

USER MANUAL

RevA 09-2017

LMR-1202FX
12-CHANNEL RACK MIXING CONSOLE

Welcome

Thank you for choosing Hill Audio for your sound system. To make sure that this product meets your expectations and provides long-term, reliable performance, please read and follow this instruction manual carefully.

Manual Language

UK	This user manual is written in English. For other languages, visit	www.hill-audio.com
FR	Ce guide est écrit en anglais. Pour les autres langues, visitez:	www.hill-audio.com
DE	Diese Anleitung ist in Englisch verfasst. Für andere Sprachen:	www.hill-audio.com
ES	Este manual está escrito en Inglés. Para otros idiomas, visite:	www.hill-audio.com
PT	Este manual está escrito em Inglês. Para outros idiomas, visite:	www.hill-audio.com
IT	Questo manuale è scritto in inglese. Per altre lingue, visitare:	www.hill-audio.com

Important safety instructions

- Read these instructions and all markings on the product. Keep these instructions.
- Heed all warnings and instructions, both in this manual and on the product.
- Clean only with a dry cloth. Unplug from AC supply before cleaning.
- Do not use this product near water and avoid any exposure to water.
- Before connecting this product to any AC supply, make sure to check whether the AC mains voltage and frequency match the indication on the product and its packaging.
- Only connect this product to an AC supply with sufficient power handling, protective earth connection, ground-fault (earth-fault) protection and overload protection.
- Disconnect the product from the AC supply during thunderstorms or longer periods of being unused.
- Make sure any heat sink or other cooling surface, or any air convection slot, is exposed sufficiently to free air circulation and is not blocked.
- Do not operate this product in environmental temperatures exceeding 35 degrees Celsius and/or 85% relative humidity.
- Position the product in a safe and stable place for operation, out of reach of unauthorized persons.
- Make sure any cable connections to and from the product are neither subject to potentially destructive mechanical impact nor present any risk of stumbling or other accident risk to people.
- Audio equipment may generate sound pressure levels sufficient to cause permanent hearing damage to persons. Always start up at low volume settings and avoid prolonged exposure to sound pressure levels exceeding 90 dB.
- Do not open this product for service purposes. There are no user-serviceable parts inside. Warranty will be void in any case of unauthorized service by the user or other not authorized persons.
- Take any precaution required by local law, applicable regulations or good business practice to avoid injury of people or material damage by use of this product.

Explanation of symbols used in this manual and on the product:



ATTENTION!
Read manual before installation and operation.



DANGER!
Safety hazard.
Risk of injury or death.



WARNING!
Hazardous voltage.
Risk of severe or fatal electric shock.



WARNING!
Fire hazard.

Description

The LMR-1202FX is a compact rack-format live sound mixer with 8 Mic/Line mono inputs and 2 stereo line inputs. It features 2 Aux buses - one pre-fader as a monitor bus, one post-fader as an effects bus, connected to the internal 16-programs/16 variations DSP effects processor. A 3.5mm TRS jack serves as an input for mobile players, making this mixer a versatile centre piece of any portable or installed sound system.

Health advice

This unit produces and absorbs electromagnetic radiation. The strength of radiation and the sensitivity for disturbing interference matches the CE and FCC requirements. A corresponding sign is printed on the backside of the unit. Any change or modification may affect the behavior of the unit concerning electromagnetic radiation, with the CE requirements eventually not to be met any more. The manufacturer takes no responsibility in this case.

Functional advice

This unit is immune to the presence of electromagnetic disturbances – both conducted and radiated - up to a certain level. Under peak conditions, the unit is classified to show a “class C” performance criteria and may encounter temporary degradation or loss of function which may need manual help to recover. In such case, disconnect the AC power from the unit and reconnect it again to recover.

Environmental advice

This unit is built to conform to the ROHS standards and the WEEE directive 2002/96/EC of the European Parliament and of the Council of the European Union. Under these regulations, the product shall not be discarded into regular garbage at the end of its life, but shall be returned to authorized recycling stations.

