

dbc MidiControl Software Manual

MIDI Emulator for DHD Mixing Consoles

© 2009 DHD Deubner Hoffmann Digital GmbH /

dbc Digital Broadcast Consulting GmbH

Version: 1.3.0

Table of Contents

1	Terms of Use - Legal Disclaimer	1
2	About this Book	2
3	Overview	4
4	Licensing agreement of the dbc GmbH	5
5	Installation	6
	1 Functionality	6
	2 Conditions	6
	3 Installation	9
6	Settings (Einstellungen)	10
	1 Setup Mixer	10
	2 Setup MIDI	11
	Fader Keys	12
	Central Keys	13
	3 General Settings	15
7	The MidiControl Software User Interface	16
	1 The Main Window	16
	2 The Software Menus	16
	Datei	16
	Bearbeiten	17
	Mixer	17
	Ansicht	17
	MIDI	17
	? (Help)	18
	3 The Toolbar	18
	4 The Status Bar	18

Index

1 Terms of Use - Legal Disclaimer

dbc MidiControl Software

MIDI Emulator for DHD Mixing Consoles

© 2009 DHD Deubner Hoffmann Digital GmbH

This manual is copyright of DHD. It might be distributed and copied as long as it is copied completely as a whole and this copyright notice is included.

No part of this document may be copied or distributed without prior written permission of DHD Deubner Hoffmann Digital GmbH.

Windows is a registered trademark of Microsoft Corp., Redmond, Wash., USA. All other trademarks are the property of their respective owners.

Specifications and design are subject to change without notice.

The content of this document is for information only. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does neither convey nor imply any license under patent rights or other industrial or intellectual property rights.

Version 1.3.0, 21.08.2009

2 About this Book

This manual refers to the dbc MidiControl Software, Version 1.1.5.

Basically, the content of this manual is taken from the included documentation of the dbc MidiControl software. This manual should give you an understanding of how to use the dbc MidiControl software and its possible applications.


The software is developed for the Windows XP operating system. It has not been tested with other versions of Windows. The use with other operating systems can lead to limitation in use (e.g. graphic display).

For questions, please contact the dbc GmbH directly.

dbc GmbH
Imbekstieg 46
22527 Hamburg
Germany
<http://www.dbc-broadcast.de>

How to Use this Book

The Navigation Tree

You can find the navigation tree on the left-hand-side of the PDF document. Via the entries of this tree you can directly reach the several chapters and sections of this document. Click onto the text or the  symbol of an entry to display its content.

If a chapter includes further sections, you will find a plus-symbol in front of the entry in the navigation tree. Either you can click onto this plus-sign or you double click the text or the symbol of the entry to make the sub-branches of the further sections visible.



Search

You can find an alphabetical ordered list of keywords at the end of the document. Please see the page numbers in this index to find the respective keywords in the document.

Moreover, you can use the search function of your PDF reader to seek for any words.







Links

Links are underlined to separate them from the rest of the text. These links can be a connection to other chapters or sections in the same document or to an URL (internet address).

- Same document: The hand symbol  appears if you move the mouse over the link.
- URL: The hand symbol with an additional  appears if you move the mouse over the link.

Please notice, that you need an active internet connection to be able to execute a link to an URL.

The Meaning of Advices in the Text

Warning 	<p>The demands and advices in this fields should be followed unconditional, because otherwise hardware and software products, data bases, as well as persons may suffer a loss.</p>
Important 	<p>The demands and advices in this fields should be followed, because these contents are necessary for the proper operation of the DHD systems.</p>
Note 	<p>Recommendations and further information are marked as notes. Sometimes you will also find off-topic content in this field, which is related to the actual topic.</p>
Tip 	<p>Tips are helpful advices, which should make work with DHD systems easier.</p>
Weblink 	<p>In this fields you can find links to websites, which include for example an other manual or the possibility to download a driver for the respective DHD system.</p> <p>Please notice, that you need an active internet connection to be able to execute a link to an URL.</p>
Download 	<p>You can directly open and download a file if the respective link is marked as download link (file link).</p>

3 Overview

Multi-track productions are nearly always made with PCs today. There are software products for professional use like Digidesign ProTools or MAGIX Sequoia, that emulate complete mixers in the software. But with the mouse it is only possible to move one fader on the screen at the same time. That is why manufacturers like Mackie provide special controllers with faders. Most of these controllers are communicating with the software on the PC via MIDI. For ProTools there are fixed drivers you are not able to configure, but Sequoia allows you to adapt the settings of MIDI controllers.

Nevertheless, the software with a connected MIDI controller can not replace a mixer completely, so that both devices are needed. We discovered that many users are only working with a part of the MIDI controller functions, hence a lot of keys are unused. To save space, together with DHD in 2003 the idea was born to emulate a MIDI controller with a digital mixing console like the RM4200D. Consequently, the MIDI controller is no longer needed.

To keep the configuration of the DHD system simple, the communication is managed by an external Windows software.

