RAVE

MIDI Controller

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MIDI Controller

The MIDI controller is used to control the RAVE audio mixer. The controller connects to RAVE through DashBoard.

For these procedures you will need the following files. They are available with these instructions in your download or on your product resources USB.

- **Common:**
  - `Mapping Wizard.grid`
- **Generic:**
  - `Settings-MIDI_####_generic.controller`
- **X-TOUCH:**
  - `X-TOUCH-map###.controller`
  - `X-TOUCH-LayerA###.bin`
  - `X-TOUCH-LayerB###.bin`
- **X-TOUCH MINI:**
  - `X-TOUCH-map###.controller`
  - `X-TOUCH-MINI-LayerA-MonitorFader###.bin`
  - `X-TOUCH-MINI-LayerB-MonitorFader###.bin`

Important: *The revision numbers (####) of the* `.controller` *and* `.bin` *files must match.*

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Compatibility

The MIDI controller and bin files are only compatible with specific versions of switcher software.

X-TOUCH Files	Switcher Software
Version 1: • X-TOUCH-map001.controller • X-TOUCH-LayerA001.bin • X-TOUCH-LayerB001.bin	Graphite 1.2
Version 2: • X-TOUCH-map002.controller • X-TOUCH-LayerA002.bin • X-TOUCH-LayerB002.bin	Graphite 2.0
Version 3: • X-TOUCH-map003.controller • X-TOUCH-LayerA003.bin • X-TOUCH-LayerB003.bin	Graphite 2.2
Version 4: • X-TOUCH-map004.controller • X-TOUCH-LayerA004.bin • X-TOUCH-LayerB004.bin	Graphite 2.3
Version 5: • X-TOUCH-map005.controller • X-TOUCH-LayerA005.bin • X-TOUCH-LayerB005.bin • X-TOUCH-MINI-LayerA-MonitorFader-005.bin • X-TOUCH-MINI-LayerB-MonitorFader-005.bin	Graphite 2.4 or higher Ultra 4.0 or higher Graphite CPC 1.0 or higher

To Connect a MIDI Controller to DashBoard

DashBoard allows you to configure the MIDI controller connected to RAVE audio mixer.

Important: *Refer to the documentation that came with your MIDI controller for proper handling and setup instructions.*

1. Plug the MIDI controller into one of the USB ports on your DashBoard computer. DashBoard must also be connected to the switcher.
2. Launch DashBoard.
3. Click **File** > **New** > **Other**.
4. Click **Input Devices** > **New MIDI Controller**.
5. Click **Next**
6. Enter the settings for the MIDI Controller:
   - **Display Name** — enter a name for the controller
   - **Slot** — select **1**
   - **Controller** — select your MIDI controller from the list.
7. Click **Finish**.
   The MIDI controller appears in the **Tree View**.

To Configure the MIDI Controller Interface

A custom DashBoard panel is used to automatically do all the mapping for the MIDI controller.

You will need the `Mapping Wizard.grid` file that came with your software.

1. Launch DashBoard.
2. Click **File** > **Open File**, navigate to the `Mapping Wizard.grid` file and click **Open**.
3. In the **MIDI** field, select your MIDI controller.
4. In the **Graphite** field, select **Audio Mixer**.

5. Click **DO EVERYTHING FOR ME**.

To Map MIDI Controller Buttons to Functions

The map file associates RAVE audio mixer functions to buttons on the MIDI controller.

A generic map file is provided on the product resources disk, or you can customize your own. Refer to *MIDI Device OID List* on page 8 for a list of commands.

1. Double-click the **MIDI Controller** node in the DashBoard Tree View.
2. In the **Device Classes** list, select **audiomixer**.

   > ***Tip:*** *If **audiomixer** is not in the list, click **Add** and name the new device **audiomixer**.*

3. Click **Load** > **Browse** and select the `Settings-MIDI_v###_Generic.controller` file.
4. Click **Open** > **Restore**.

X-TOUCH Configuration

Configure the X-TOUCH COMPACT and X-TOUCH MINI to control the audio mixer through DashBoard.

