ⓘ *When L and R are linked, L controls level for the L/R output pair. When X1 and X2 are linked, X1 controls level for both. Also, when linked, the R and X2 controls are disabled. (Output linking control is in the OUTPUT menu.)*

Configuring Output Meters (688 only)

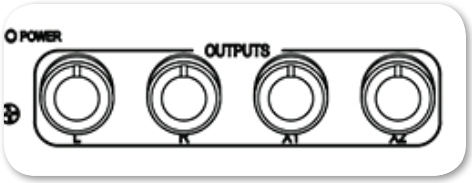
On a 688, the LED output meters on the CL-12 may be configured to meter L, R, X1, and X2 output or track levels. For other 6-Series mixers, the 22-segment output metering on the CL-12 is always for track levels.

To configure CL-12 output meters:

1. Press MENU to access the 688's Main menu.
2. Select CL-12 > L - X2 Metering.
3. Select one of two options: Meter Output Level or Meter Track Level.

Disabling Output Controls

The 6-Series mixers, when attached to a CL-12, has a sub-menu option that lets users disable the rotary output level controls for L, R, X1, and X2 to avoid accidental changes in level.



To disable the output controls on the CL-12:

1. Press MENU.
2. Select CL-12 > L-X2 Gain Pots.
3. Select Off. This setting is On by default.

ⓘ *Even when disabled, users can still route to L, R, X1, and X2 by pressing in the controls (pots). Also, disabling the CL-12 output level controls does not impact controls on the mixer. Attenuation of output may still be achieved via the mixer.*

Arming L, R, X1, X2 Tracks

With the CL-12, L, R, X1 and X2 may be armed for recording, or unarmed.

To arm L, R, X1, X2 tracks for recording:

1. Press and hold down the ARM button.
2. Press the rotary OUTPUT control(s) corresponding to the output track(s) you want to arm.

   When armed, each output track's ARM LED illuminates red.

Using the 3-Band Equalizer (688 only)

The CL-12 adds 3-band EQ to the 688. EQ is only available when sample rate is 48.048 kHz or less, and it is only available for adjustment when CL-12 is connected.

- LF is a fixed 100 Hz EQ by default, with +/- 12 dB gain adjustment. The default may be altered via settings in the EQ submenu.
- MID provides variable EQ frequency adjustment over 400 Hz – 6k range with +/- 12 dB gain adjustment.
- HF is a fixed 10 kHz EQ by default, with +/- 12 dB gain adjustment. The default may be altered via settings in the EQ submenu.

ⓘ *When CL-12 is disconnected, the EQ settings are retained, but they cannot be adjusted. For more information, see Accessing the EQ Submenu.*

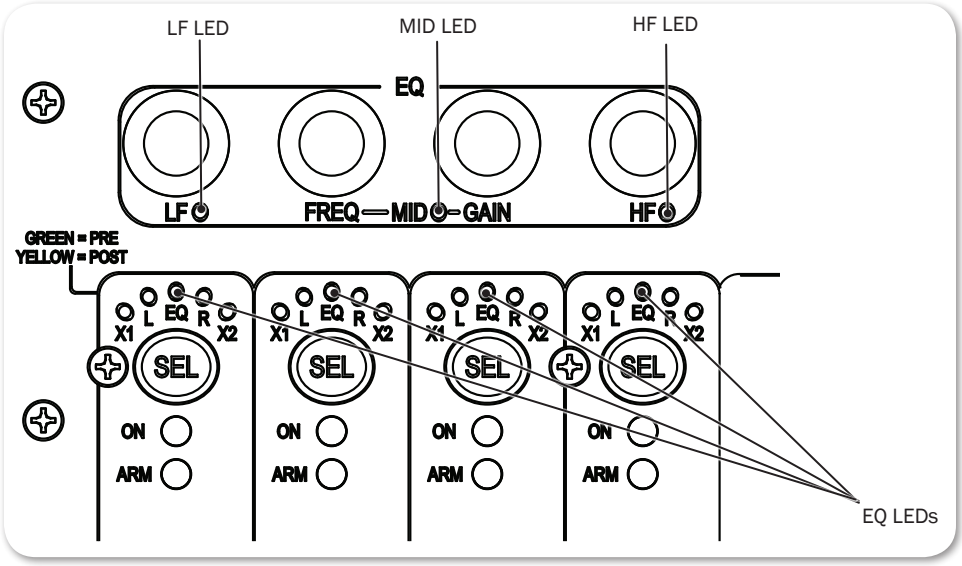
To adjust EQ for a selected input, do any of the following:

- ▶ Turn the LF encoder to adjust the selected input's low frequency gain.
- ▶ Turn the FREQ encoder to adjust the selected input's MID frequency.
- ▶ Turn the GAIN encoder to adjust the selected input's MID gain.
- ▶ Turn the HF encoder to adjust the selected input's high frequency gain.

