

Introduction

Allen & Heath **DAW Control** allows compatible Allen & Heath mixers to control DAW software on Mac OS or Windows and emulate popular **HUI** or **Mackie Control** protocols.

Compatible mixers send and respond to MIDI messages as detailed in the MIDI Protocol specification documents available for download from www.allen-heath.com. **DAW Control** can present these messages on a virtual MIDI port in Mac OS or Windows, or alternatively translate these messages to emulate a basic control surface.

About this version (V1.7)

- HUI/MCU channel strip LCD naming for SQ.
- CC Translator maps added for Qu, SQ & dLive. Please refer to page 5 in this document for more information.

Supported operating systems

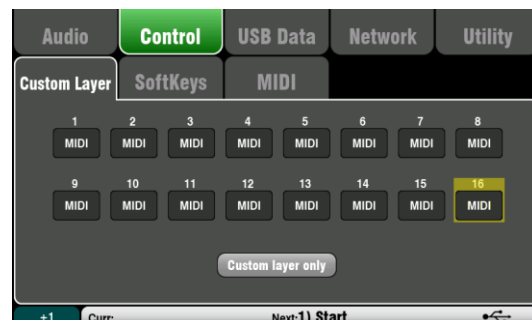
Windows 7, Windows 8, Windows 10.

Mac OS X 10.7 Lion, 10.8 Mountain Lion, 10.9 Mavericks, 10.10 Yosemite, 10.11 El Capitan, 10.12 Sierra, 10.13 High Sierra, 10.14 Mojave.

Configure your mixer for DAW Control

- **Qu mixers** (firmware **V1.2 or higher**) - the Custom Layer can be populated with MIDI strips and a dedicated MIDI channel is provided for DAW Control.

1. Go to **Setup / Control / Custom Layer** and set the required fader strips to **MIDI** by selecting first then scrolling with the screen rotary.
2. Set the MIDI Channel in the mixer's **Setup / Control / MIDI** screen. Qu defaults to MIDI Ch. 2 for DAW control.
3. If required, set the SoftKeys to MMC transport controls or DAW Bank Up/Down in **Setup / Control / SoftKeys**.



- **GLD** (firmware **V1.4 or higher**), **SQ** (firmware **V1.2 or higher**) and **dLive** (firmware **V1.5 or higher**) - up to 32 MIDI strips can be assigned to the fader banks.

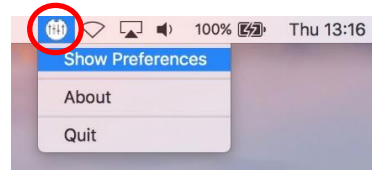
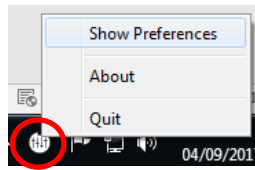
i On GLD and dLive, the set of MIDI messages for each strip can be customized to suit user requirement. Leave the default values for use with **DAW Control**. You can restore the factory default MIDI messages by recalling the 'Reset MIDI' Scene in any Template Show.

1. Drag and drop MIDI strips to the desired Banks and Layers in the **Setup / Control / Strip Assign** (GLD), **Surface / Control / Strip Assign** (dLive) screen, or **Setup / Surface / Strip Assign** (SQ).
2. Set the MIDI Channel in the **Setup / Control / MIDI** screen (GLD), **Utility / Control / MIDI** screen (dLive), or **Utility / General / MIDI** screen (SQ).

Please refer to the mixer Reference Guides for further information.

Configure the DAW Control driver

1. Download **DAW Control** from www.allen-heath.com and install it on your computer.
2. Launch **DAW Control** and click on **Show Preferences** in the A&H DAW Control tray menu to access the configuration panel.



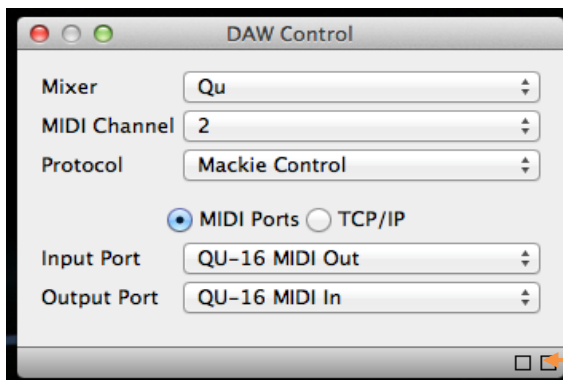
- i** Configure the DAW Control driver and connect the mixer to the computer before opening your DAW.

