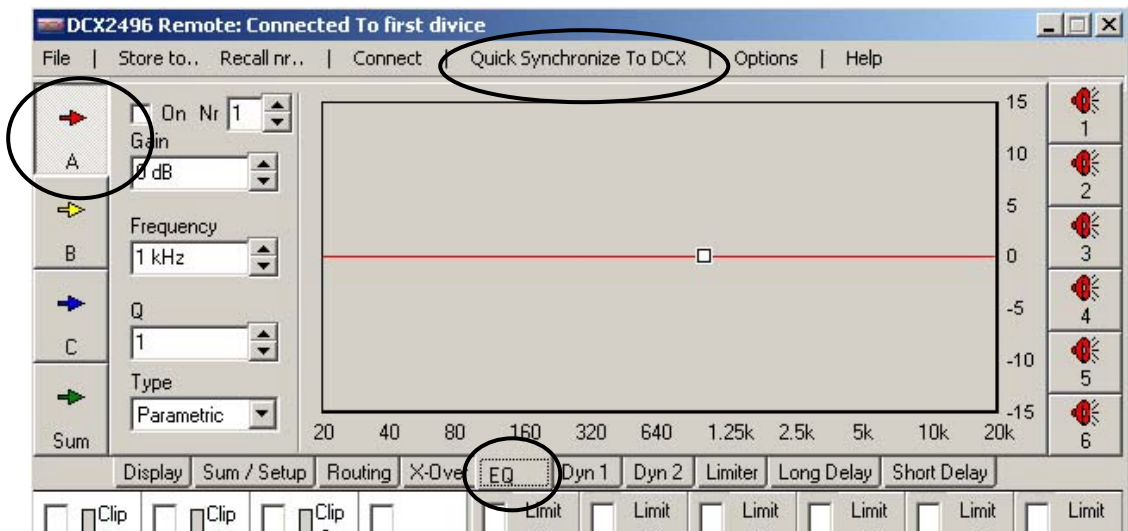
1. **Rename** both DCX2496s to “First Device” (the DCX2496 with ID 1) and “Second Device” (the DCX2496 with ID 2) by clicking on the text behind “Name.” This way, you can easily identify both DCX2496s.

The individual names are stored on the DCX2496 hardware even after you power them down, so these names will appear even when you start the remote software again (even on a different computer).

2. Click on the “**Connect**” page on “**First Device**” in the left field “**Recognized Devices**” (the background changes from grey to blue but, of course, the color doesn’t matter)
3. Click “**Return**”