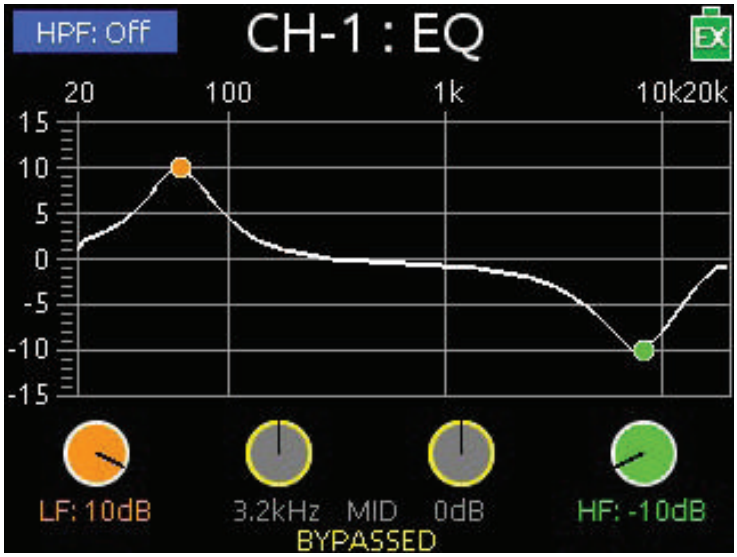
Above the SEL button for each input, the EQ LED illuminates blue when any of the LF, MID, or HF are set to non-zero gain, giving a quick global indication that some form of equalizer is applied to the input(s).

If a selected input has LF applied, the LF LED illuminates orange.

If a selected input has MF applied, the MID LED illuminates yellow, and if a selected input has HF applied, the HF LED illuminates green.



When EQ is applied to a selected input, the EQ screen also appears for the selected input on the mixer's LCD. For instance, in the following example, EQ is applied to channel 1 (CH-1); LF is set at 10 dB and HF is set to -10 dB, while MID frequency and gain are bypassed. In the example, high-pass filtering is off, the Q-factor is set to 1.0 and both LF and HF filtering is set to Peaking.



It is not possible to adjust EQ for multiple inputs at the same time. When multiple input channels are selected, the channel that is adjusted will be the last one added to the group.

There is a 10-second timeout on the EQ screen, if nothing is adjusted.

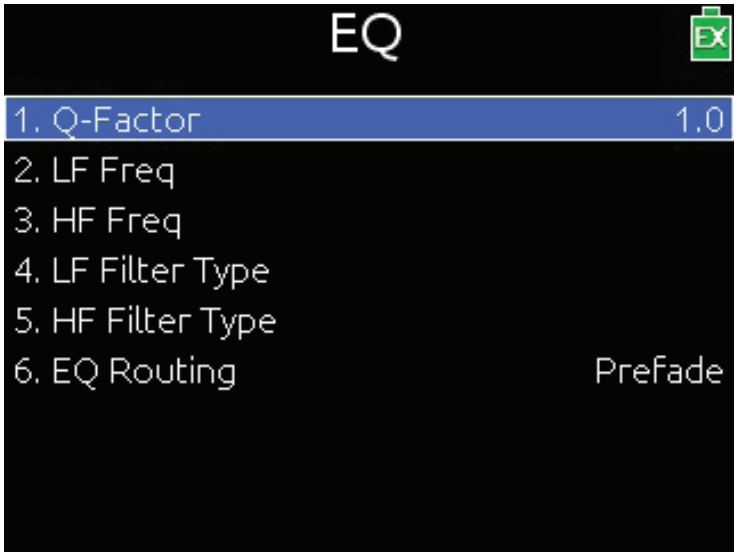
ⓘ *Press and hold an input's SEL button while pressing any of the EQ encoders to view the input's EQ screen without changing the input's EQ value.*

Accessing the EQ Submenu

Several settings related to EQ—such as Q-factor, EQ routing, and so forth—may be configured via the EQ submenu.