Unpacking

Please check that the box contains the following items:

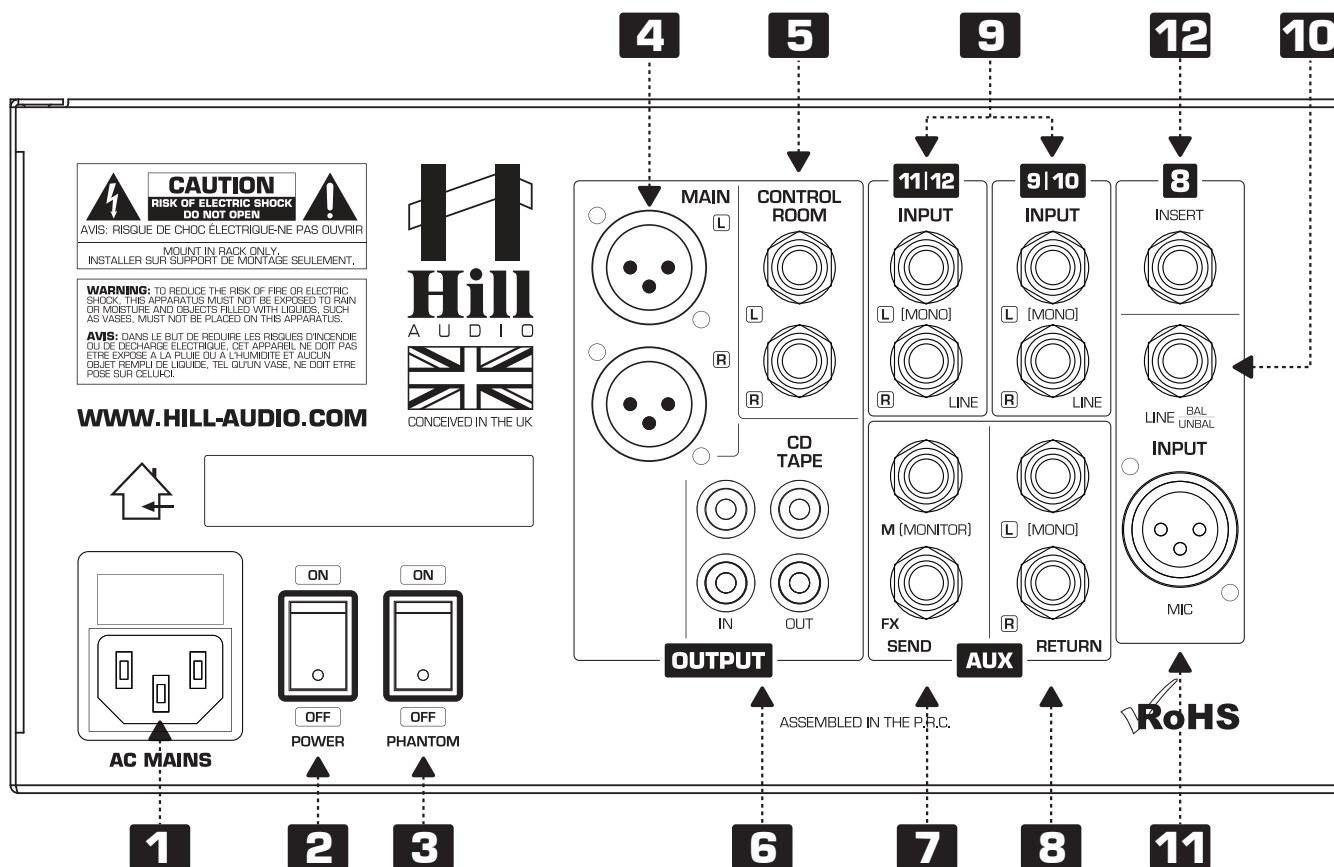
Main parts: 1 pc. LMR1202FX main unit
 1 pc. Mains cable
 1 pc. Operation manual

If any part is missing, please contact your dealer immediately for replacement.

