

QUICK START GUIDE

688

12-Input Mixer with Integrated
16-Track Recorder and MixAssist™



SOUND  **DEVICES**



Welcome

Thank you for purchasing the 688, a 12-input portable production audio mixer with 16-track recorder with MixAssist. The 688 is an extremely versatile device with many advanced features and capabilities. It provides full digital mixing and routing capabilities with input delay selectable on all 12 inputs and output delay on all 8 buses. It records 16- or 24-bit polyphonic or monophonic broadcast WAV files at up to 192 kHz sample rate, with extensive metadata, to SD and CompactFlash memory cards. It can also simultaneously record MP3 files.

Included with your purchase:

QUANTITY	ITEM
1	688 Portable Mixer and Recorder
1	Cable (USB Standard A to USB Standard B) 2M Length RoHS
1	Connector (USB 2.0 A Female to Female)
2	Link Port Cover
1	LCD Protective Cover
4	Adhesive Rubber “Bumpers”
>1	Colored Dot stickers
>1	Promo Stickers
1	Product registration card
1	688 Quick Start Guide

This Quick Start Guide provides the initial steps necessary to set up and begin using the 688 right out of the box. It also provides warranties and licensing information and a brief overview of features.

For a full description of all product features, user-based procedures, specifications, and any safety information, please refer to the product’s User Guide located on the Sound Devices website; use the QR code or respective link to access and download the guide.

Read and Register...

Sound Devices strongly encourages you to register your product. Registration extends your warranty and ensures you will receive timely product updates.

Full User Guide:



http://www.sounddevices.com/download/guides/688ug_en.pdf

Register Your 688:



www.sounddevices.com/support/registration/

Email Support:



support@sounddevices.com

Call Support:



1-608-524-0625
1-800-505-0625

688 Key Features

- 12-input, 16-track mixer/recorder with full digital mixing and routing plus input and output delay
- The SL-6, an optional powering and wireless system, simplifies inter-connection between the 688 and slot-in receivers, reducing cable requirements and de-cluttering sound mixers' bags. When used with SuperSlot™ compatible receivers, the 688 gains fully integrated control of the receivers (sold separately). The SL-6 also provides USB charging port, two 12V isolated outputs, and two non-isolated direct battery outputs for powering additional devices.
- MixAssist™ is an integrated 12-channel auto-mixing feature that mixes the post fade outputs by automatically attenuating the level of microphones that are not active. Using the most sophisticated algorithm on the market, MixAssist helps maintain consistent background sound levels regardless of the number of open microphones and reduces comb filtering and phasing artifacts when multiple mics pick up a single sound source. It also increases gain before feedback when the recorder is feeding a sound reinforcement system.
- PowerSafe™ circuitry offers smart sensing of available power sources, front panel warning indication of power loss, and an integrated 10-second power reserve that will, in the event of an inadvertent power loss, allow the 688 to safely stop recording, properly stop all file operations and then automatically shut down.
- QuickBoot™ enables the 688 to turn on and start recording in less than two seconds. QuickBoot is active for two hours after the 688's power switch is turned off. With QuickBoot active and the mixer power switch off, the front panel Timecode LED flashes every 2 seconds.
- Expandable with optional CL-6 input controller, which adds six, full-sized, dedicated fader controls for channels 7-12, sunlight-viewable LED metering, and back-lit Record / Stop transport controls.
- Supports all common sampling rates, including up to 192 kHz on up to six tracks
- Ambient™ timecode generator and reader supporting all common rates and modes



1. Connect Power

The 688 is powered from any external DC power source (from 10-to-18 VDC) or from internal AA batteries. When multiple sources are connected, the 688 will use one source at a time, using first external power, then the AA batteries. The 688 also features PowerSafe™ which provides a 10-second reserve in the event of inadvertent power loss so that recording and file operations are properly stopped prior to automatic shutdown.

To connect the 688 to external power:

- ▶ Connect a DC power source (not included) to the 10-18 VDC input on the right panel.