With the aid of the dbc MidiControl software, a DHD RM4200D or 52/MX Mixing Console is able to control a software like Digidesign ProTools or MAGIX Sequoia that support the Mackie Control and/or Mackie HUI protocol. Therefore, the software emulates a Mackie Control or Mackie HUI MIDI controller. DHD can not guarantee compatibility to the afore mentioned systems of other manufactures or to the different revisions and software versions of these third party products respectively.

**Note**

DHD product/order number of the MidiControl software is RM420-554 MIDI Protocol Converter Software.

4 Licensing agreement of the dbc GmbH

The software of the dbc Digital Broadcast Consulting GmbH is international protected by copyright.

The client obtains usage rights of the software.

The intellectual property rights remain owned by the dbc Digital Broadcast Consulting GmbH.

The client is not allowed to change or translate the software.

The software of the dbc GmbH is protected by a software key, which is purchased by the vendor of the software. This key represents the license of the dbc software and is intended for the end customer solely and must not be realienated.

The dbc GmbH gives no guarantee to the accuracy of the software. Especially, liability claims concerning associated consequential damages (e.g. loss of profits, data loss, unavailable functionality etc.) are explicit excluded. Deficiencies need to be reported within 30 days after delivery.

The software is designed for the components (PC, operating system, ancillary equipment etc.) of the the initial installation (at the client). Due to the permanent improvement and the changes by the manufactures, the dbc GmbH can not guarantee that the software will work with successors of the components (PC, operating system, ancillary equipment etc.). The dbc GmbH will advice you if you want to update or exchange components.

5 Installation

5.1 Functionality

The following chart shows the communication between the involved components:



Important

Please note that the physical MIDI converters need to be ordered separately. DHD recommends the M-AUDIO MIDISPORT 1X1 USB interface, that can be ordered at DHD.

The dbc MidiControl software translates the MIDI commands of the recording software to DHD mixer conform commands and vice versa. Therewith a fader of a DHD mixing console sends its position continuously, a MIDI source must be assigned to this fader strip.

There are two different types of keys: fader related and central MIDI keys.

The function of the fader related keys is identical for all fader strips a MIDI source is assigned to (e.g. record, solo). Since it is also possible to assign audio sources, you should define key labels that are matching both source types.



Important

Do not assign a MIDI function to the ACC (Access) key. Otherwise it would be not possible to select another source.

Central keys must be situated outside the fader strips and can be used e.g. for transport control (play, stop, etc.). Up to 40 central MIDI keys can be defined within the DHD configuration.

Because the dbc MidiControl software emulates a hardware controller, it can not realise more functions than the original. Hence, depending on the chosen controller only 8 or 9 MIDI faders are useable.

5.2 Conditions

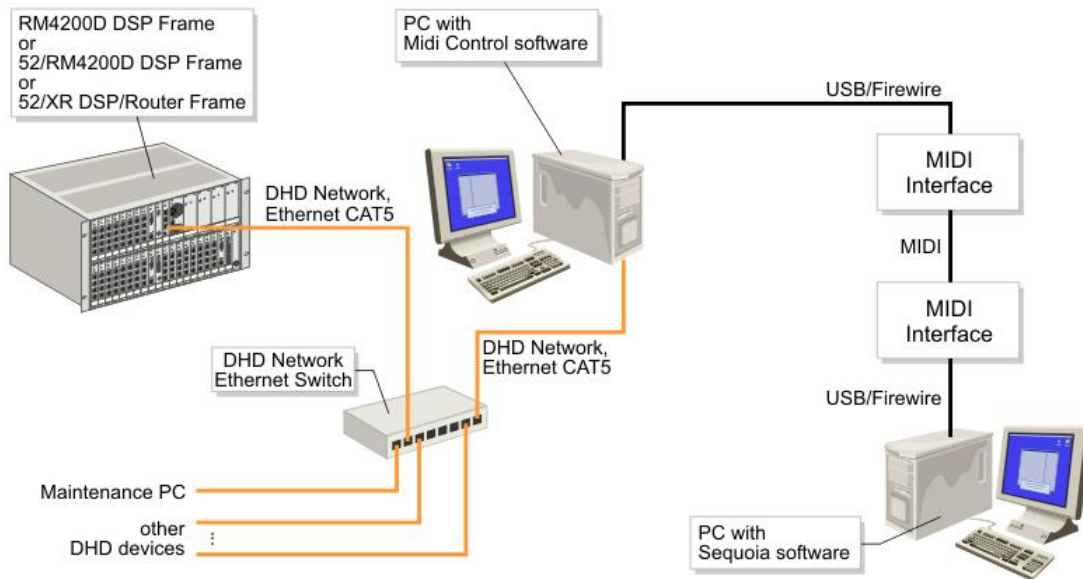
The dbc MidiControl software uses the DHD Communication Server that is intended for the operation on Windows XP or Windows Vista. For the communication via the MIDI interface, the standard API is used. Hence, all customary MIDI interfaces with Windows XP or Windows Vista drivers are suitable. Normally, it is possible to connect such an interface via USB to the PC and it is not necessary to open the PC to install a new card. The dbc MidiControl software can be configured to connect to the mixing console automatically after the software is started. Thus, the console can be switched on after starting the software.