To access the EQ submenu:

1. Press MENU.
2. Select CL-12 > EQ. The EQ submenu appears.



Option	Description
Q-Factor	Set to one of four values: 0.707, 1.0, 1.414, 2.0. This affects all EQ bands. For more information, see *Setting the Q-Factor.*
LF Freq	Values range from 60 Hz to 300 Hz. Default is 100 Hz. This may be adjusted individually for each channel.
HF Freq	Values range from 8 kHz to 16 kHz. Default is 10 kHz. This may be adjusted individually for each channel. For more information, see *Setting LF and HF Frequency Defaults*.
LF Filter Type	Set to either Peaking or Shelving. This may be adjusted individually for each channel.
HF Filter Type	Set to either Peaking or Shelving. This may be adjusted individually for each channel. For more information, see *Setting LF and HF Filter Types*.
EQ Routing	Set to either Pre-fade or Post-fade. This affects all input channels. For more information, see *Setting EQ Routing*.

Bypassing EQ

When necessary, it is possible to temporarily and quickly bypass the application of EQ without altering the current non-zero gain value. The label BYPASSED is shown on the EQ screen for any band that is bypassed.

To bypass EQ do any of the following:

- Press the LF encoder.
- Press the FREQ or GAIN encoder.
- Press the HF encoder.

These controls act as toggles between bypass (gain = 0 dB) and the last non-zero gain value, so pressing any encoder a second time will toggle off bypass and reapply the last non-zero gain value for LF, MID, or HF respectively.

When an EQ band is bypassed, its EQ LED goes out.

Setting the Q-Factor

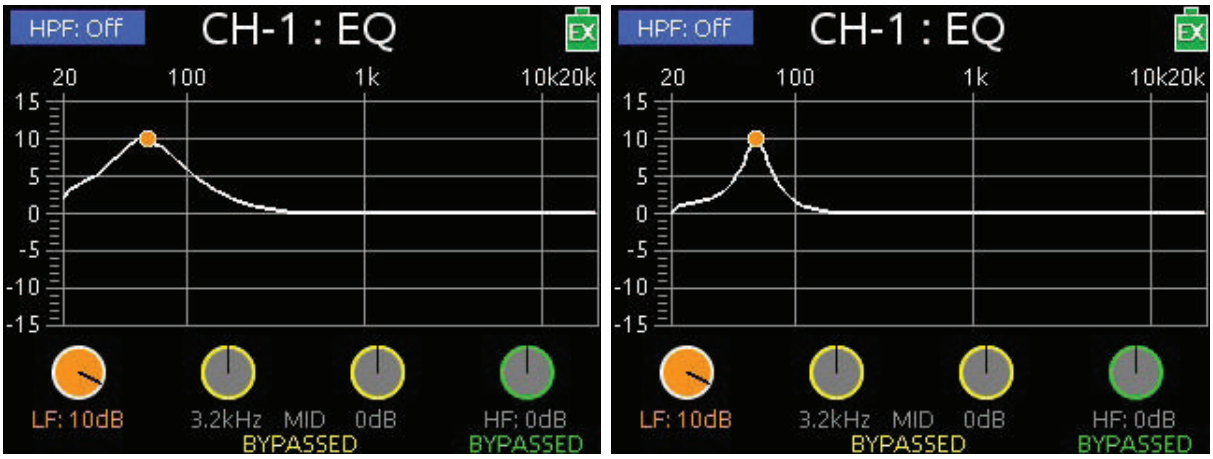
The Q-factor controls the bandwidth that will be cut or boosted by the equalizer.

To set the Q-factor:

1. Press MENU.
2. Select CL-12 > EQ > Q-Factor.
3. Select one of the following options: 0.707, 1.0, 1.414, or 2.0.

   The lower the setting, the wider the bandwidth, which means more frequencies will be affected by EQ. The higher the setting, the narrower the bandwidth, so the EQ adjustment wil be more selective.

   For example, the following two images show a 10 dB LF peaking filter applied to CH-1; however, the Q-factor for the left one is set to 0.707, while the Q-factor for the right one is set to 2.0.



Setting LF and HF Frequency Defaults

The default for LF is 100 Hz and the default for HF is 10 kHz, but both may be adjusted for each individual input via setting in the EQ submenu.

To adjust LF and HF Freq. defaults:

1. Press MENU.
2. Select CL-12 > EQ.
3. Do the following:
   - ▶ Select LF Freq and set a new value. Options include values in increments of 10 from a minimum 60 Hz to maximum 300 Hz.
   - ▶ Select HF Freq and set a new value. Options include values in increments of 10 from a minimum 8 kHz to maximum 16 kHz.