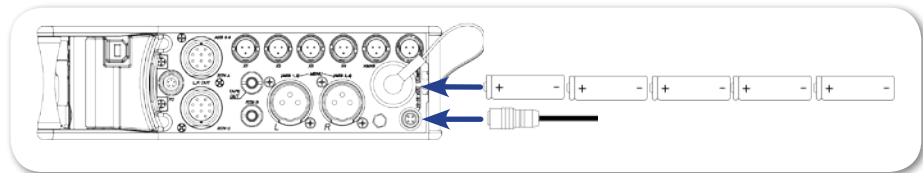
Note: Pin-4 of the locking, Hirose connector is positive (+) and pin-1 is negative (-).

The 688 uses five AA-sized batteries as a back-up in the event that external power is removed or depleted. While alkaline AA batteries may be used, NiMH batteries are preferred.

Depending on the battery, run times could vary. For alkaline, run time will be limited to between 10 and 15 minutes, based on settings. NiMH and lithium batteries offer up to 90 minutes of run time.

To insert AA batteries:

1. Unscrew the battery cap (counter-clockwise).
2. Insert five AA NiMH batteries (not included) into the battery tube. Orient the batteries with the positive (+) end facing in and the negative (-) end facing out.



2. Power Up

To turn on the 688:

- ▶ Slide the Power button to the right.

The power LED will illuminate yellow then green. The Sound Devices splash screen will appear briefly on the LCD, and then the Main screen will be displayed.

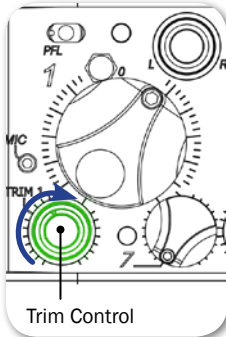
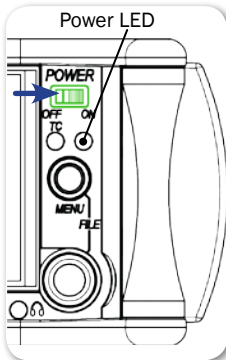
Note: The firmware version is shown on the splash screen at startup and via Menu > System > Version Info. Ensure you are using the latest firmware, which is available as a download from the Sound Devices website.

3. Activate an Input

To activate an input:

1. If the Trim control for an Input is recessed, push it in and it will pop out.
2. Turn the Trim control clockwise until it clicks to activate the input.

Note: The input is deactivated whenever the Trim control for that input is fully rotated counter-clockwise.

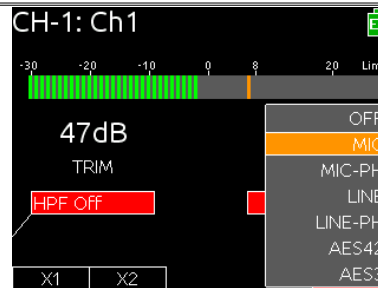


4. Select an Input Type

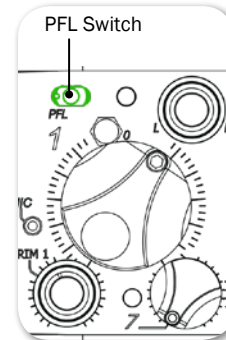
To select an input type:

1. Slide the Pre-Fade Listen (PFL) switch to the left to access the Input Settings screen for that Input.

Note: Step 1 is based on factory defaults. If sliding the switch to the left does not display the Input Settings screen, then the PFL Toggle Mode is not set to its 12-Channel default. When the PFL Toggle Mode is set to only 6 Channels, you must slide the PFL switch to the right instead of the left since sliding to the left is used to activate PFL without leaving the Main screen.