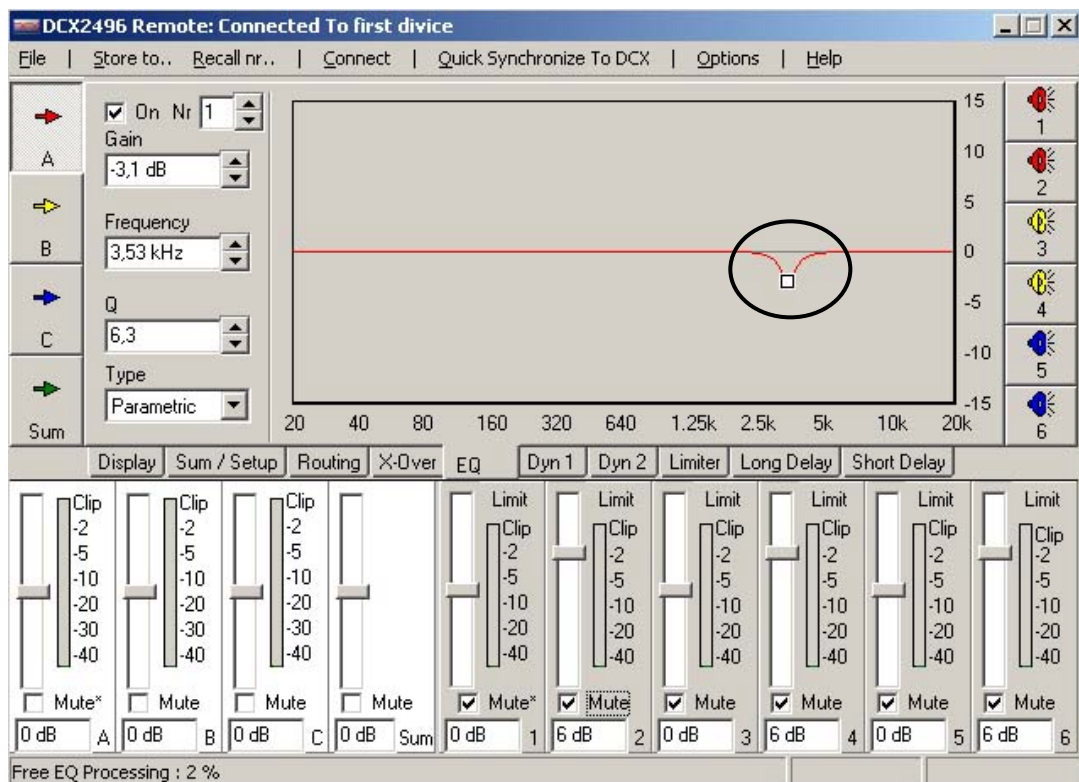


4. Select **EQ** page, **IN A** (on the left) and then “**Quick Synchronize to DCX**”



With “Quick Synchronize to DCX,” the PC software receives all the information (parameter settings) from the current DCX2496#1 preset directly sent from the hardware (in our case “preset 19 > F1220”).

Now the screen looks like this:



If you now move the small white rectangle in the curve using the mouse, you can see the curve instantaneously changing on the DCX2496 LCD as well.

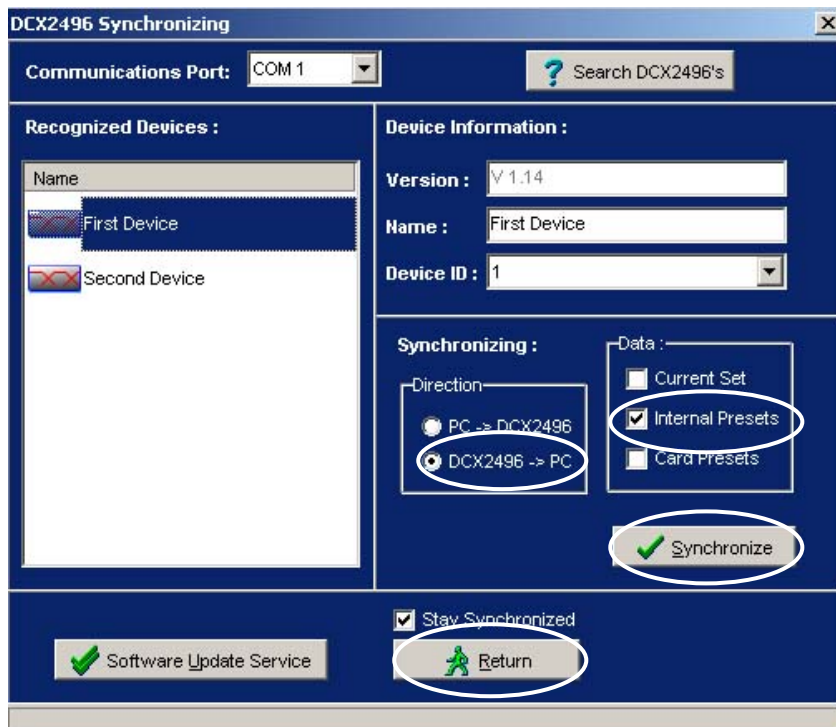
Now, all other changes on the PC screen will also be immediately transmitted to the first DCX2496 with ID 1.

Of course, you can also **load the preset you wish to edit** using the PC remote software and you can also **store the current preset edits** under the “Store to..” pop-up menu.

a) You can instantaneously get a factory preset by “Recall nr..” > “Recall From Internal Presets” > and then selecting the desired preset.

b) If you want to use one of your own user presets stored in the internal memory of the DCX2496#1, please do the following:

