DCX.Client

Remote control software for DCX2496

STUTE Engineering

1. Introduction

1.1 How does it work?

To control the Behringer DCX2496 remotely by Wi-Fi you need this software and the “DCX.Server” software on a 2nd PC.

- The “DCX.Client” or “DCX.Mixer” provides the user interface, like a gain slider or the mute switches.
- The “DCX.Server” controls the DCX 2496 via a USB-RS232 interface.
  - The MS-Windows PC with DCX.Server must be connected to the local network via LAN cable.

Note: “DCX.Client & DCX.Mixer” is able to control up to 16 cascaded DCX2496 devices. Read the Behringer DCX manual to get more details. **DCX2496 LE models are not supported** (no RS232/RS485 interface).

1.2 Supported operating systems

Android, macOS, MS-Windows. For all operating systems as free full version.

2. Important

- Take notice the instructions from the “DCX.Server” manual
- Wrong DCX2496 settings can damage your audio equipment or may cause damage to the ear
- You use the software on your own risk

3. Quick start

Preparation

- Connect the DCX2496 with the DCX.Server PC via an USB RS232 interface
- Power on the DCX2496
- Start “DCX.Server” software. Select the COM port (RS232) for the USB RS232 interface
  - Read more in the “DCX.Server” manual

Connection to DCX2496

- Start the “DCX.Client” software
- “DCX.Client” search automatically the “DCX.Server” after start. Wait 5..20 sec
- When the “DCX.Server” is found, select a DCX2496 device ID (if known, default = 1)
  - Or press “Find DCX devices…” to identify your DCX2496 ID’s
- Press the button “Connect/Read” to read the DCX2496 settings

3.1 Firewall/network communication

Important: Allow the network communication between the software “DCX.Server” and “DCX.Client” via the firewall from the DCX.Server PC. See also chapter 6 in cases of connection issues to DCX.Server.

During operation, the PC firewall detects the data exchange via your network. When prompted, allow communication (TCP/IP and UDP)!

4. User interface

4.1 Page “Home

Use the page to connect to the DCX2496 device and read out the settings. In addition, you will find memory locations for your DCX2496 presets.

1. Pages for the different DCX functions. Select a tab to see the details
2. Select Input (A,B,B,Sum) and Outputs (1..6). Used at page EQ, X-Over and Limiter
3. Search DCX2496 devices and update the „Select ID“ list
4. Read settings from DCX2496
5. Select a DCX2496 device ID (default = 1). If unknown press “Find DCX…”
6. Presets to store / restore DCX2496 settings. “To Disk” = Save at device, “To DCX” transmit to DCX2496
7. Status message
8. Additional message or source to the selected channel from (2)
9. Mute/un-mute all outputs
10. Undo / Redo last action
11. Mouse click at the image opens the PDF help from Internet

4.1.1 Control a second DCX2496

Note: Further DCX2496 are connected via RS485 bus to the first one. Read more in the Behringer manual.

1. Go to the „Home“ page
2. Select another DCX2496 Id
3. Press „Connect/Read“

4.1.2 Page “A B C Sum”

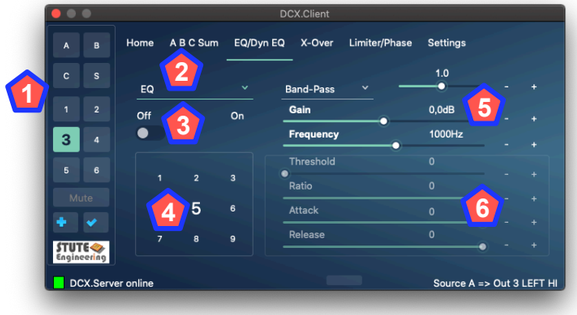
Control the DCX2496 input gain, mute and delay settings.