Setting LF and HF Filter Types

The CL-12's EQ offers two types of filters: Peaking and Shelving, and these may be adjusted individually for each input.

Filter	Sample Image	Description
Peaking		A peaking filter will create a hill- or peak-like boost or cut around a particular frequency. The spread of the "peak" will vary based on the Q-factor.
Shelving		A shelving filter will slope up or down to a particular point and remain constant at its level of boost or cut.
		The sample image shows examples of both shelving (LF) and peaking (HF).

To set type of LF and HF filters:

1. Press MENU.
2. Select CL-12 > EQ.
3. Do the following:
   - ▶ Select LF Filter Type and set each input to either Peaking or Shelving.
   - ▶ Select HF Filter Type and set each input to either Peaking or Shelving.

Setting EQ Routing

EQ may be applied either pre- or post-fade. This setting globally affects all inputs.

To set EQ routing:

1. Press MENU.
2. Select CL-12 > EQ > EQ Routing. Options include: Pre-fade or Post-fade.

Using High-pass Filters

The High-pass Filter (HPF) button on the CL-12 is a toggle, which turns the high-pass filter off or on for the selected input.

On the 664, since inputs 1-6 are analog, the CL-12's HPF button toggles on or off high-pass filtering for inputs 7-12 only at the fixed frequency of 150 Hz.

On the 688 and 633, the high-pass filter may be adjusted for all inputs to other frequencies.

To turn on and adjust an input's high-pass filter:

1. Select an input, using the input's SEL button.
2. Press the HPF button.

ⓘ *If inputs 1-6 are selected on the 664 when the CL-12's HPF button is pressed, a message will appear: "Use the low-cut control on the 664 front panel."*

   The HPF button illuminates when high-pass filtering is on.

3. (633 & 688 only) Adjust the HPF value via the Input Settings screen.

   When high-pass filtering is on, the HPF value is fixed at 150 Hz on the 664, but may be changed via in the Input Settings screen on the 633 or 688. Also, on the 688, the EQ screen appears on the mixer's LCD. The Headphone encoder may be used as an alternative way to adjust the HPF value displayed on the EQ screen.

ⓘ *Press the HPF button again to turn off the high-pass filter.*

Naming Tracks

Since inputs are hard-wired to their respective tracks, the input name is the same as the track name. Naming functionality only applies to one selected input at a time. Attempting to do so with multiple inputs selected will result in a message instructing the user to select a single input before continuing.

While recording, the current take's track name may be modified. Edits to the track name in the current take will also be applied to the next take and subsequent recordings that follow. The next take's track name may be edited so long as recording is stopped.

To enter or edit track names:

1. With a single input selected, press the NAME button. The Track Name List appears over the Meters View.
2. Do any of the following:
   - ▶ Select Edit Entry to edit the current entry.
   - ▶ Select Add New Entry to enter a new track name.
   - ▶ Select a name from the list.

ⓘ *TIP: Prepare a list of names to use for fast selection during production.*

Configuring User Programmable Buttons

The CL-12 offers three user programmable buttons for quick-access to a wide range of functions and menus.

To configure U1 – U3 buttons:

1. Press MENU.
2. Select CL-12 > User 1-3 buttons.
3. Select an option to assign to the button. The following table shows possible options and whether they are available with the different 6-Series mixers:

Option	Description	688	664	633
Take List	Displays the Take List screen.	✓	✓	✓
File List	Displays the File List screen.	✓	✓	✓
Play	Toggles between play and pause.	✓	✓	✓
FFWD	Fast forward or skip to next file.	✓	✓	✓
REW	Rewind or skip to previous file.	✓	✓	✓
Slate	Toggles slate on and off.	✓	✓	✓
Tone	Toggles tone on and off.	✓	✓	✓
FAV	Duplicates the action of the FAV switch.	✓	—	✓
Select	Duplicates the action of pressing the Select encoder.	✓	✓	✓
Default Playback Card	Shortcut to FILE STORAGE > Default Playback Card sub-menu.	✓	✓	✓
Power Menu	Displays the POWER settings.	✓	—	✓
Input Delays	Displays the Input Delays screen.	✓	—	✓
Output Delays	Displays the Output Delays screen.	✓	—	✓
LR Linking	Toggles linking of L and R.	✓	✓	✓
X1/X2 Linking	Toggles linking of X1 and X2.	✓	✓	✓
Auto Mixer	Toggles the Auto Mixer (MixAssist or Dugan) on and off.	✓	—	—
Return Loopback Mode A - C	Three options: Enters Return Loopback modes for either RTN A, RTN B, or RTN C, respectively.	✓	—	—
SLATE ROUTING	Displays the Slate Routing screen.	✓	—	✓