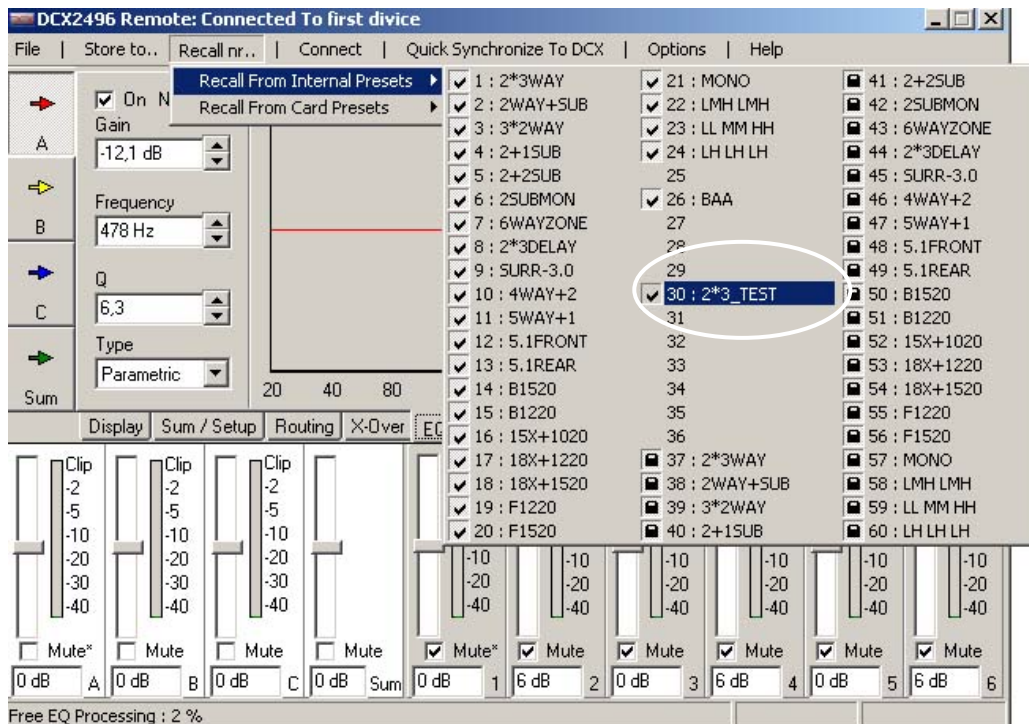
Select the following items on the “**Connect**” page:



Then, click “**Synchronize**” (wait until complete)

Click “**Return**”

Now you can select the desired preset by using “**Recall nr..**” (see below)



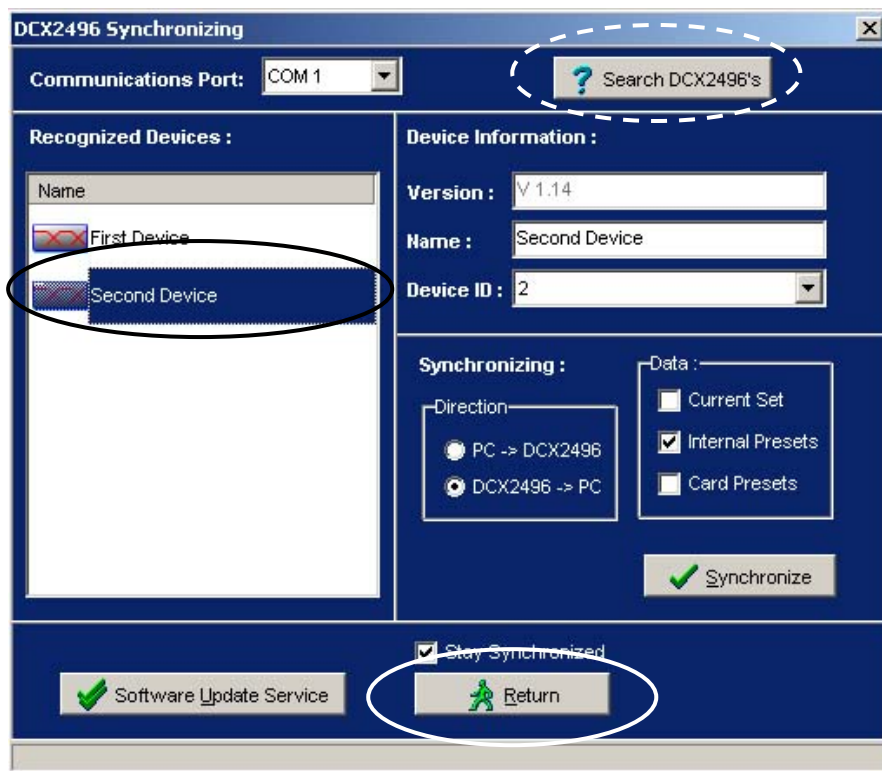
And now you can edit all parameters as described above.

If you wish to store your edits, go to the “Store to..” pop-up menu (next to “Recall nr..”). Here you can also clear or lock presets.