2. Press the Headphone encoder to display the list of available input types.
3. Turn the encoder to highlight an input type and press it in to make your selection.
 - OFF – Use to deactivate an input without having to change trim.
 - MIC – Use for dynamic microphones or mic-level sources.
 - MIC-PH – Use for microphones requiring phantom power.
 - LINE – Use for analog line level sources.
 - LINE-PH – Use for phantom-powered condenser microphones. Provides 48V or 12V phantom power, but at a line-level gain range. Useful in high sound-pressure-level environments.
 - AES42 – Use for digital AES42 (Mode 1) microphones.
 - AES3 – Use for a digital AES3 source.
4. Slide the PFL switch to the left again to return to the Main screen.



5. Connect Audio Source

On the left panel, there are six XLR-3F connectors for balanced microphone or line-level inputs, and six TA3-F connectors for line level inputs.

To connect an audio source:

- ▶ Use a standard XLR cable and connect a microphone or line level analog source to an Input XLR connector.

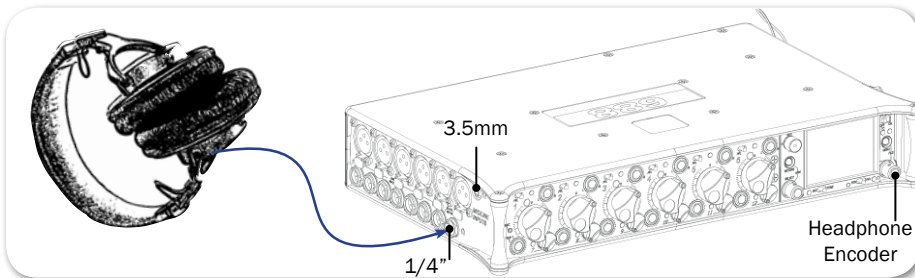
Note: Input 1 or 6 can also accept AES3 or AES42 (Mode 1) signal. (Pin-1 ground, pin-2 positive, pin-3 negative.)

6. Connect Headphones

Be careful of high headphone levels when connecting your headphones.

To connect headphones:

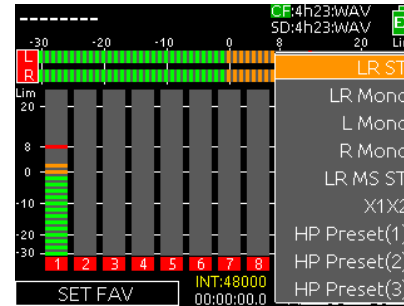
1. Prior to connecting your headphones, turn the Headphone encoder counter-clockwise until the LCD shows the headphones off.
2. Connect headphones to either the 1/4-inch or 3.5mm headphone outputs, located on the left panel of the 688.
3. Turn the Headphone encoder clockwise slowly until the level you want is reached.



7. Select a Headphone Source

To set up the headphone source:

1. Press the Headphone encoder to display the list of available sources. The list will auto-close if no selection is made within a few seconds.
2. Turn the encoder to choose LR ST, the master left and right stereo bus.
3. Press the encoder to confirm selection.

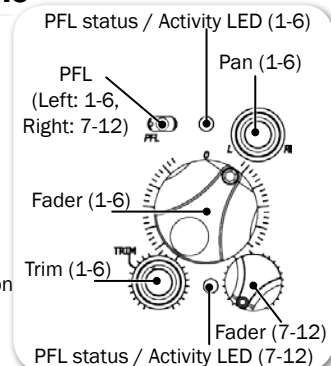


8. Adjust Trim and Fader Controls

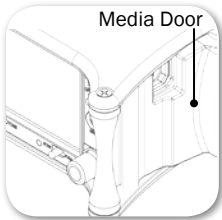
The gain of an input is adjusted by two controls, Trim and Fader. This two-stage architecture is identical to the topology of large mixing consoles and provides a great deal of control. Trim is often thought of as a coarse gain control and the Fader as the fine gain control.

To adjust trim and fade:

1. Set Fader control to 0 dB (12 o'clock).
2. Adjust Trim control clockwise until optimal level is achieved on metering and in headphones.



9. Insert and Format Media



The slots for Compact Flash (CF) or Secure Digital (SD) memory cards are located on the right panel behind the Media Door, which is held closed magnetically.