To Configure the Button Layers on the X-TOUCH

The Layer A and Layer B files assign the controls on the X-TOUCH to MIDI Commands

Default layer files are provided on the product resources disk, or you can customize your own.

> ***Note:*** *The layer files must match the map file that you load in DashBoard.*

1. Connect the X-TOUCH to the server.
2. Launch the **X-TOUCH Editor** application that came with your controller.
3. Click the **GLOBAL** tab.
4. Click **LOAD** in the **PRESETS ON COMPUTER** area and click **Yes**.
5. Select the file for your controller and click **Open**.
   - X-TOUCH COMPACT — `X-TOUCH-LayerA-###.bin`
   - X-TOUCH MINI — `X-TOUCH-MINI-LayerA-MonitorFader-###.bin`
6. Wait for the file to be loaded and click **Close** on the success dialog box.
7. Click **Dump A** in the **TO HARDWARE** area.
8. Click **Yes** to start the upload and **Close** on the success dialog box.
9. Repeat these steps to load the corresponding Layer B file for your controller and click **Dump B**.

To Map Buttons to Functions

The map file associates RAVE audio mixer functions to buttons on the X-TOUCH COMPACT and X-TOUCH MINI.

A default map file is provided on the product resources disk, or you can customize your own.

1. Double-click the **MIDI Controller** node in the DashBoard Tree View.
2. Click **Load** > **Browse** and select the `X-TOUCH-map####.controller` file.
3. Click **Open** > **Restore**.

Default X-TOUCH COMPACT Mapping

The default mapping comes from the map and layer files that are included on the Product Resources disk.

> ***Note:*** *The **Clear** button clears the Solo selections on Layer A and the PFL selections on Layer B.*

Fader Mapping

The faders are mapped differently on the A and B layer.

Fader	Layer A	Layer B
1	Audio 1	Audio 9
2	Audio 2	Audio 10
3	Audio 3	Audio 11
4	Audio 4	Audio 12
5	Audio 5	Audio 13
6	Audio 6	Audio 14
7	Audio 7	Audio 15
8	Audio 8	Audio 16
9	MAIN	MONITOR

> ***Note:*** *The default assignment is based on the default fader configuration. If you change what is assigned to any of the assignable faders (Audio X) used on the default map, the audio sources those faders control also changes. For example, if you assign **Audio 5** to SDI 5, the stripe on the midi panel will control SDI 5 audio.*

Equalizer Control

The **EQ/CL Sel** buttons are used to select which source the EQ is being adjusted for, and the **Layer A/B** buttons are used select what range is assigned to the knobs. The knobs are then used to adjust the EQ values.

Compressor / Limiter Control

The **EQ/CL Sel** buttons are used to select which source the Compressor is being adjusted for, and the **Layer B** knobs are used to adjust the compressor values.

Default X-TOUCH MINI Mapping

The default mapping comes from the map and layer files that are included on the Product Resources disk.

- The encoder knobs turn to control the volume, or audio level, and are pushed to mute that channel.
- The fader controls the level of the Monitor output.

Encoder Knob Mapping

The encoders are mapped differently on the A and B layer.

Fader	Layer A	Layer B
1	Audio 1	Audio 9
2	Audio 2	Audio 10
3	Audio 3	Audio 11
4	Audio 4	Audio 12
5	Audio 5	Audio 13
6	Audio 6	Audio 14
7	Audio 7	Audio 15
8	Audio 8	Audio 16

Note: *The default assignment is based on the default fader configuration. If you change what is assigned to any of the assignable encoders (Audio X) used on the default map, the audio sources those encoders control also changes. For example, if you assign* ***Audio 5*** *to SDI 5, the stripe on the midi panel will control SDI 5 audio.*

Custom Mapping

You can change the current mapping of functions to the buttons, knobs, and sliders on the X-TOUCH COMPACT. The DashBoard controller lists all the inputs on the MIDI controller and allows you to assign a DashBoard OID to them.

Refer to *MIDI Device OID List* on page 8 for a list of available OIDs.