Mixer Select the type of mixer you are connecting to.

MIDI Channel Select the MIDI channel to match the mixer setting. This is normally set to **2** to match the default MIDI channel used by the Qu, GLD, SQ or dLive MIDI strips.

Protocol Select the control protocol (HUI or Mackie Control) to suit your DAW, or select **MIDI Thru** to work with the standard set of MIDI messages to / from the mixer (no translation), for example for program changes using Waves Multitrack or QLab, or select **CC Translator** for fader control with **Control Change (CC)** messages and mute control with **Note On/Off** messages (see page 5).

Connection Select **MIDI Ports** for USB connection to the mixer (Qu, SQ), or **TCP/IP** for Cat5 network connection (Qu, SQ, GLD, dLive).



MIDI Ports - Select the MIDI Input and Output ports to be used, for example **Qu-16 MIDI Out** and **Qu-16 MIDI In**.

TCP/IP - Select the mixer from the drop-down box, or select Custom and type in the IP address of the mixer, then tick the **Connect** checkbox. Make sure your Computer and the mixer are set to compatible IP addresses within the same subnet.

The two squares at the bottom right of the window display MIDI I/O activity. To check you are connected to the mixer, move any MIDI fader on the mixer and the left square should flash.

3. Follow the instructions specific to your DAW in the following pages to assign the faders, PAFL, Sel/Mix and Mute keys from the MIDI strips to track level, Solo, select and Mute in your DAW. This will also assign MMC transport controls from the mixer to the corresponding DAW controls. If the Bank Up / Down function is assigned to the mixer's SoftKeys, fader bank navigation will also be enabled in the DAW.

A similar procedure should apply to other DAWs as long as they support HUI or Mackie Control surfaces.

Avid Pro Tools

1. Select the **HUI** protocol in the **DAW Control** panel and launch Pro Tools.
2. Go to **Setup / MIDI / Input Devices** and enable all **DAW Control MIDI** ports.
3. Open the **Setup / Peripherals** window and navigate to the **MIDI Controllers** tab.
4. Create a HUI device for each block of 8 MIDI strips present on the mixer, and assign to the corresponding MIDI ports. The following example assumes 16 MIDI strips are used:
 - a. In row #1, select **HUI** as the Type and **DAW Control MIDI 1** as the Receive From and Send To ports.
 - b. In row #2, select **HUI** as the Type and **DAW Control MIDI 2** as the Receive From and Send To ports.
5. Click OK.

Steinberg Cubase

1. Select the **Mackie Control (Alt. Display)** protocol in the **DAW Control** panel and launch Cubase.
2. Open the **Studio / Studio Setup** window.
3. Create a **Mackie Control** device for each block of 8 MIDI strips present on the mixer and assign to 'not connected' before assigning the corresponding MIDI ports. Note that the top-most device in the left-hand list represents the right-most channels.
 - a. Click on the Add Device button (+), select **Mackie Control** and set the input and output ports to 'not connected'. Press Apply.
 - b. Repeat this for up to 4 devices in total (32 MIDI strips).
 - c. Assign the input and output MIDI ports of each device to the **DAW Control MIDI** ports as follows:

8 MIDI Strips		16 MIDI Strips		24 MIDI Strips		32 MIDI Strips	
Mackie Control	DAW Control MIDI 1	Mackie Control	DAW Control MIDI 2	Mackie Control	DAW Control MIDI 3	Mackie Control	DAW Control MIDI 4
-	-	Mackie Control 2	DAW Control MIDI 1	Mackie Control 2	DAW Control MIDI 2	Mackie Control 2	DAW Control MIDI 3
-	-	-	-	Mackie Control 3	DAW Control MIDI 1	Mackie Control 3	DAW Control MIDI 2
-	-	-	-	-	-	Mackie Control 4	DAW Control MIDI 1

Cockos Reaper

1. Select the **Mackie Control (Standard)** protocol in the **DAW Control** panel and launch Reaper.
2. Open the **Options / Preferences** window and click on **MIDI Devices** from the left hand list.
3. To avoid message conflicts, make sure that all **DAW Control MIDI** Input and Output ports are disabled. If needed, right click on a port to change its status.
4. Select **Control Surfaces** from the left hand list and create a Mackie Control device for each block of 8 MIDI strips present on the mixer, then assign each to the corresponding MIDI ports. The following example assumes 16 MIDI strips are used:
 - a. Click the Add button, select **Mackie Control Universal** surface mode and **DAW Control MIDI 1** as the Input and Output port, then click OK.
 - b. Click the Add button again, then select **Mackie Control Universal** surface mode, **DAW Control MIDI 2** as the Input and Output port, enter **8** as the Surface offset, and click OK.
5. Click OK to close the window.