To install media:

1. Firmly pull open the Media Door.
2. Insert your choice of media memory card into the slots provided.

When inserting the SD card, ensure the bottom of the card (the side with metal contacts visible) is facing the rear of the unit. When inserting a CF card, ensure the top of the card (the side with the branding label) is facing the rear of the unit.

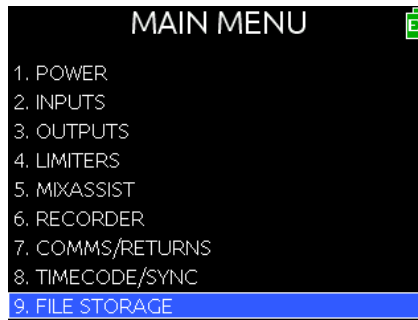
Note: Sound Devices Quality Assurance engineers perform extensive testing to ensure media approved for use with the 688 works reliably and provides the best performance. When choosing media, please refer to the Approved Media List available on the Sound Devices website at: www.SoundDevices.com/Approved.

The SD or CF card must be formatted by the 688 before recording.

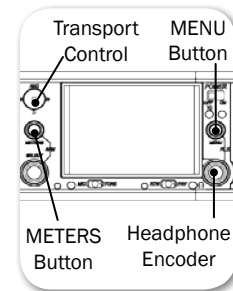
Warning: Reformatting a card will erase all data on the card.

To format an SD or CF card:

1. Press the MENU button.
2. Turn the Headphone encoder and press it to select File Storage.



3. Do either of the following:
 - Select Erase/Format CF to reformat a CompactFlash card.
 - Select Erase/Format SD to reformat an SD, SDHC, or SDXC card.
4. Press the Headphone encoder to begin the formatting process.
5. Follow the message(s) that appear on screen and press the Headphone encoder to continue.
6. Press the METERS button to return to the Main screen.



10. Start and Stop Recording

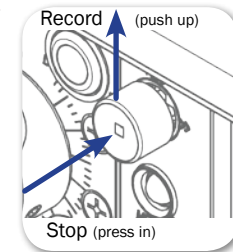
To begin recording:

- ▶ Push up the Transport control to record.

To stop recording:

- ▶ Press in the Transport control to stop recording.

While recording, both the Take name background color (top of Main screen) and Timecode counter (bottom left of Main screen) will become red, and the absolute time counter (bottom of Main screen) will run. Additionally, the CF and SD indicators will glow amber when media is being accessed.



11. Remove Media to Transfer Files

When recording is complete, ensure the CF and SD indicators (in top right corner of Main screen) are no longer glowing amber before removing the memory card(s). Once removed from the 688, the memory cards may then be connected to a computer for transfer and backup of recorded files.

To remove the CF card:

- ▶ Open the Media Door and pull out the card.

To remove the SD card:

1. Open the Media Door.
2. Push it in to release the card, and then pull it out.

12. Force Power Off (Optional)

In the unlikely event you need to manually force a complete shutdown of the 688, by-passing the PowerSafe and QuickBoot features, do the following:

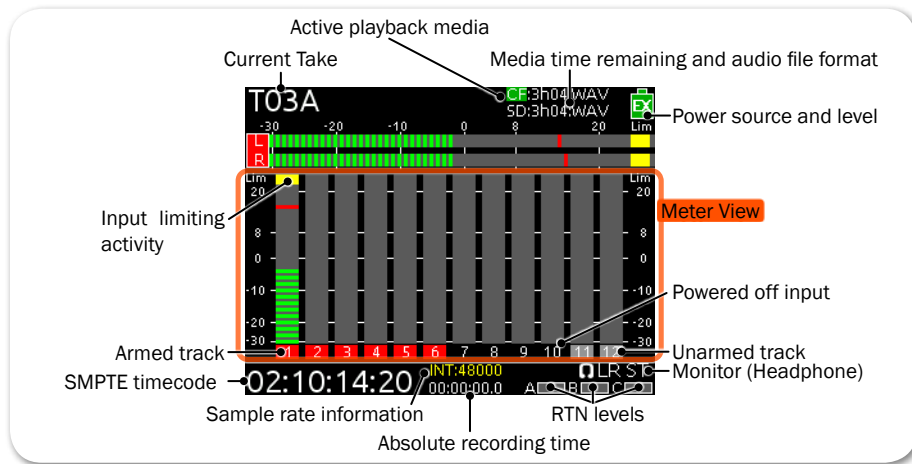
To force power off to the 688:

1. Slide the Power button to the left.
2. Press and hold the MENU button for 5 seconds.

After the 688 is manually powered off, the Timecode LED no longer flashes.

Main Screen

The Main screen displays important information at-a-glance. The Main screen can be accessed quickly from any other screen by pressing the METERS button. Press and hold the METERS button, and then slide the RTN / FAV switch (below the screen) to the left to toggle between display of time-code frame rate and sample rate. This sample image shows default settings.



Meter style can be changed to solid, and track names can optionally be shown in the meters.





Pressing the METERS button from the Main screen cycles through three Meter Views. Use the Main menu option: System > Meter Views to define which one of various configurations is used by each Meter View.







For complete information on the features of the 688 as well as procedures, tips and more, read the 688 User Guide, available in PDF format from the company's website:

http://www.sounddevices.com/download/guides/688ug_en.pdf

Accessories



The 688 works with various accessories which may be purchased separately and used to further enhance your field mixing and recording experience.

ACCESSORY	PHOTO	DESCRIPTION
CL-6		This optional input controller attaches to the bottom of the 688 and adds six full-sized tactile fader controls, sunlight-viewable LED metering and big, back-lit Record and Stop controls. When the CL-6 is attached to a 688, the 688's mini-faders, originally assigned as faders for 7-12, switch to control trim levels of 7-12, and the CL-6 faders control fader levels of 7-12.
SL-6		This optional powering and wireless system simplifies interconnection and provides better control, display and navigation of the user interface for SuperSlot-compatible wireless receivers. It also provides a USB charging port, two 12 V isolated outputs, and two non-isolated direct battery outputs for powering additional devices, along with PowerSafe for the receivers. (Wireless receivers are not included.)
CS-664		This production case (designed by CamRade for Sound Devices) may be used for either the 688 or 664 and one attached accessory, such as the SL-6 or CL-6 (pictured here with the 688). Case has a detachable accessory compartment and a battery compartment for NP-type batteries on the bottom. (Strap sold separately.)
Wave Agent		Sound Devices Wave Agent, a file librarian for computers, provides a comprehensive range of tools for preparing audio files for problem-free passage through complex production workflows. For more a free download, visit www.waveagent.com .

ACCESSORY	PHOTO	DESCRIPTION
XL-1B		A 12-inch TA3-F to TA3-F cable, used to connect TA3 auxillary outputs to TA3 inputs of receiving devices.
XL-2		A 25-inch TA3-F to XLR-3M cable, used to connect the TA3 auxillary outputs to third-party devices with XLR-3F inputs. Each package contains two cables.
XL-2F		A 25-inch XLR-3F to TA3-F cable, used to connect mixers and other devices with XLR-3M outputs to the TA3 7-12 inputs on the 688. Each package contains two cables.
XL-4		Bag of four (4) TA3-F-type connectors.
XL-H		Bare Hirose 4-pin locking DC connector (HR10-7P-4P).
XL-NPH		An NP-type battery cup with 24-inch cable terminated in Hirose 4-pin locking DC connector (HR10-7P-4P).