Important: *Although you can assign different functions to the knobs, sliders, and buttons on the panel, some functions may require changes to the layers in the* ***X-TOUCH Editor*** *application. Refer to the documentation that came with your X-TOUCH COMPACT for more information.*

Figure 1: Layer A Button IDs

Note: *Buttons CC27 and CC26 on Layer A are the Foot Switch and Expression Pedal connections on the back of the panel.*

Figure 2: Layer B Button IDs

Note: *Buttons CC64 and CC63 on Layer B are the Foot Switch and Expression Pedal connections on the back of the panel.*

For the CC knobs and sliders, the top number is the action when the knob or slider is turned or moved, and the second is when it is pushed or touched.

Refer to the documentation that came with your Behringer X-TOUCH COMPACT for more information on how MIDI IDs are assigned to buttons.

To Create a Custom Button Mapping

You can assign any audio mixer function to a button, slider, or knob on the X-TOUCH COMPACT

Tip: *Use the same procedure to create a custom button mapping for the X-TOUCH MINI.*

1. Double-click the **MIDI Controller** node in the DashBoard Tree View.

   Tip: *If you want to start with a blank list, click* ***Load*** *>* ***Factory Default****.*

   Note: *The* ***Value*** *column shows the current data coming from the connected MIDI controller.*

2. In the **Continuous Controllers** table, set up the knobs and sliders you want to use on the panel. The numbers for these has the **CC** prefix.
   a) Locate the **ID** for the knob or slider you want to assign a function to. Refer to *Custom Mapping* on page 6 for a diagram to locate the knob or slider.
   b) In the **Mapped OID** field, enter the OID for the function you want to assign to the knob or slider. Refer to *MIDI Device OID List* on page 8 for a list of OIDs.
   c) Click the **Transformation** list and select the type of action for the knob or slider. Sliders should be set to **Volume dB** and knobs to **Middle Point**.
      - **Disabled** — the knob or slider is disabled.
      - **Volume dB** — the slider is configured for volume control.
      - **Middle Point** — the knob is configured for a 200 point range value (-100 to 100).
   d) Change the default parameters for your knob or slider as required.
      - **Name** — enter a new custom name for the control.

- **Min** — the minimum value for the selected function. This is the value returned when the knob is at the counter-clockwise stop, or the slider it at the bottom stop.
- **Max** — the maximum value for the selected function. This is the value returned when the knob is at the clockwise stop, or the slider it at the top stop.
- **Sensitivity** — the number of points between the minimum value and the maximum value.
- **Speed %** — 100% (other values not supported at this time)
- **Invert** — invert the min and max stops of the knob or slider.

3. In the **Buttons** table, set up the buttons you want to use on the panel.
   a) Locate the **ID** for the button you want to assign a function to. Refer to *Custom Mapping* on page 6 for a diagram to locate the buttons.
   b) In the **Mapped OID** field, enter the OID for the function you want to assign to the button. Refer to *MIDI Device OID List* on page 8 for a list of OIDs.
   c) Click the **Action** list and select the type of action for the button.
      - **OFF** — (not supported at this time)
      - **Stateless** — basic button functionality with no special state.
      - **GPI** — (not supported at this time)
      - **Set Value** — (not supported at this time)
      - **Toggle** — (not supported at this time)
      - **Increment** — (not supported at this time)
      - **Hold** — (not supported at this time)
   d) Change the default parameters for your button as required.
      - **Name** — enter a new custom name for the control.
      - **Value (Off)** — 0 (other values not supported at this time)
      - **Value (On)** — 1 (other values not supported at this time)
      - **Min** — 0 (other values not supported at this time)
      - **Max** — 1 (other values not supported at this time)
4. Click the **Force Panel Refresh** list and select the how often DashBoard syncs with the panel.
5. Click **Save**.
6. Click **Save** again and select a file name and location for your custom controller file.
7. Click **Save**.
8. Click **Done**.

MIDI Device OID List

The OID for the MIDI device is made of a number of parts separated by a period. These parts identify things like the device class (`audiomixer`), audio source, audio destination, and control function.

For example, the OID `audiomixer.aux.2.sdi2.volume` translates to device class (`audiomixer`), audio destination (`aux.2`), audio source (`sdi2`), and control function (`volume`). This is a continuous input that allows you to control the volume of SDI 2 on the Aux 2 out.