Ableton Live

1. Select the **Mackie Control (Standard)** protocol in the **DAW Control** panel and launch Live.
2. Open the **Live / Preferences** window and navigate to the **MIDI / Sync** tab.
3. Select **MackieControl** in the Control Surface #1 dropdown box, and set **DAW Control MIDI 1** as the Input and Output port.
4. For each consequent block of 8 MIDI strips present on the mixer, create a Mackie Control Extender device and assign it to the corresponding MIDI port.

The following example assumes 16 MIDI strips are used:

- a. Select **MackieControlXT** in the Control Surface #2 dropdown box, and set **DAW Control MIDI 2** as the Input and Output port.
5. Close the window.

Apple Logic

1. Select the **Mackie Control (Standard)** protocol in the **DAW Control** panel and launch Logic.
2. Open the **Logic Pro / Preferences / Control Surfaces / Setup** window.
3. For each block of 8 MIDI strips present on the mixer, create a Mackie Control device and assign it to the corresponding MIDI port. The following example assumes 16 MIDI strips are used:
 - a. Click New / Install, scroll down, select **Mackie Designs – Mackie Control – Logic Control** and click Add.
 - b. Close the window and click the picture labelled **Mackie Control**.
 - c. Select **DAW Control MIDI 1** as the Output and Input Port.
 - d. Click New / Install again and add another **Mackie Designs – Mackie Control – Logic Control**. Click OK when prompted.
 - e. Close the window and click the picture labelled **Mackie Control #2**.
 - f. Select **DAW Control MIDI 2** as the Output and Input Port.
4. Close the Setup window and go to **Window / Environment**.
5. In the top left, click the drop-down menu next to **Mixer** and select **Clicks and Ports**.
6. Add a new Monitor object by clicking New / Monitor.
7. Identify all the **DAW Control MIDI** ports and your mixer's MIDI port in the left hand list. Click on the corresponding triangles and drag lines to the Monitor box.
8. Save your project to store the settings.

Using the DAW Control driver as a CC Translator

Maps included in the version 1.7 of Allen & Heath DAW Control allow an input or output channel to send and receive standard **Control Change (CC)** messages for fader control and **Note On/Off** messages for mute control via virtual MIDI ports. This allows automation of mixer audio channels using a DAW or show control software, such as QLab.

- **dLive** (firmware **V1.7 or higher**), **SQ** (firmware **V1.4 or higher**) and **Qu** (firmware **V1.9 or higher**)

Command	Message	Port
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Qu Examples (MIDI channel 1)

Channel 1 fader to 0 dB	B0 00 62	CC Translator Inputs
Main LR mute on	90 0B 7F	CC Translator Outputs

SQ Examples (MIDI channel 4)

Aux 1 fader to -40 dB	B3 01 50	CC Translator Outputs
Channel 32 mute off	83 1F 00	CC Translator Inputs

dLive Examples (MIDI channel 12-16)

Channel 102 fader to -Inf dB	BB 65 00	CC Translator Faders
Mono FX Send 10 mute off	9F 09 3F	CC Translator Mutes

Fader Control

Control Change

Input, mix master, FX send, FX return, DCA

BN CH VA

N = MIDI Channel

CH = Channel number

VA = Level value

Mute Control

Note On/Off

Input, mix master, FX send, FX return, DCA, Mute groups

On	9N CH VA
Off	8N CH VA

N = MIDI Channel

CH = Channel number

VA = Velocity value

ⓘ dLive CC translator uses **Note On** messages only for mute control

Qu

The Qu CC translator uses an Input and Output virtual MIDI port, therefore, control of input channels (*CH1-32, ST & FX Return*) use the **CC Translator Inputs** port and output channels (*FX Send, Mix, LR, Group, MTX, DCA & Mute Group*) use the **CC Translator Outputs** port.

Mute on is ≥ 40 velocity, Mute off is $\leq 3F$ velocity.

Qu channel assignments for fader and mute controls are as follows:

Inputs 1 to ST3:	CH = 00 to 22	Group 1-2 to 7-8:	CH = 0C to 0F
FX Return 1 to 4:	CH = 23 to 26	MTX 1-2 to 3-4:	CH = 10 to 11
FX Send 1 to 4:	CH = 00 to 03	DCA 1 to 4:	CH = 12 to 15
Mix 1 to 9-10:	CH = 04 to 0A	Mute Group 1 to 4:	CH = 16 to 19
LR:	CH = 0B		

ⓘ The above assignments can also be found in the table at the end of this document.