Depending on the used system there are different possibilities:

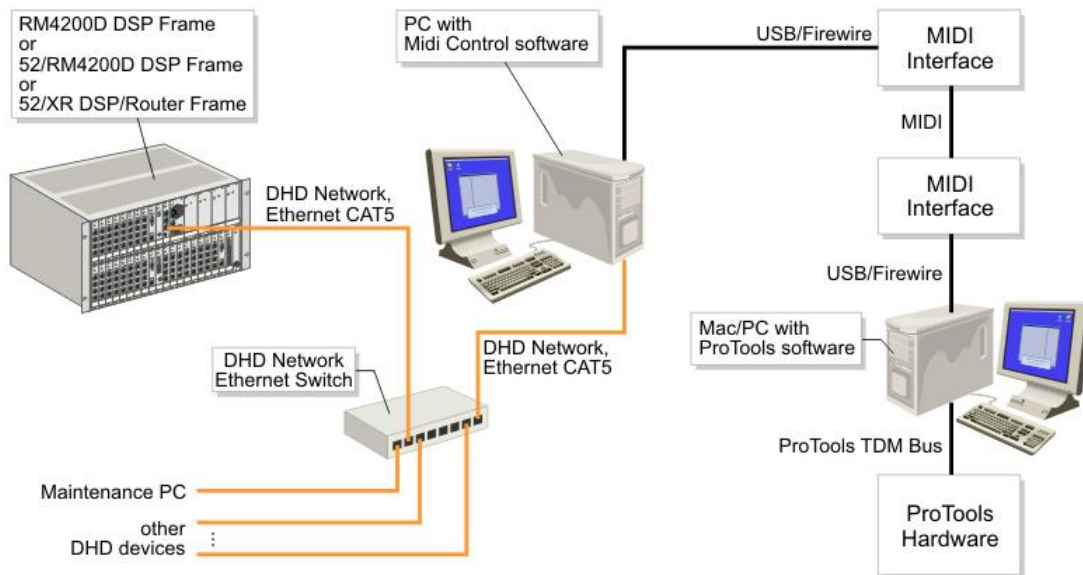
1. The recording workstation is not connected to the DHD network

In this case, the dbc MidiControl software needs to be installed on the service PC (or another PC) in the DHD network and a MIDI interface is connected to this PC via USB or Firewire. DHD recommends the M-Audio MIDI SPORT 1x1 USB/MIDI Interface. Of course the MIDI interface could also be provided by PCI card that installed in the PC. Connect a MIDI interface to the workstation with the recording software, too and configure it in the software. Both MIDI interfaces are interconnected with a customary MIDI cable (with 5-pin connectors).

In the following examples MAGIX Sequoia and Digidesign ProTools are used. Other recording software products are possible if they support the Mackie HUI or the Mackie Control protocol.



Physical MIDI connection between the PC with the MidiControl software and the recording workstation with Sequoia.



Physical MIDI connection between the PC with the MidiControl software and the recording workstation with ProTools and connected ProTools hardware.

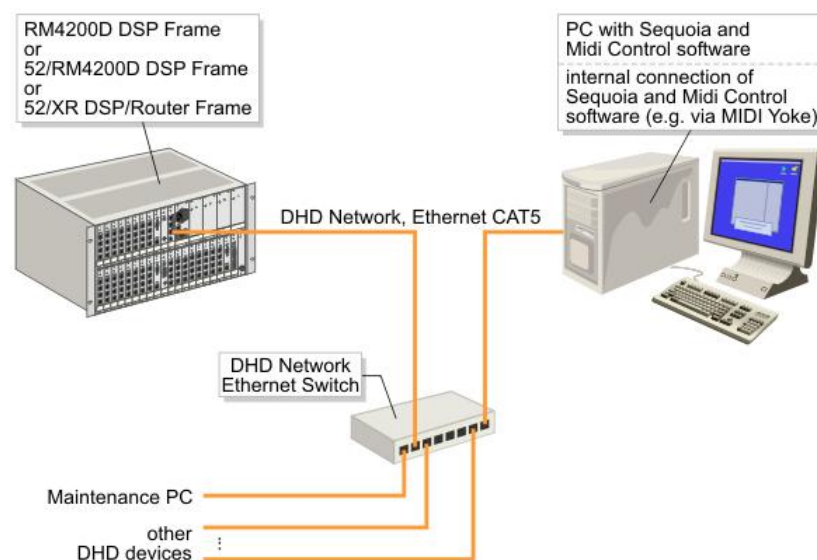
2. The recording workstation is connected to the DHD network

In this case, the software can be installed on the recording PC. If the recording PC is also connected to another network, for the communication with the mixing console, a second network card must be installed in the PC. Assign an available, fixed IP address of the DHD network to this network port. Remove the "network bridge" (network properties), so that Windows does not connect the networks.