Option	Description	688	664	633
TONE ROUTING	Displays the Tone Routing screen.	✓	—	✓
Timecode Menu	Displays the Timecode/Sync menu.	✓	✓	✓
Daylight Mode	Toggles daylight mode.	✓	✓	✓
Create Sound Report	Creates a sound report (.csv file).	✓	✓	✓
Sound Report Info	Displays the Sound Report Info screen.	✓	✓	✓
X1 - X6 Routing	Six options: Each one is a shortcut to OUTPUTS > X1-X6 Routing > X1 Routing, X2 Routing, and so forth, respectively.	✓	—	X1-X4 only
SL-6 Routing	Displays the SL-6 Routing screen.	✓	—	—
AES Routing	Displays the AES Output Routing screen.	✓	✓	✓
EQ Menu	Shortcut to CL-12 > EQ sub-menu.	✓	—	—
LF Freq	Displays the EQ LF FREQ settings.	✓	—	—
HF Freq	Displays the EQ HF FREQ settings.	✓	—	—

Adjusting CL-12's LED Brightness

Depending on the work environment, the brightness of the CL-12's LED may require adjustment.

To adjust LED brightness:

1. Press MENU.
2. Select LED Brightness.
3. Turn the Headphone encoder to adjust value up or down in 1% increments from a minimum of 5% up to 100%.

ⓘ *TIP: LED brightness may be further boosted by connecting a USB 5 V source to the DC Boost Input port on the back panel of the CL-12.*

Specifications

The following specifications apply to the CL-12.

Name	Description	
External Power	• Powered by the mixer via USB cable • 5V micro USB DC boost input (required for use with 664 or 633)	
Current Draw	• 90mA @5V typical	
Light	• 100 mA (when powered by 688) • 500 mA (when powered with external USB power supply)	
Size (W x D x H)	**CL-12** • 14.7 in x 11.3 in x 3.8 in • 37.3 cm x 28.7 cm x 9.6 cm	**CL-12 Alaia** • 15.2 in x 11.3 in x 3.8 in • 38.6 cm x 28.7 cm x 9.6 cm
Weight	• 5 lbs • 2.27 kg	• 5 lbs • 2.27 kg

CL-6 Input Controller

The CL-6 input controller is an optional, input-expansion accessory available for use with Sound Devices 688 or 664.

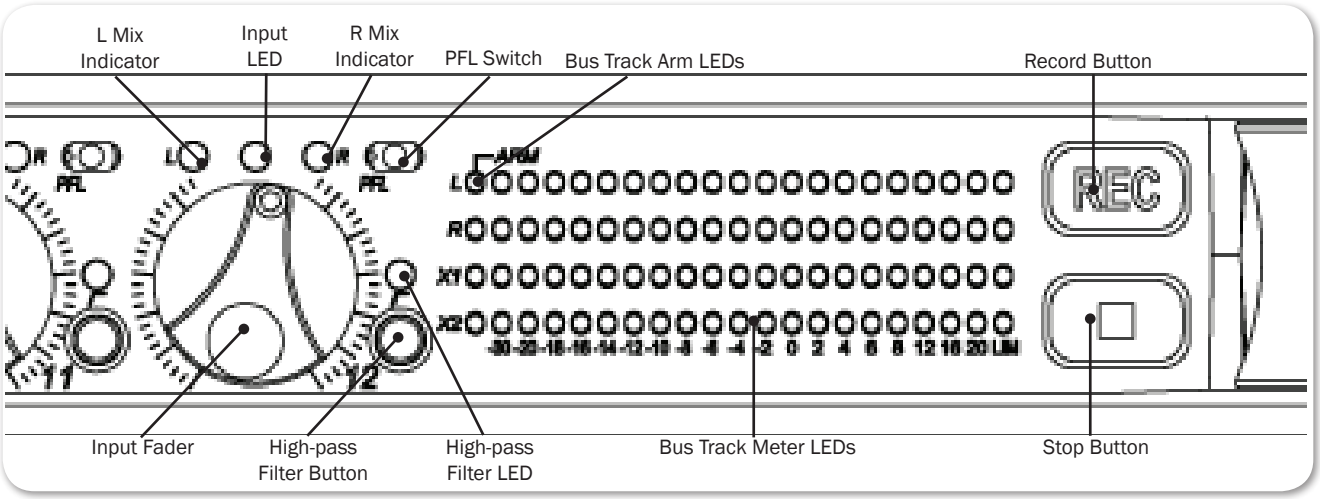
The CL-6 adds dedicated front panel controls, including six full-sized fader controls, PFL control, and high-pass filter controls for inputs 7 through 12. Other features include large, daylight viewable LED track meters with track arm indicators for tracks L, R, X1 and X2, plus additional recording controls.