Note: *As this interface has not been tested with many MIDI controllers, unpredictability can arise. In some cases it may help to restart the switcher or reset the OIDs by altering the OID, press* ***Enter****, and then set the OID back.*

Table 1: Audio Mixer OIDs

Target	Syntax	Description
Volume		
Assignable Audio Channels	`audiomixer.main.audio1.volume`	Volume for assignable audio channel 1 input on the Main layer. Replace `audio1` with the assignable audio channel you want to set the volume for. Replace `main` with the Aux layer you want set the volume for (`aux.1`-`aux.12`).
Output Mix	`audiomixer.output.main.volume`	Primary volume for the Main layer. Replace `main` with the Aux layer you want set the volume for (`aux.1`-`aux.12`) or the Monitor output (`monitor`).
Balance/Pan		
Assignable Audio Channel	`audiomixer.main.audio1.pan`	Balance for assignable audio channel 1 input on the Main layer. Replace `audio1` with the assignable audio channel you want to set the balance for. Replace `main` with the Aux layer you want set the balance for (`aux.1`-`aux.12`).
Equalization (EQ)		
EQ Channel Select	`audiomixer.eqchannelselect`	Select the audio channel that you want to set the EQ for. This oid is assigned to a button on the same strip as that audio channel you want to EQ. This tells the mixer that the EQ values are to be applied to the selected audio channel.
EQ Bypass	`audiomixer.eqbypasscommon`	Bypass the equalization for the selected audio channel.
Low Shelf Gain	`audiomixer.lowshelfgaincommon`	Gain setting for the Low Shelf EQ of the selected audio channel.
Midrange 1 Gain	`audiomixer.midrange1gaincommon`	Gain setting for the Midrange 1 EQ of the selected audio channel.
Midrange 2 Gain	`audiomixer.midrange2gaincommon`	Gain setting for the Midrange 2 EQ of the selected audio channel.
High Shelf Gain	`audiomixer.highshelfgaincommon`	Gain setting for the High Shelf EQ of the selected audio channel.
Low Shelf Max Frequency (linear)	`audiomixer.lowshelfmaxfreqcommon`	Maximum Frequency setting for the Low Shelf EQ of the selected audio channel. Frequency selection is performed on a linear scale.
Midrange 1 Center Frequency (linear)	`audiomixer .midrange1centerfreqcommon`	Center Frequency setting for the Midrange 1 EQ of the selected audio channel. Frequency selection is performed on a linear scale.

Target	Syntax	Description
Midrange 2 Center Frequency (linear)	audiomixer .midrange2centerfreqcommon	Center Frequency setting for the Midrange 2 EQ of the selected audio channel. Frequency selection is performed on a linear scale.
Midrange 1 Q (linear)	audiomixer.midrange1qcommon	Q Ratio setting for the Midrange 1 EQ of the selected audio channel. Ratio selection is performed on a linear scale.
Midrange 2 Q (linear)	audiomixer.midrange2qcommon	Q Ratio setting for the Midrange 2 EQ of the selected audio channel. Ratio selection is performed on a linear scale.
High Shelf Minimum Frequency (linear)	audiomixer.highshelfminfreqcommon	Minimum Frequency setting for the High Shelf EQ of the selected audio channel. Frequency selection is performed on a linear scale.
Low Shelf Max Frequency (scaled)	audiomixer .lowshelfmaxfreqscaledcommon	Maximum Frequency setting for the Low Shelf EQ of the selected audio channel. Frequency selection is performed on a non-linear scale.
Midrange 1 Center Frequency (scaled)	audiomixer .midrange1centerfreqscaledcommon	Center Frequency setting for the Midrange 1 EQ of the selected audio channel. Frequency selection is performed on a non-linear scale.
Midrange 2 Center Frequency (scaled)	audiomixer .midrange2centerfreqscaledcommon	Center Frequency setting for the Midrange 2 EQ of the selected audio channel. Frequency selection is performed on a non-linear scale.
Midrange 1 Q (scaled)	audiomixer.midrange1qscaledcommon	Q Ratio setting for the Midrange 1 EQ of the selected audio channel. Ratio selection is performed on a non-linear scale.
Midrange 2 Q (scaled)	audiomixer.midrange2qscaledcommon	Q Ratio setting for the Midrange 2 EQ of the selected audio channel. Ratio selection is performed on a non-linear scale.
High Shelf Minimum Frequency (scaled)	audiomixer .highshelfminfreqscaledcommon	Minimum Frequency setting for the High Shelf EQ of the selected audio channel. Frequency selection is performed on a non-linear scale.
Compressor / Limiter (C/L)		
C/L Channel Select	audiomixer.clchannelselect	Select the audio channel that you want to set the C/L for. This oid is assigned to a button on the same strip as that audio channel you want to C/L. This tells the mixer that the C/L values are to be applied to the selected audio channel.
C/L Threshold	audiomixer.thresholdscaledcommon	The level at which the compressor starts to be applied.
C/L Attack	audiomixer .attackcontrolscaledcommon	The amount of time you want to pass between the level surpassing the threshold and the full compression ratio being applied
C/L Compression	audiomixer.compressionscaledcommon	The ratio for the amount of compression you want to apply.
C/L Release	audiomixer .releasecontrolscaledcommon	The amount of time you want to pass between the level falling below the threshold and the compression ratio returning to 1:1 (no compression applied).
C/L Makeup	audiomixer.makeupgainscaledcommon	Increase the gain of the audio after compression.
C/L Bypass	audiomixer.clbypasscommon	Bypass the equalization for the selected audio channel.