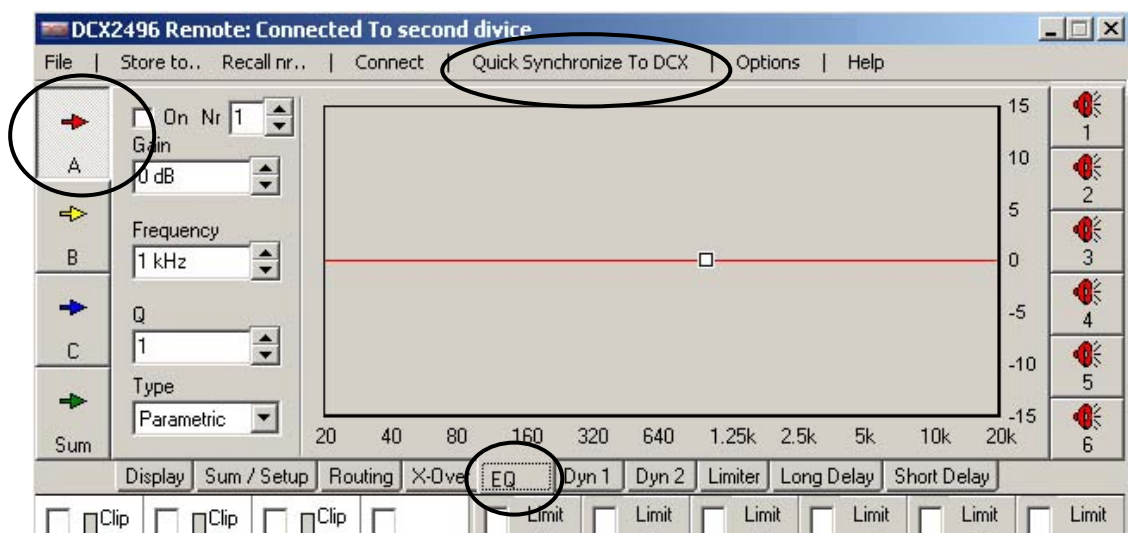
Procedure 2 (Edits on DCX2496 ID 2):

First we have to change the PC remote control mode from Device ID 1 to ID 2.

1. Go to the **“Connect”** page
2. If not all not devices are displayed, click **“? Search DCX2496s”**
3. Click on **“Second Device”** in the left field **“Recognized Devices”** (the background changes from grey to blue but, of course, the color doesn’t matter)
4. Click **“Return”**

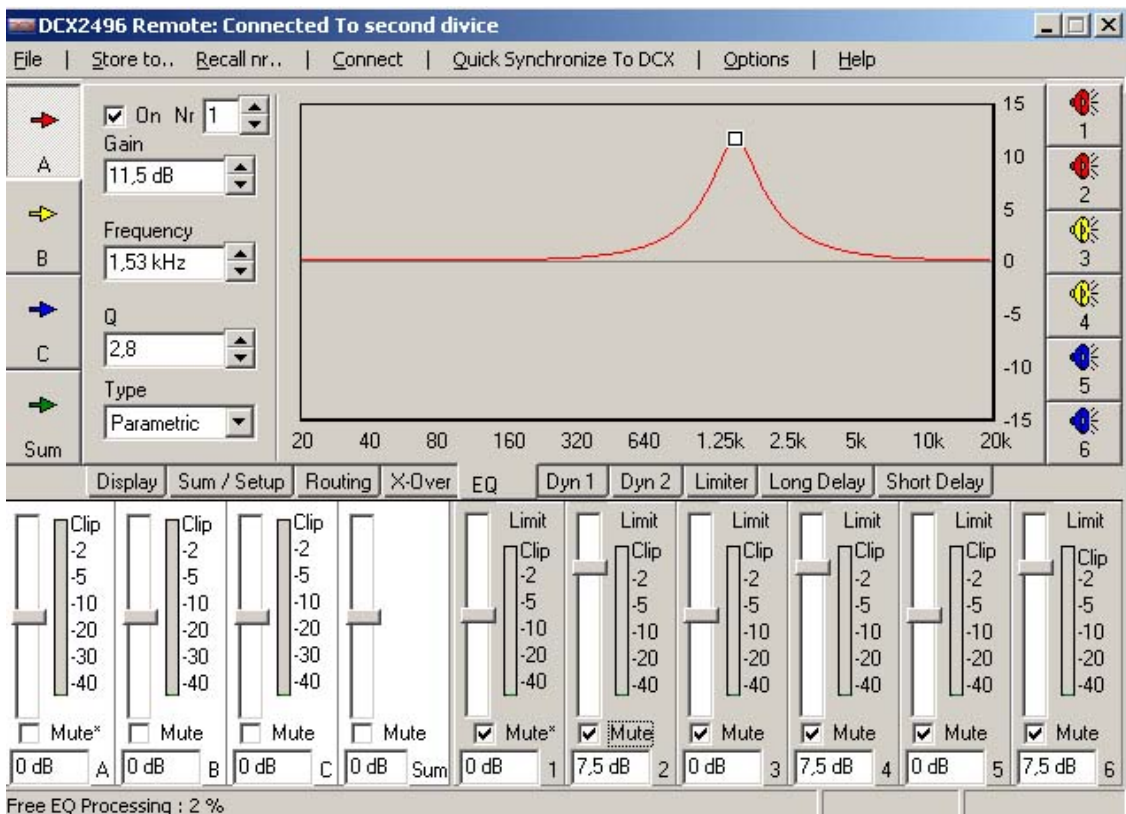


5. Select **EQ** page, **IN A** button and then **“Quick Synchronize to DCX”**



Using “Quick Synchronize to DCX,” the PC software gets all the information (parameter settings) from the current DCX2496#2 preset directly from the hardware (in our case “preset 20 > F1520”).