ⓘ *Instructions for attaching the CL-6 to a mixer are provided in the CL-6 Quick Start Guide, shipped with the accessory. The guide is also available for download as a PDF from the Sound Devices website.*

Topics in this section include:

Front Panel

The front panel has the following features:

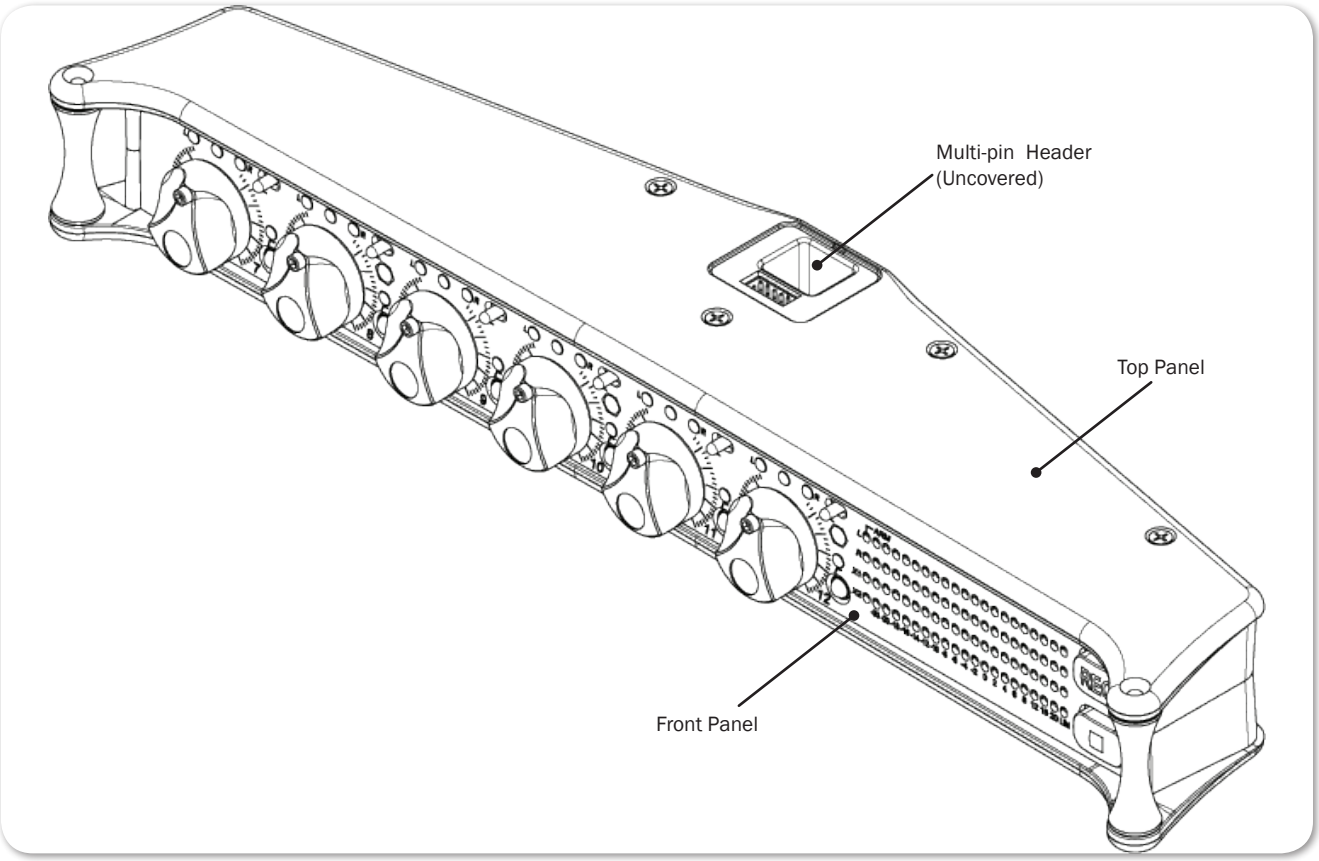


Feature	Description
Input Fader	Primary control for adjusting the fader levels of inputs 7-12. Ranges from OFF to +16 dB. Nominal setting is in the middle (0 dB).
High-pass Filter Button	Toggles activation of high-pass filter, per channel.
High-pass Filter LED	Illuminates amber to indicate high-pass filter is engaged, per channel.