Target	Syntax	Description
Gain		
Analog	`audiomixer.abm1.1.gain`	Gain for the Analog 1 input. Replace `abm1.1` with the analog port on the ABU you want to set the gain for (`abm1.1`-`abm3.8`). For example, `abm2.5` is the Analog 5 input port on ABU 2.
Pad		
Analog	`audiomixer.abm1.1.pad`	Toggle pad for analog 1 input on ABU 1. Replace `abm1.1` with the analog port on the ABU you want to set pad for (`abm1.1`-`abm3.8`). For example, `abm2.5` is the Analog 5 input port on ABU 2.
Phantom Power		
Analog	`audiomixer.abm1.1.phantompower`	Toggle phantom power for the analog 1 input port on ABU a. Replace `abm1.1` with the analog port on the ABU you want to set phantom power for (`abm1.1`-`abm3.8`). For example, `abm2.5` is the Analog 5 input port on ABU 2.
Mute		
Assignable Audio Channel	`audiomixer.main.audio1.mute`	Toggle mute for assignable audio channel 1 input on the Main layer. Replace `audio1` with the assignable audio channel want to set mute for. Replace `main` with the Aux layer you want set mute for (`aux.1`-`aux.12`).
Solo		
Assignable Audio Channel	`audiomixer.main.audio1.solo`	Toggle solo for assignable audio channel 1 input on the Main layer. Replace `audio1` with the assignable audio channel input you want to set solo for. Replace `main` with the Aux layer you want set solo for (`aux.1`-`aux.12`).
Clear Solo		
Main	`audiomixer.output.main.clearsolo`	Clear solo for all sources on Main layer.
Monitor	`audiomixer .output.monitor.clearsolo`	Clear solo for all sources on Monitor layer.
Aux	`audiomixer.output.aux.1.clearsolo`	Clear solo for all sources on the Aux layers. Replace `Aux.1` with the Aux layer you want set solo for (`aux.1`-`aux.12`).
Pre/Post		
Assignable Audio Channel	`audiomixer.aux.1.audio1.pre`	Toggle pre fader for assignable audio channel 1 input on the Aux 1 layer. Replace `audio1` with the assignable audio channel input you want to set pre for. Replace `aux.1` with the Aux layer you want set pre for (`aux.1`-`aux.12`).
PFL		
Assignable Audio Channel	`audiomixer.audio1.pfl`	Toggle PFL for assignable audio channel 1. Replace `audio1` with the assignable audio channel input you want to set solo for (`sdi1`-`sdi12`).
Clear PFL		
All	`audiomixer.clearpfl`	Clear PFL on all sources.