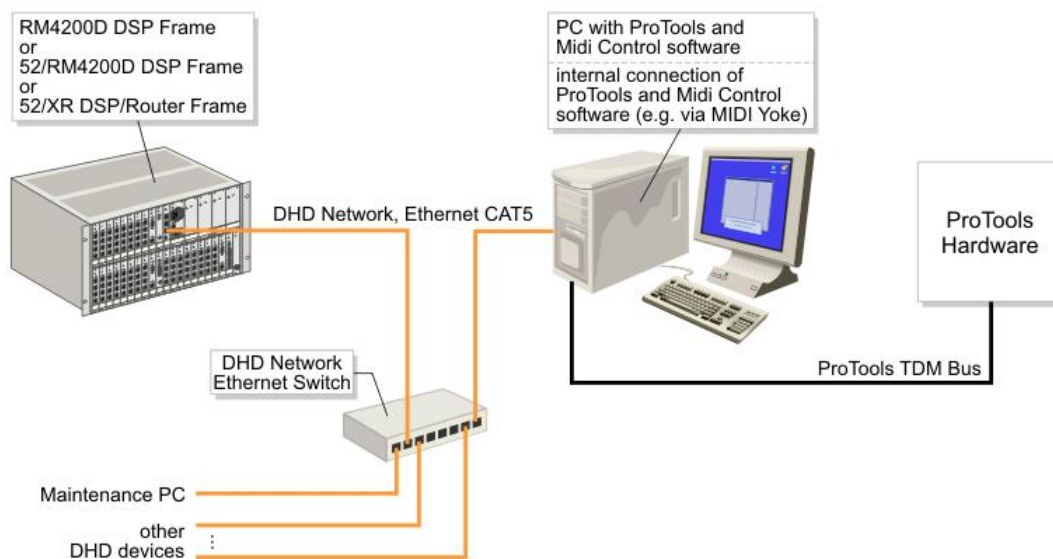
Only the MIDI connection is missing now. If both software applications are operated on the same PC, you can use the MIDI Yoke software of MIDI-OX (<http://www.midiox.com>). This software installs a multimedia driver that provides up to 8 MIDI ports. Within this software the data of the output MIDI Yoke 1 is received at input MIDI Yoke 1 etc. Use the following configuration:

```
Sequoia MIDI-Out => MIDI Yoke 1 => dbc MidiControl MIDI-In
Sequoia MIDI-In  <= MIDI Yoke 2 <= dbc MidiControl MIDI-Out
```

In the following examples MAGIX Sequoia and Digidesign ProTools are used. Other recording software products are possible if they support the Mackie HUI or the Mackie Control protocol.



MidiControl software is operated on the recording PC; MIDI connection via software.



MidiControl software is operated on the recording PC, that is connected to additional hardware; MIDI connection via software.

If the MidiControl software is running on another workstation than the recording software, the workstations need to be interconnected via MIDI (see 1.).

5.3 Installation

The installation of the dbc MidiControl software is quite easy: Extract all files of the archive in a folder (e.g. C:\Programs\MidiControl\)) and you may create a shortcut on the desktop or in the autostart menu.

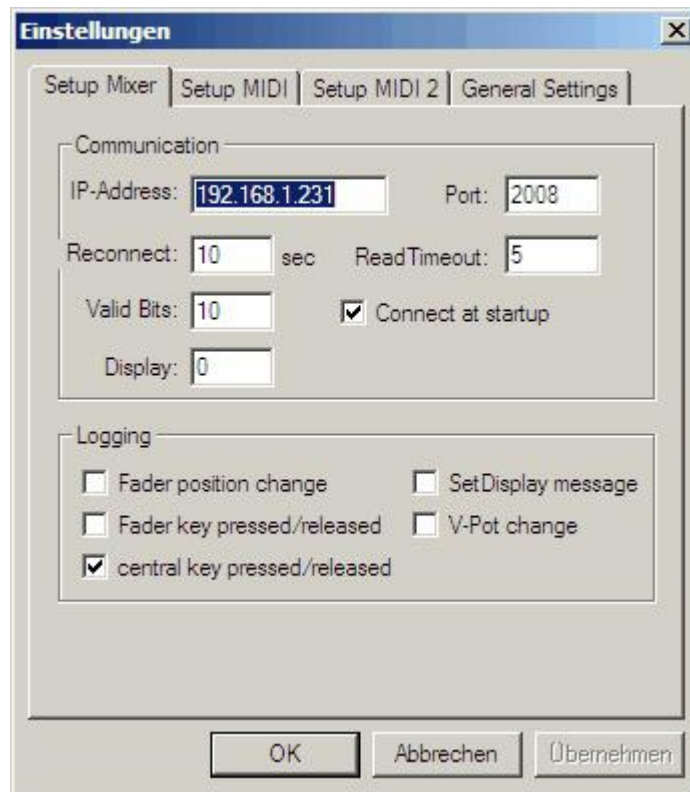
The configuration is saved in the file 'MidiControl.ini'. Make sure that the currently logged in user has write access to this file, otherwise the configuration can not be saved. Vice versa, you can use these access rights to prevent that users are able to change or delete the configuration.