Feature	Description
L Mix Indicator	Illuminates blue when the input has been routed to the left bus.
Input LED	Indicates input signal activity. Illuminates in various colors and intensities to show signal level and activity. • Green = signal presence (pre-fader) • Yellow = limiter activity (pre- and post-fade) • Red = signal overload/clipping (pre- and post-fade) • Flashing yellow = input PFL (solo)
R Mix Indicator	Illuminates blue when the input has been routed to the right bus.
PFL Switch	Activates PFL (slide left) and displays Input Settings screen (slide right) for respective inputs 7-12.
Bus Track Arm LEDs	Illuminates red to indicate the track is armed for recording.
LED Bus Track Meters	Displays metering levels for L, R, X1, and X2 tracks.
Record Button	The Transport Control on the mixer operates normally when the CL-6 is attached. This alternate, backlit Record button provides an additional control point for starting a recording.
Stop Button	This alternate, backlit Stop button provides an additional control point for stopping a recording.

Top and Bottom Panels

The top panel (shown) and bottom panel of the CL-6 provide multi-pin header connections for attaching a ribbon cable between the accessory and mixer.



Trim Levels (688 only)

When the CL-6 is attached to the 688, the mini-faders on the 688 become dedicated trim controls for inputs 7-12.

To adjust the trim level for inputs 7-12:

- Turn the appropriate mini-fader on the 688. The trim gain is displayed on the mixer's LCD via the Input Settings screen.

Trim Levels (664 only)

When the CL-6 is attached to the 664, the mixer's SELECT encoder may be used to adjust trim for inputs 7-12 via the Input Settings screen.

To adjust the trim level for inputs 7-12:

1. Slide the input's PFL switch on the CL-6 to the right to access the Input Settings screen on the mixer's LCD.
2. Turn the SELECT encoder to adjust trim for the input. The trim gain is displayed on the mixer's LCD.

Using High-pass Filters

The High-pass Filter button on the CL-6 is a toggle, which turns the high-pass filter off or on to a predefined setting of 150 Hz.

ⓘ *On the 688, the high-pass filter may be adjusted to other frequencies via the Input settings; however, if the button on the CL-6 is used, high-pass filtering is turned on at a set frequency of 150 Hz.*

To turn on an input's high-pass filter:

- Press the High-pass Filter button associated with the input.

  The High-pass Filter LED illuminates amber when high-pass filtering is on.

ⓘ *Press the button again to turn off the high-pass filter.*

Quick Routing of L and R Tracks

With the CL-6, you can quickly route an input to the left or right mix bus.

To route an input to L or R mix bus:

1. Hold down the input's High-pass Filter button.
2. Then, with that button held down, do either of the following:
   - ▶ Slide the Input Select switch left to route the input to the L mix bus.
   - ▶ Slide the Input Select switch right to route the input to R mix bus.

   The L and R Mix Indicator LEDs illuminate blue when the input is routed to the respective mix bus.

Specifications

The following specifications apply to the CL-6.

Name	Description
Powering	• Powered by the mixer or, if attached, the SL-6 powering and wireless system.
Size (H x W x D)	• 1.75 in x 10.2 in x 2.25 in • 5.3 cm x 32 cm x 19.8 cm
Weight	• 21.5 oz • 2.21 kg (unpackaged, without batteries)

CS-688
Production Case for 688 or 664

Manufactured by Portabrace for Sound Devices, this production case with included shoulder strap was designed for use with the 688 or 664 Field Production Mixers, as well as attachable accessories, such as the SL-6 powering and wireless system and the CL-6 input expansion controller.

The case is reversible, so the mixer may be positioned anywhere inside for easy access and versatility.