SQ

The SQ CC translator uses an Input and Output virtual MIDI port, therefore, fader control of input channels (*CH1-48, Group & FX return*) use the **CC Translator Inputs** port and output channels (*LR, Aux, FX Send, MTX & DCA group*) use the **CC Translator Outputs** port. Mute control for all input and output channels (*CH1-48, Group, FX Return, LR, Aux FX Send, MTX, DCA & Mute Group*) is available via both Input and Output ports.

Mute on is **01** velocity, Mute off is **00** velocity.

SQ channel assignments are as follows:

	Fader Control	Mute Control
Inputs 1 to 48:	CH = 00 to 2F	CH = 00 to 2F
Groups 1 to 12:	CH = 30 to 3B	CH = 30 to 3B
FX Return 1 to 8:	CH = 3C to 43	CH = 3C to 43
LR:	CH = 00	CH = 44
Aux 1 to 12:	CH = 01 to 0C	CH = 45 to 50
FX Send 1 to 4:	CH = 0D to 10	CH = 51 to 54
MTX 1 to 3:	CH = 11 to 13	CH = 55 to 57
DCA 1 to 8:	CH = 20 to 27	CH = 58 to 5F *
Mute Group 1 to 8:		CH = 60 to 67 *

i The above assignments can also be found in the SQ MIDI Protocol.

* The DCA and Mute Group assignments differ from the SQ MIDI protocol

dLive

The dLive CC translator uses a Fader and Mute virtual MIDI port and use the selected MIDI channel assignment on the desk for control of all channels in accordance with the dLive MIDI protocol. All fader control uses the **CC Translator Faders** port and all mute control uses the **CC Translator Mutes** port.

Mute on is \geq **40** velocity, Mute off is \leq **3F** velocity.

i dLive CC translator uses **Note On** messages only for mute control.

dLive channel assignments for fader and mute controls are as follows:

Inputs 1 to 128:	N = N,	CH = 00 to 7F
Mono Groups 1 to 62:	N = N + 1,	CH = 00 to 3D
Stereo Groups 1 to 31:	N = N + 1,	CH = 40 to 5E
Mono Aux 1 to 62:	N = N + 2,	CH = 00 to 3D
Stereo Aux 1 to 31:	N = N + 2,	CH = 40 to 5E
Mono Matrix 1 to 62:	N = N + 3,	CH = 00 to 3D
Stereo Matrix 1 to 31:	N = N + 3,	CH = 40 to 5E
Mono FX Send 1 to 16:	N = N + 4,	CH = 00 to 0F
Stereo FX Send 1 to 16:	N = N + 4,	CH = 10 to 1F
FX Return 1 to 16:	N = N + 4,	CH = 20 to 2F
Mains 1 to 6:	N = N + 4,	CH = 30 to 35
DCA 1 to 24:	N = N + 4,	CH = 36 to 4D
Mute Group 1 to 8:	N = N + 4,	CH = 4E to 55

i The above assignments can also be found in the dLive MIDI Protocol.

	Qu	Hex (CH)	Qu	Hex (CH)
	Inputs	1	00	21
2		01	22	15
3		02	23	16
4		03	24	17
5		04	25	18
6		05	26	19
7		06	27	1A
8		07	28	1B
9		08	29	1C
10		09	30	1D
11		0A	31	1E
12		0B	32	1F
13		0C	ST1	20
14		0D	ST2	21
15		0E	ST3	22
16		0F	FX1 Ret	23
17		10	FX2 Ret	24
18		11	FX3 Ret	25
19		12	FX4 Ret	26
20		13	-	-

	Qu	Hex (CH)	Qu	Hex (CH)
	Outputs	FX1 Send	00	DCA 1
FX2 Send		01	DCA 2	13
FX3 Send		02	DCA 3	14
FX4 Send		03	DCA 4	15
Mix 1		04	Mute Grp 1	16
Mix 2		05	Mute Grp 2	17
Mix 3		06	Mute Grp 3	18
Mix 4		07	Mute Grp 4	19
Mix 5-6		08	-	-
Mix 7-8		09	-	-
Mix 9-10		0A	-	-
LR		0B	-	-
Group 1-2		0C	-	-
Group 3-4		0D	-	-
Group 5-6		0E	-	-
Group 7-8		0F	-	-
MTX 1-2		10	-	-
MTX 3-4		11	-	-
-		-	-	-
-		-	-	-