1. Input A, B, C, Sum : Slider controls gain, if “Delay View” = off. “Delay view” = on, slider control delays
2. Slider “Sum” gain or gain of inputs “A,B,C”, depending at (3)
3. Setting for “Sum” (disabled by “Delay view” (4) = on). **Out** = Control the “Sum” gain total. **In A or B or C**: Gain of the selected input. Slider (2) controls the gain value
4. Delay view: Slider controls “Gain”, switch „Delay view“ off. Or „Delay“ values for all inputs if switch „Delay view“ is on
5. Mute the channel

Note: The gain step rate (0.1dB, 0.5dB or 1dB) is defined in the program “Settings”

Note: Depending at the Input configuration of the DCX2496, “Sum” displays “off”, “B+C”…

4.1.3 Page “EQ/Dyn EQ”



Control the 9 channel equalizer and dynamic equalizer for the inputs and outputs.

Note: You find the details to the described DCX2496 device functions in the device manual.

1. Select the Input (A, B, C, S) or Output (1..6) channel. The elements displays the matching values for the channel
2. Select the “EQ” or “DEQ” settings
3. Switch for the selected channel the “EQ” or “DEQ” on or off
4. EQ channel number, enlarged number indicates selected EQ number
5. EQ parameter
6. DEQ parameter

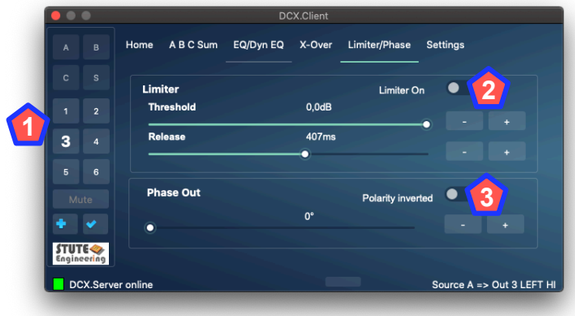
4.1.4 Page “X-Over”

Control the cut-off frequencies, filter types and delays for the outputs 1 to 6.

Note: Read more to the function details in the Behringer DCX2496 user manual

1. Select a Output (1..6) channel. The elements displays the matching values for the channel
2. Parameter “Lower Cut-Off” frequency and filter type
3. Parameter “Upper Cut-Off” frequency and filter type
4. Set X-Over frequency “Link”
5. Mute the selected output
6. Change from “Short” to “Long” delay values
7. Delay: Slider delay value, switch delay off or on

4.1.5 Page “Limiter/Phase”



Adjust the limiter and phase settings for the output 1 to 6.

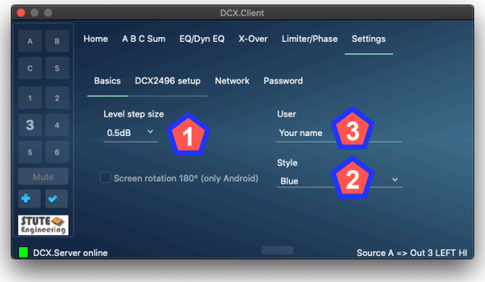
Note: You find the details to the described functions in the Behringer DCX2496 device manual.

1. Select a Output (1..6) channel. The elements displays the matching values for the channel
2. Limiter on/off and settings
3. Switch Phase non-inverted/ inverted (0°/180°) and phase slider

4.1.6 Page “Settings”

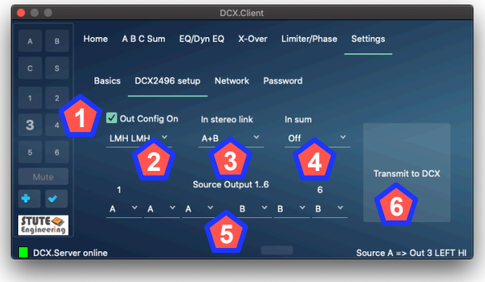
Note: Check the Behringer DCX2496 manual for more details.

4.1.6.1 Tab „Basics“



1. Level step size: Set the gain size for all “Gain” slider in dB (Recommended: value 0.5 or 1 reduces the RS232 and network data traffic)
2. User: Name is displayed in DCX.Server, after successful connection
3. Style: Choose a app colour style

4.1.6.2 Tab „DCX2496 setup“



1. Out Config On: Enable or disable the Output Configuration setting, see also (2). Note: For more details read the DCX2496 manual.
2. Out Config: Set a DCX2496 output configuration e.g. Group LMH LMH = Out 1=Low, Out 2=Mid, Out 3=High, similar for Out 4 to 6.
3. In Stereo: Adjust the DCX2496 input stereo link (e.g. A+B, changes at Input A are automatically transferred to Input B)
4. In Sum: Set source signals for SUM signal (e.g. A+B, Sum = Input A + B)
5. Source Output: Set source for each output channel (e.g. In A or Sum)
6. Transmit to DCX: Transmit the setup to DCX2496 device