ACCESSORY	PHOTO	DESCRIPTION
XL-WPH3		The XL-WPH3 is an AC-to-DC (in-line) 100-240V power supply unit with 50/60 Hz input, a 12 VDC 3.75 A (45 W) output, and a Hirose 4-pin DC plug. It comes supplied with a 3-pin IEC cord.
XL-LL		LEMO@-5 to LEMO-5 coiled cable for timecode interconnection between the 688 and other devices.
XL-LB2		LEMO-5 to BNC input and BNC output for timecode interconnection between the 688 and other devices.
XL-LX		LEMO-5 to XLR-3F input and XLR-3M output for timecode interconnection between the 688 and other devices.
XL-10		Hirose 10-pin to two-XLR (balanced L/R) and 3.5 mm plug (stereo return A and C) breakout cable; includes in-line 20-foot extension cable. The XL-10 is a high-quality multi-pin breakout and extension cable designed specifically for Sound Devices field production mixers. It provides easy access to the balanced outputs and stereo return A and C connections.

This table is not an all-inclusive list of accessories available for use with the 688. For the latest information, visit the Sound Devices website at: www.sounddevices.com.

SOUND  DEVICES	Declaration of Conformity	
	According to EN ISO/IEC 17050-1:2004	

Manufacturer's Name: Sound Devices, LLC
 Manufacturer's Address: E7556 State Road 23 and 33
 Reedsburg, WI 53959
 USA

Declares under sole responsibility that the product as delivered

Product Name: 688 Portable Mixer and Recorder
 Model Number: 688
 Product Options: This declaration covers all options of the above product.

complies with the essential requirements of the following applicable European Directives, and carries the CE marking accordingly:

EMC Directive (2004/108/EC)
 EN 55022:2010
 EN 55103-2:2009

First date of CE approval February 28, 2015.

This Declaration of Conformity applies to the above-listed product(s) placed on the EU market after:

February 28, 2015

Date



Matt Anderson
 President

Warranty and Service

Sound Devices, LLC warrants the 688 against defects in materials and workmanship for a period of ONE (1) year from date of original retail purchase. Users who register their product directly with Sound Devices Technical Support by mail, online, or phone, will receive an additional ONE (1) year of warranty coverage, extending the complete warranty period to TWO (2) years from the date of original retail purchase. In order to extend the warranty coverage period, registration must be completed within the initial ONE (1) year warranty period. Products must be purchased through authorized Sound Devices resellers to qualify for Warranty coverage. Damage resulting from the opening of a Sound Devices product or attempted repairs by a non-authorized Sound Devices repair technician will void warranty coverage.

This is a non-transferable warranty that extends only to the original purchaser. Sound Devices, LLC will repair or replace the product at its discretion at no charge. Warranty claims due to severe service conditions will be addressed on an individual basis.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE. SOUND DEVICES, LLC DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOUND DEVICES, LLC IS NOT RESPONSIBLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING FROM ANY BREACH OF WARRANTY OR UNDER ANY OTHER LEGAL THEORY. Because some jurisdictions do not permit the exclusion or limitations set forth above, they may not apply in all cases.

For all service, including warranty repair, please contact Sound Devices for an RMA (return merchandise authorization) before sending your unit in for repair. Product returned without an RMA number may experience delays in repair. When sending a unit for repair, please do not include accessories, including SSD drives, CF cards, batteries, power supplies, carry cases, cables, or adapters unless instructed by Sound Devices. Sound Devices repairs and replacements may be completed using refurbished, returned or used parts that have been factory certified as functionally equivalent to new parts.

Sound Devices, LLC
Service Repair RMA #XXXXX
E7556 State Road 23 and 33
Reedsburg, WI 53959 USA
Telephone: (608) 524-0625

Technical Support / Bug Reports

For technical support and bug reporting on all Sound Devices products contact Sound Devices, LLC at:

E-mail: support@sounddevices.com
Website: www.sounddevices.com/support/

Phone: +1 (608) 524-0625
Toll-free: +1 (800) 505-0625 — in USA only
Fax: +1 (608) 524-0655

Sound Devices hosts a user support forum. The URL is: <http://forum.sounddevices.com>

Legal Notes

Product specifications and features are subject to change without prior notification.

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www.sounddevices.com

Part # 6052.002