The provided file 'MidiControl.ini' includes the control codes of two popular MIDI controllers (Mackie HUI and Mackie Control). The key labels of the controllers are included in tables to make the assignment faster. Do not modify these tables or the conversion will not work any longer.

6 Settings (Einstellungen)

6.1 Setup Mixer

The communication with the mixing console can be configured on the `Setup Mixer` tab:



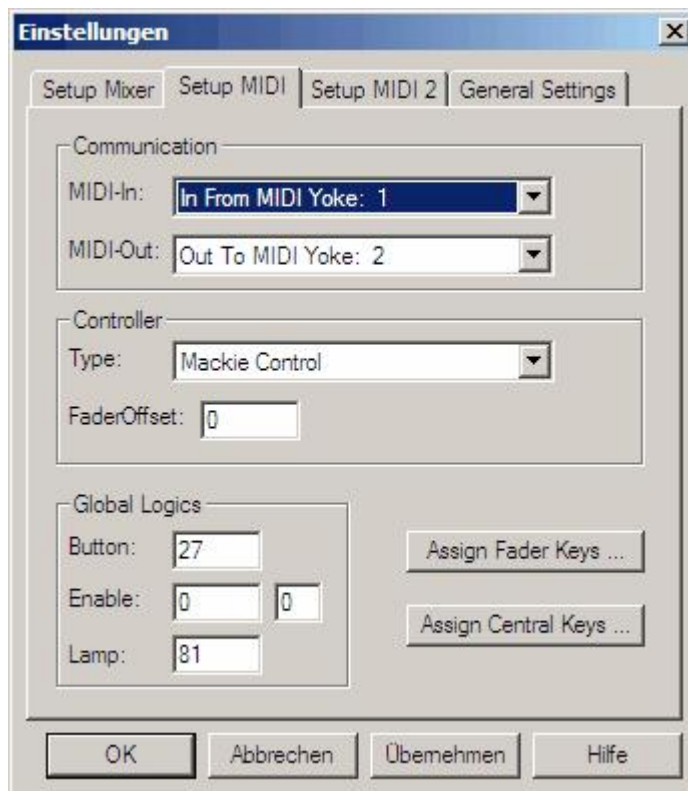
The Setup Mixer tab.

- **IP-Address** - Enter the IP address of the DHD system in this field.
- **Port** - Enter the TCP port number for the communication. The default value is 2008.
- **Reconnect** - This value represents the interval, the MidiControl software waits before it tries to connect or reconnect to the console.
- **ReadTimeout** - The time in milliseconds, the MidiControl software waits for an answer from the console. The default value is 5 milliseconds and should not be changed.
- **Valid Bits** - Number of valid bits for fader values. Since the resolution of the DHD mixing console is higher than in the MIDI controller, the lower bits are cut of.
- **Connect at startup** - If this checkbox is activated, the software establishes the connection to the mixing console automatically after the application is started. You should use this option if the MidiControl software is opened from the Autostart menu.
- **Display** - Determines a display of the fader module, wherein the track name is shown. If this value is 0, no display is used.
- **Fader position change** - Changes of the fader position are displayed in the log window.
- **Fader key pressed/released** - Pressed keys of the fader strips are displayed in the log window.

- **Central key pressed/released** - Pressed central keys are displayed in the log window.
- **SetDisplay message** - Setting display messages is shown in the log window.
- **V-Pot change** - Changes of the encoders in the fader strips are shown in the log window.

6.2 Setup MIDI

The MIDI communication can be configured on the `Setup MIDI` tab:

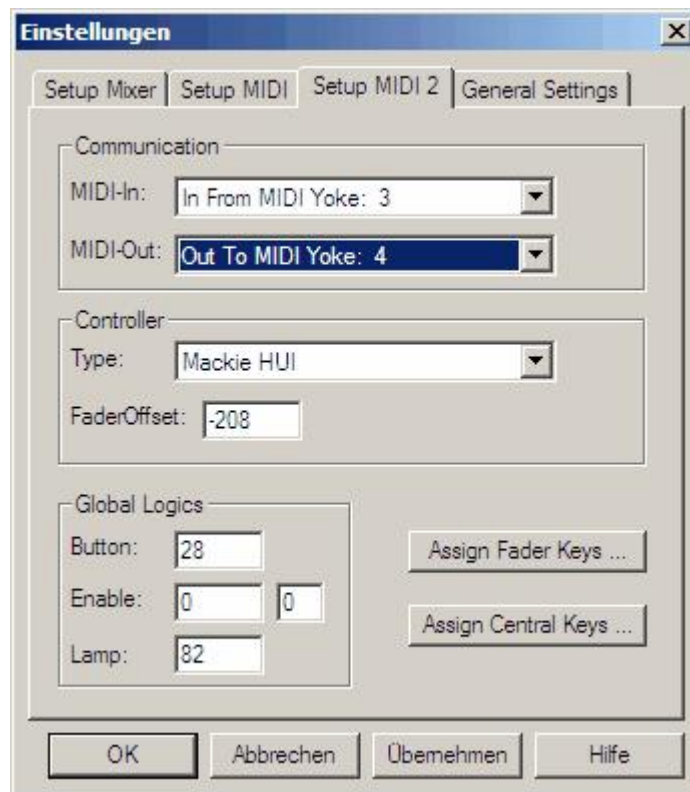


The Setup MIDI tab.

- **MIDI-In** - Defines the MIDI port for incoming data.
- **MIDI-Out** - Defines the MIDI port for outgoing data.
- **Type** - Selects the MIDI controller that should be emulated. Mackie HUI and Mackie Control are available.
- **FaderOffset** - Use this option to adapt the 0dB position of the faders.
- **Button** - The number of the Global Logic that activates this controller (MIDI switching). For switching, a 0 to 1 pulse is needed.
- **Enable** - The number of the Global Logic and its value that allows MIDI switching. The switching is always possible, if both values are 0.
- **Lamp** - The number of the Global Logic that signals the active status. The Global Logic is permanent 1 if the controller is active.

If the MIDI switching option is activated, you can configure the communication to the second recording PC on the `Setup`

MIDI 2 tab.

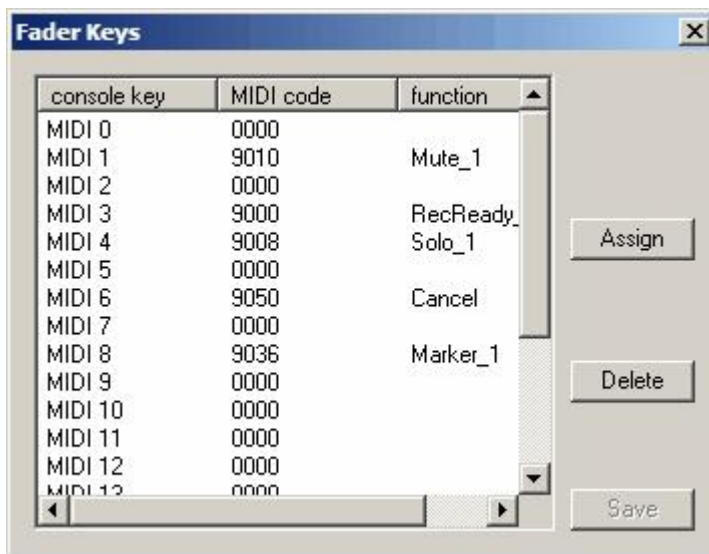


The Setup MIDI 2 tab.

The switching can be done at the DHD console via Global Logics. If the Global Logic in the field `Button` becomes active (pulse on), the software swaps to the second controller. The currently active controller is indicated by the Global Logic in the field `Lamp`.

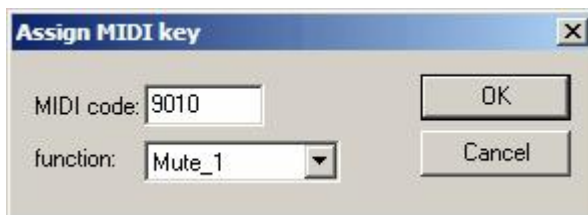
6.2.1 Fader Keys

Use the `Assign Fader Keys...` button on the `Setup MIDI` tab to assign the functions of the fader related MIDI keys. The assignment of the codes MIDI 0 - MIDI 19 to the physical keys is predefined by the DHD hardware. If you are unsure about the assignment, activate the logging on the `Setup Mixer` tab and find out the code by pressing the respective key at the console.



The list in this window shows the assignment of the MIDI codes to the console keys. In the `function` column, the assigned function is displayed as plain text. MIDI code 0000 means the key has no function.