Warning



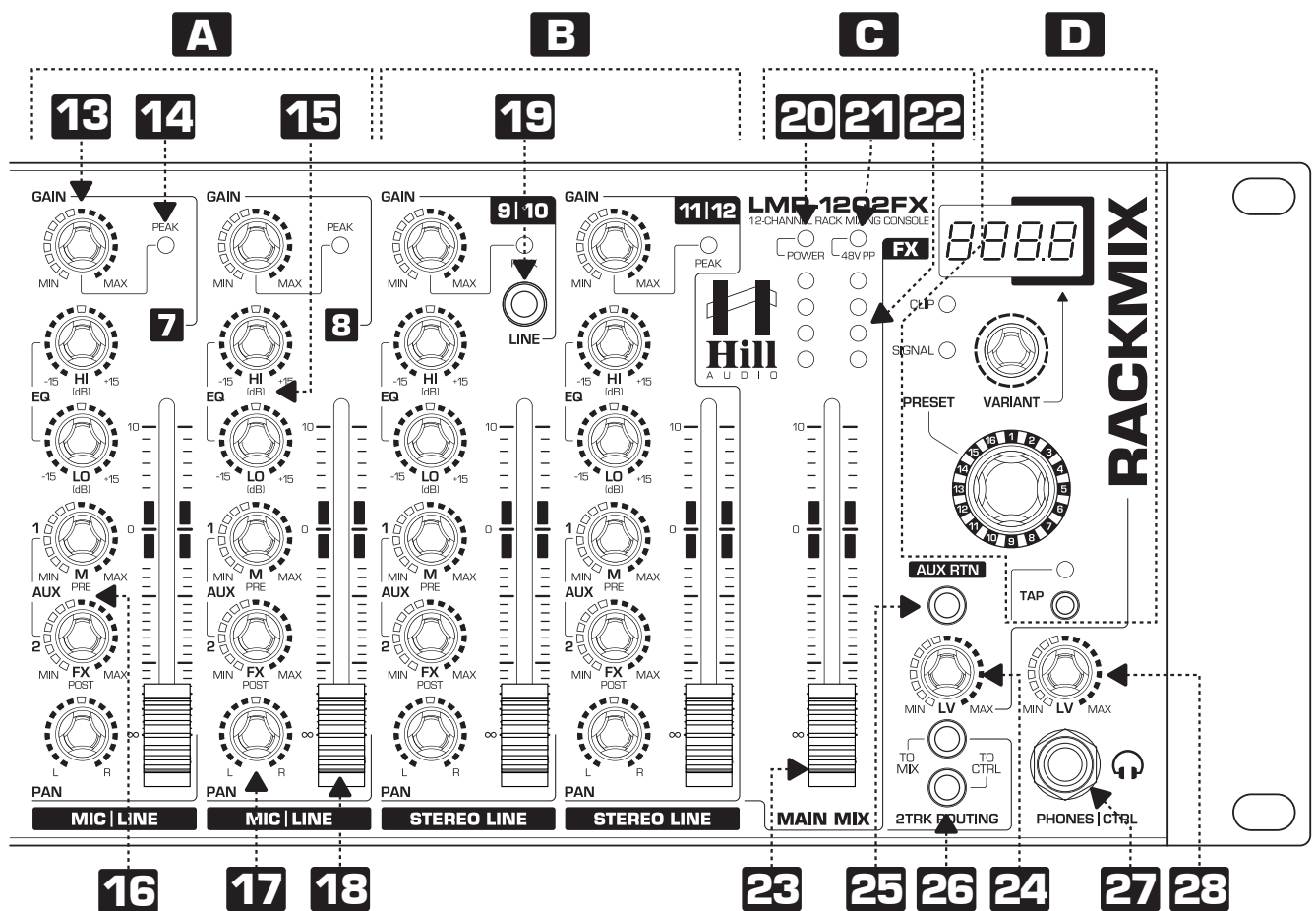
After unpacking, and before plugging the AC cord in the wall outlet, check whether the AC mains voltage and frequency is the same as this product is specified for (see rear panel of product). Whenever the specified voltage or your AC plug should not match the local conditions, do NOT plug the AC cord into the wall outlet and contact your dealer immediately.



- 1** AC inlet and fuse holder. Use the supplied AC cord to connect the unit to AC mains. Make sure voltage and frequency stated and set on the unit comply with your local AC supply. The fuse can be accessed by the small drawer at the AC inlet. To change the fuse, unplug the AC cord first, pull out the fuse drawer and replace the fuse **ONLY** with a fuse of **SAME** voltage and rating. If the fuse blows again after replacement, hand over the unit to qualified service personnel.
- 2** POWER switch. Switches the unit on and off. Make sure to switch the unit off when not in use.
- 3** PHANTOM POWER switch. This switch activates a 48V DC supply to the MIC inputs (11) for powering condenser microphones. Phantom power shall remain switched off if only dynamic microphones are used. The on/off status is indicated by a front-panel LED (21).
- 4** MAIN OUTPUT section. This contains a pair of XLR outputs which carry the balanced main mix signal.
- 5** CONTROL ROOM OUTPUT. This is a pair of TRS connector carrying the same signal as the front-panel headphones connector (27)
- 6** 2TRK In/Out. This is a dual pair of unbalanced RCA stereo connectors for a tape or solid state recorder in order to record from the main mix and replay into the main mix. The signal routing can be determined by the relative front-panel switches (26).