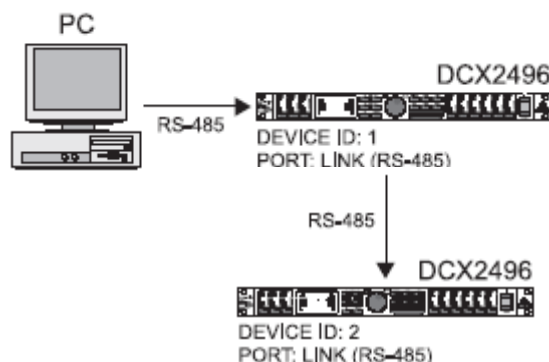
Now you should see the following screen...



The changes made on the screen are immediately transmitted to the second DCX2496 with ID 2.

Please look at the blue bar at the top of the window: Here you can observe which DCX2496 is currently connected to the remote software. In the above case, it is connected to our “second device” (with the device ID 2).

Example 4: PC to 2 DCX2496s (PC<RS485>1st DCX<RS485>2nd DCX)



1. Connect the **first DCX2496** via its LINK A port (RS485) to the RS485 port of your PC card. **(This will only work with a true RS-485 card, not a standard network card like those found in laptops!)**

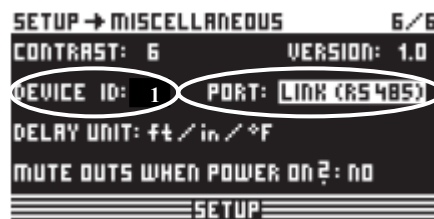
2. Connect the **first DCX2496** via its LINK B port (RS485) to the LINK A (or B) port (RS485) of the **second DCX2496**.

3. Push the **TERM** switch only on the **second DCX2496** to **ON**.

4. Power up both DCX2496s and the PC.

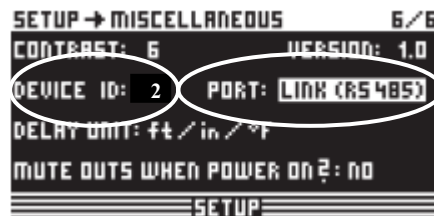
5. Go to the **first DCX2496** to SETUP page 6/6 (Miscellaneous)

- select "DEVICE ID: 1"
- select "PORT: LINK (RS485)"



6. Go to the **second DCX2496** to SETUP page 6/6 (Miscellaneous)

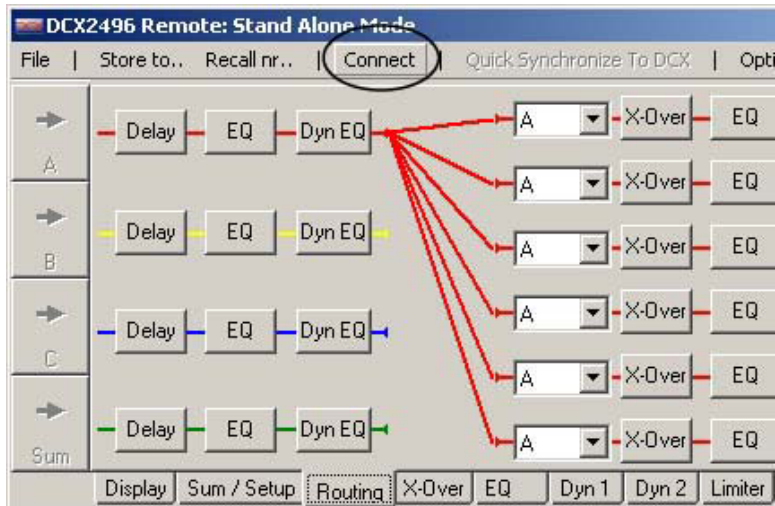
- select "DEVICE ID: 2"
- select also "PORT: LINK (RS485)"



NOTE! All changes you have done **on the SETUP page** (like new port or device ID select) **will only be stored permanently if you change to another menu page** (e.g. OUT 1) **before powering off** the DCX2496!

7. Start the Remote Editor Software on the PC.

8. Go to the "Connect" page



From now on, all procedures and features are exactly like those in Example 3 (beginning at step 9, see page 19).

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