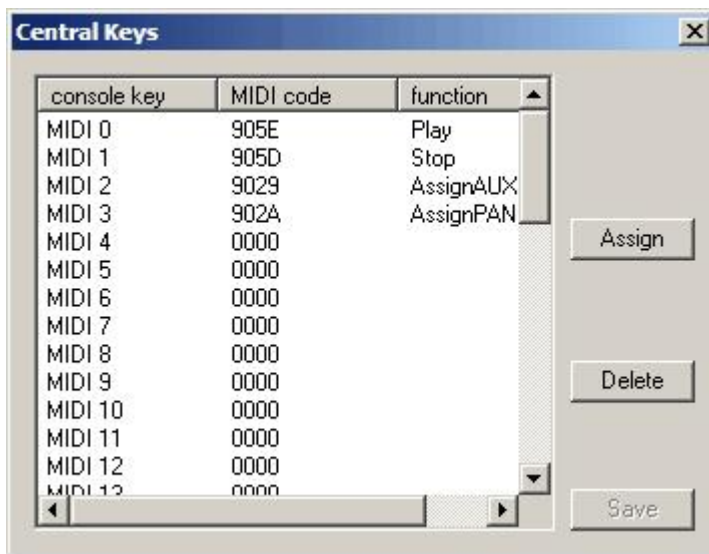
To change an assignment, mark the desired row in the list and click on the `Assign` button afterwards. A further window appears, wherein you can choose the desired function:



Confirm your changes with `OK` to close the window. Do not forget to save your settings by pressing `Save` before closing the `Fader Keys` window.

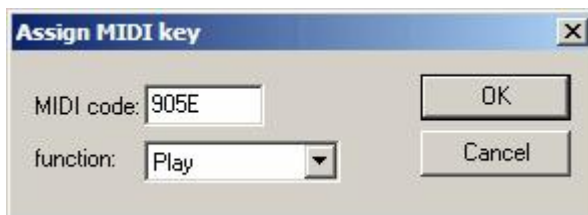
6.2.2 Central Keys

Use the `Assign Central Keys...` button on the `Setup MIDI` tab to assign the functions of the central MIDI keys. The assignment of the codes MIDI 0 - MIDI 39 to the physical keys need to be done in the DHD Toolbox4 or Toolbox5 software. If you are unsure about the assignment, activate the logging on the `Setup Mixer` tab and find out the code by pressing the respective key at the console.



The list in this window shows the assignment of the MIDI codes to the console keys. In the `function` column, the assigned function is displayed as plain text. MIDI code `0000` means the key has no function.

To change an assignment, mark the desired row in the list and click on the `Assign` button afterwards. A further window appears, wherein you can choose the desired function:



Confirm your changes with `OK` to close the window. Do not forget to save your settings by pressing `Save` before closing the `Central Keys` window.

6.3 General Settings

This tab provides some general options:



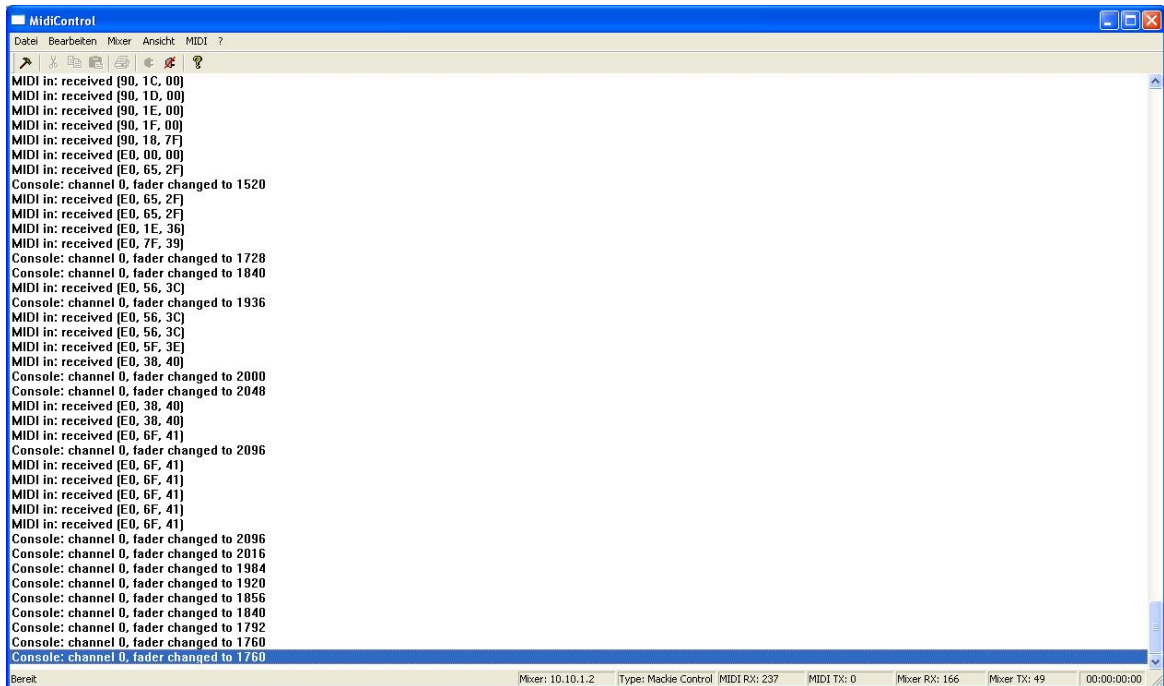
The General Settings tab.