4.1.6.3 Tab „Network“

1. DCX.Server IP: IP address of the computer where DCX.Server is running. Tip: Find the DCX.Server see “star 4” or star “2” for connection issues.
2. Input DCX.Server IP manually (from client ver. 2.3)
   - Off: DCX.Client search for IP address automatically
   - On: Input the DCX.Server IP manually by connection error
3. Port value. Must be identical with the value from the DCX.Server (default 40000)
4. Find DCX.Server: Button executes a network request to find the IP address of the DCX.Server
5. Display the DCX.Server software version.
6. Shutdown: Remote shutdown of the computer where the DCX.Server is executed! **Note: Not supported under Linux operating system.**

Attention: A shutdown command quit the DCX.Server PC system. Not saved data from other applications, which are running on the same PC, will be lost!

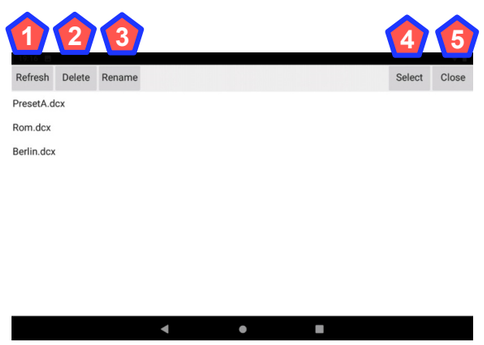
4.1.6.4 Tab „Password“

Password: Protect some functions via a password entry: “Connect/Read..”, and “Shut down”.

1. The password is set, when both password entries “Password” and “Password confirmation” are the same and the text “Password” lit green.
2. Change: Press the button “Change” to set or erase an existing password. Erase the password input via a two times blank password entry. Change an existing password: Enter first the existing password. Afterwards enter the new password.

4.1.7 Preset file dialog

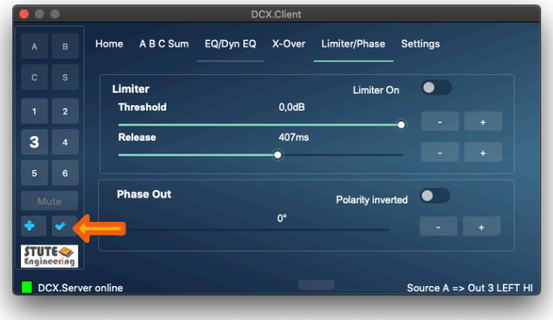
Dialog screen to select a file with DCX2496 settings. The settings are transferred to the device afterwards. You open the dialog via the button “To DCX” from “Preset File” of the “Home” page.



1. Refresh: Read all files
2. Delete: Erase a selected file
3. Rename: Input an new file name
4. Select: Choose a file and press „Select“ to transmit the settings to the DCX2496
5. Close: Close the screen without a selection

4.1.8 Undo-Redo Function

With the Undo-Redo Function you compare easily acoustical two different settings of a single DCX2496 function, e.g. the check of the gain level change for a mid-range speaker for a 3-way loudspeaker box.



Steps:

1. Adjust a DCX2496 parameter, like gain level “Out 2” to -5dB.
2. Press the button to the store the last change.
3. Check the acoustic
4. Adjust the same parameter to another value, like gain level “Out 2” to -2dB.
5. Check the acoustic
6. Press the button to recall the stored value from step 1, for the example gain out 2 to -5dB.
7. Press the button again to recall the previous value from step 4, for the example gain out 2 to -2dB.
8. Each repeated press switches between the two values.

Note: The Undo-Redo function is also applicable for cut-off frequencies or delays and other functions. The output and input stereo link configuration must be switch off.

5. Scale able screen

Note: Only MS-Windows and macOS.