Included:

- CS-688 Production Case
- Detachable Windowed Cover
- High-quality Shoulder Strap

Features

The production case is made from durable 1000 denier nylon and padded over rigid internal plastic framing for extra protection, shock resistance, durability, and temperature insulation. Other features include:

- Waterproof nylon exterior with layer of anti-skid material on bottom of case
- Adjustable dividers for main compartment and front pocket
- Pockets on each side for wireless transmitters and receivers
- Microphone power supply pocket
- Quick zipper access to cable ports on either side of case

Specifications

Name	Description
Dimensions (Interior)	• 12.8 in x 6.5 in x 8.0 in • 32.4 cm x 16.5 cm x 20.3 cm
Weight	• 4.6 lbs • 2.1 kg

Published in Reedsburg, WI USA • www.sounddevices.com • Tel: (608) 524-0625 • Email: support@sounddevices.com

Software License

End-user license agreement for Sound Devices 6-Series Software / Embedded Firmware

Important Read carefully:
This Sound Devices, LLC end-user license agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and Sound Devices, LLC for the Sound Devices, LLC software product identified above, which includes computer software, embedded firmware, and may include associated media, printed materials, and "online" or electronic documentation ("SOFTWARE PRODUCT"). By using, installing, or copying the SOFTWARE PRODUCT, you agree to be bound by the terms of this EULA. If you do not agree to the terms of this EULA, do not use or install the SOFTWARE PRODUCT.

Software Product License

The SOFTWARE PRODUCT is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE PRODUCT is licensed, not sold.
Grant of license. This EULA grants you the following limited, non-exclusive rights: In consideration of payment of the licensee fee, Sound Devices, LLC, as licensor, grants to you, the licensee, a non-exclusive right to use this copy of a Sound Devices, LLC software program (hereinafter the "SOFTWARE") on a single product and/or computer. All rights not expressly granted to licensee are reserved to Sound Devices, LLC.
Software ownership. As the licensee, you own the hardware on which the SOFTWARE is recorded or fixed. Sound Devices, LLC shall retain full and complete title to the SOFTWARE and all subsequent copies of the SOFTWARE, regardless of the media or form on or in which the original copies may exist. The license is not a sale of the original SOFTWARE.

Copyright

All rights, title, and copyrights in and to the SOFTWARE PRODUCT (including, but not limited to, any images, photographs, animations, video, audio, music, text, and "applets" incorporated into the SOFTWARE PRODUCT) and any copies of the SOFTWARE PRODUCT are owned by Sound Devices, LLC or its suppliers. The SOFTWARE PRODUCT is protected by copyright laws and international treaty provisions. Therefore, you must treat the SOFTWARE PRODUCT like any other copyrighted material, except that you may make copies as only provided below. You may not copy the printed materials accompanying the SOFTWARE PRODUCT.
Restrictions on use. Licensee may not distribute copies of the SOFTWARE or accompanying materials to others. Licensee may not modify, adapt, translate, reverse engineer, decompile, disassemble, or create derivative works based on the SOFTWARE or its accompanying printed or written materials.
Transfer restrictions. Licensee shall not assign, rent, lease, sell, sublicense, or otherwise transfer the SOFTWARE to another party without prior written consent of Sound Devices, LLC. Any party authorized by Sound Devices, LLC to receive the SOFTWARE must agree to be bound by the terms and conditions of this agreement.

Termination

Without prejudice to any other rights, Sound Devices, LLC may terminate this EULA if you fail to comply with the terms and conditions of this EULA. In such event, you must destroy all copies of the SOFTWARE PRODUCT and all of its component parts.

Limited Warranty

No warranties. Sound Devices, LLC expressly disclaims any warranty for the SOFTWARE PRODUCT. The SOFTWARE PRODUCT and any related documentation is provided "as is" without warranty or condition of any kind, either express or implied, including, without limitation, the implied warranties and conditions of merchantability, fitness for a particular purpose, or non-infringement. The entire risk arising out of use or performance of the SOFTWARE PRODUCT remains with you.
No liability for damages. In no event shall Sound Devices, LLC or its suppliers be liable for any damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use this Sound

Devices, LLC product, even if Sound Devices, LLC has been advised of the possibility of such damages. In any case, Sound Devices, LLC's entire liability under any provision of this evaluation license shall be limited to the greater of the amount actually paid by you for the SOFTWARE PRODUCT or U.S. $5.00. Because some states/jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply to you.

Governing Law

This agreement and limited warranty are governed by the laws of the state of Wisconsin.

SOUND DEVICES

Sound Devices, LLC
E7556 Road 23 and 33
Reedsburg, Wisconsin 53959
USA

Phone: +1 (608) 524-0625
Fax: +1 (608) 524-0655

Customer Support

Toll Free: (800) 505-0625

Email: **support@sounddevices.com**
http://www.sounddevices.com/support
http://forum.sounddevices.com

Product Information
For more information about products and accessories, visit us on the web at www.sounddevices.com.

Report Documentation Error
Email: **techpubs@sounddevices.com**