- **max. Lines in Log-Window** - Defines the maximum number of displayed rows in the log window. Enter 0 if no rows should be deleted.
- **show incoming short messages** - Shows incoming MIDI commands in the log window.
- **show incoming long messages** - Shows incoming long MIDI commands (system exclusive) in the log window. These messages are used as display texts.
- **show outgoing key events** - Shows the outgoing MIDI commands in the log window. Hence, you can check if the conversion is done correctly.

7 The MidiControl Software User Interface

7.1 The Main Window

The main window shows the log messages in a list. Under normal circumstances it is only needed during the configuration process. After the configuration is finished, the log messages should be reduced to a minimum to save the resources of the PC.



The main window of the MidiControl software.

7.2 The Software Menus

7.2.1 Datei

The **Datei** (file) menu provides the following entries:



- **Einstellungen** - Opens the Einstellungen (settings) window, wherein the configuration of the MidiControl software can be done.
- **Beenden** - Closes the software after confirmation.

7.2.2 Bearbeiten

The `Bearbeiten` (edit) menu provides the following entries:



- **Statusfenster löschen** - Clears the log window.
- **Zähler updaten** - Updates the counter values of the status bar (for test purposes only).

7.2.3 Mixer

The `Mixer` menu provides the following entries:



- **Connect** - Establishes the connection to the mixing console.
- **Disconnect** - Interrupts the connection to the mixing console.

7.2.4 Ansicht

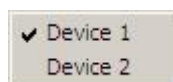
The `Ansicht` (view) menu provides the following entries:



- **Symbolleiste** - Shows or hides the toolbar (Symbolleiste).
- **Statusleiste** - Shows or hides the status bar (Statusleiste).

7.2.5 MIDI

The `MIDI` menu provides the following entries:



If the MIDI switching option is configured, you can swap the controller via this menu. The currently active controller is marked by a check mark in front of the menu entry.

7.2.6 ? (Help)

The ? menu provides the following entries:







- **Hilfethemen** - Starts the German online help.
- **Info über MidiControl** - Shows an about window.

7.3 The Toolbar

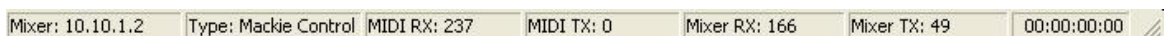
Via the toolbar it is possible to use some of the menu functions directly.



-  **Einstellungen** - Opens the Einstellungen (settings) window, wherein the configuration of the MidiControl software can be done.
-  **Connect** - Establishes the connection to the mixing console.
-  **Disconnect** - Interrupts the connection to the mixing console.
-  **Info** - Shows an about window.

7.4 The Status Bar

The status bar at the bottom of the window shows information on the communication.



- **Mixer** - Shows the IP address of the mixing console.
- **Type** - Displays the type of the MIDI controller.
- **MIDI RX** - Shows the number of received MIDI commands.
- **MIDI TX** - Shows the number of transmitted MIDI commands.
- **Mixer RX** - Displays the number of received TCP/IP packets from the mixing console.
- **Mixer TX** - Displays the number of transmitted TCP/IP packets to the mixing console.
- **Timecode** - Shows the current time code.

Index

? (Help) 18

A

Ansicht 17
Assign Central Keys 13
Assign Fader Keys 12

B

Bearbeiten 17
Button 11

C

Central key pressed/released 10
Central Keys 13
Clear log window 17
Conditions 6
Connect 17, 18
Connect at startup 10

D

Datei 16
dbc GmbH 2
Disconnect 17, 18
Display 10
display texts 15

E

edit 17
Einstellungen 10, 16, 18
Enable 11

F

Fader key pressed/released 10
Fader Keys 12
Fader position change 10
FaderOffset 11
file 16
Functionality 6

G

General Settings 15

H

Hilfethemen 18

I

Info 18
Installation 9
IP-Address 10

L

Lamp 11
Licensing agreement of the dbc GmbH 5
log messages 16

M

Mackie Control 9
Mackie HUI 9
Main Window 16
max. Lines in Log-Window 15
MIDI commands 15
MIDI RX 18

MIDI source 6
MIDI switching 17
MIDI TX 18
MIDI Yoke 6
MidiControl.ini 9
MIDI-In 11
MIDI-Out 11
MIDI-OX 6
Mixer 17, 18
Mixer RX 18
Mixer TX 18

O

Overview 4

P

Port 10

R

ReadTimeout 10
Reconnect 10

S

SetDisplay message 10
settings 18
Setup MIDI 11
Setup MIDI 2 11
Setup Mixer 10
show incoming long messages 15
show incoming short messages 15
show outgoing key events 15
Status Bar 17, 18
Statusfenster löschen 17
Statusleiste 17, 18
Symbolleiste 17, 18

T

The recording software is not running on a Windows PC (ProTools & Mac) 6
The recording software is running on a Windows PC (Sequoia) 6
Timecode 18
Toolbar 17, 18
Type 11, 18

V

Valid Bits 10
view 17
V-Pot change 10

Z

Zähler updaten 17