6. FAQ

6.1 Messages “Footer”

- **DCX.Server offline, DCX.Server not found…** : DCX.Server not started or firewall/ network issues. Check the firewall settings. Allow the communication. Check: Is at your tablet/mobile phone Wi-Fi deactivated? DCX.Server PC needs a wired LAN connection, if when DCX.Client or DCX.Mixer runs on a different PC.
  - Tip: Enable „Input IP manually“ and enter the DCX.Server IP (from DCX.Client 2.3 and above)
  - See also chapter 6.4

- **DCX2496/RS232 interface not connected**: DCX2496 switched off or USB-RS232 interface not connected to the DCX2496. Connect the interface and re-start DCX.Server

- **DCX2496 offline / DCX2496 powered off/not connected**: DCX2496 device powered off or USB-RS232 interface not connected to the RS232 connector from the DCX2496 (rear side). Ensure that in a DCX2496 cluster the 1st DCX2496 device is always powered!
- **Select a DCX Id and connect…**: Message to the program start or after a disconnection. Next step: Connect the software to the DCX2496 and import the settings via the button “Connect/Read DCX…” from the “Home” page.
- **RS232/COM error**: USB-RS232 interface malfunction or not connected to your computer (DCX.Server)
- **DCX.Server software version not supported**: DCX.Server does not support the DCX.Client version (obsolete DCX.Server version). Update to the latest DCX.Server version.
- **Warning. Another client is connected!** Two or more DCX.Client’s are connected to the DCX.Server. Allowed are one. Close all not needed DCX.Client’s
- **Enable Wi-Fi…** :Wi-Fi is disabled at your device (e.g. mobile phone). Enable Wi-Fi for a proper work. Check the DCX.Server network connection.

Note Password forgotten”: Input “Stute Engineering” to reset the password

6.2 “Gain” step size

- Gain step size “Input” & “Output” different to 0.1dB: The steps size can be adjusted: 0.1dB, 0.5dB, 1.0dB. See tab “Settings”. Recommended: 1.0dB

6.3 X-Over

- Tab “X-Over”, text colour “Lower” and “Upper cut-off” is red in band-pass mode: Invalid value, lower frequency > upper frequency. Change lower or upper cut-off frequency.

6.4 Network / App

Server connection not possible? Check the IP address/Port of the DCX.Server and DCX.Client / DCX.Mixer:

- Check the IP list from the DCX.Server and select a valid IP address
- Example:
  - DCX.Client computer IP: 192.168.178.44 (MS-Windows command to view the IP of the PC: cmd/ipconfig)
  - DCX.Server computer IP: 192.168.195.1 select another IP, e.g. 192.168.178.72
- Server connection not possible: Allow communication via MS-Windows PC firewall
- Message “Enable Wi-Fi” or app DCX.Client quits immediately after start: Activate Wi-Fi at your mobile phone or tablet. Check the DCX.Server PC network connection.

7. System requirements

7.1 MS-Windows app

- Operating system MS-Windows (32/64bit) 10, 11
- CPU min. Intel Atom x5-Z8350 1.9GHz or faster (or adequate AMD type), 2GB RAM
- Download: http://www.Stute-Engineering.de , Menü „Download“

7.2 macOS app (Apple App Store)

- Operating system OS X Catalina (10.15) or newer

7.3 Android app (Google App Store)

- Operating system Android 8.1 or newer, 32bit & 64bit

7.4 Supported DCX2496 functions

7.4.1 Input

- In A/B/C/Sum: Level, Mute, Delay, EQ 1..9, Dynamic EQ, Sum Level from In A/B/C

7.4.2 Output 1..6:

- Level, Mute, Delay (long & short), EQ 1..9, Dynamic EQ,
- X-Over incl. X-Over link, Phase, Polarity, Limiter

7.4.3 DCX2496 Setup

- Adjustment “Out configuration” (MONO, LMH LMH,..)
- Adjustment “In Stereo Link” (A+B…)
- Adjustment Sum signal setup (A+B, A, B, C, …)
- Adjustment Output source for Out 1..6 (A,B,C, Sum)

Note: “Delay Link” is not supported and should be switched off.

8. DCX.Mixer

Also available is the DCX.Mixer as an alternative to the DCX.Client. You can find more on our homepage.

Web: http://www.Stute-Engineering.de