- 7** **AUX SEND.** Every AUX bus (Monitor, EFX) has a balanced TRS output which carries the signal composed from the channel AUX bus controls (16). Note that the Monitor AUX send is pre-fader while the EFX (effects) AUX Send is post-fader.
- 8** **AUX RETURN.** This stereo TRS input is provided for connecting any mono or stereo line level signal. Insert a mono source into the L jack to make sure the signal is fed into both L and R main mix. The level of this input is adjusted by the respective RETURN control (24). Note that this control also adjusts the level of the internal effects processor.
- 9** **STEREO Line Inputs** (for channel 9/10 and 11/12). These are two balanced 6.35mm TRS connectors. Connect any line level stereo source here. Insert a mono source into the L jack to make sure the signal is fed into both the L and R channel mix.
- 10** **LINE Input.** This is a balanced 6.35mm TRS connector. Connect any line level source here. For sources which require a high impedance input (like a guitar output), use a DI box inbetween the source and the mixer's line input. Do not use concurrently with the MIC input (11).
- 11** **Microphone GAIN Input.** This is a balanced female XLR connector. Connect any dynamic or condenser capsule microphone here. If phantom power is required, it can be activated separately via the rear panel switch (3). Do not use concurrently with the LINE input (10).
- 12** **Insert Jack.** This is an unbalanced 6.35mm TRS connector, with tip and ring carrying the send and return signal of the insert path at line level. Use a Y TRS cable (insert cable) to insert an external signal processor here.

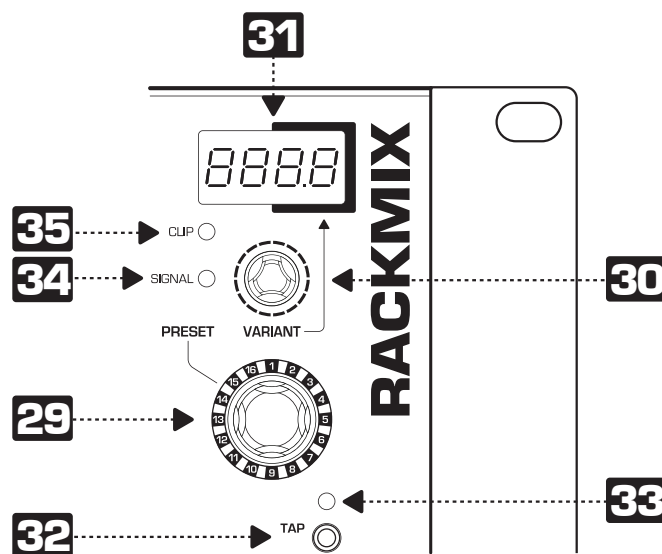
Controls - Front



- A** MONO INPUT section (channels 1-8). These inputs channels can accept mono line input signals to be connected to the rear-side TRS jacks (10) or mono microphone signals to be connected to the rear-side XLR jacks (11). The mono input section has the same controls as the stereo input section (B).
- B** STEREO INPUT section (channels 9/10 and 11/12). These inputs channels can accept stereo line input signals to be connected to the rear-side TRS jacks (9). The stereo input section has the same controls as the mono input section (A).
- 13** GAIN controls. These controls allow to adjust the input sensitivity in a range of +10 to +60 dB for the MIC input (11) and +10 to -40 dBu for the LINE input (10). The setting should be adjusted so that the CLIP LED (14) only flashes occasionally
- 14** CLIP LED. Indicates an overload of the input channel. The gain (13) shall be adjusted to make sure this only flashes occasionally.
- 15** EQUALIZER. This is a 2-band shelving equalizer with 80Hz (Low) and 12kHz (High) corner frequencies and an adjustment range of +-15dB.
- 16** AUX buses. These two controls allow to create an independent signal mix from the master output mix. The AUX1(M) bus is pre-fader and allows a mix independent from the channel fader settings, useful for monitor applications. The resulting AUX1(M) signal can be picked up at the rear-panel AUX SEND (M) jack (7). The AUX2(FX) bus is post fader and the levels depend on the channel fader settings, which is useful for effects applications. The resulting AUX2(FX) signal can be picked up at the rear-panel AUX SEND (FX) jack (7). Note that this signal is also fed to the internal effects processor.
- 17** BALANCE/PAN control. Allows to set the balance between the left and right main signals. For channels 1-8, the PAN controls determine the allocation of the mono inputs to the left and right main outputs; for channels 9/10 and 11/12, the BALANCE controls determine the balance between the left and right main signal portions.
- 18** CHANNEL FADERS. These 60mm sliding controls determine the level of the respective channel in the master mix.
- 19** AUX Input for channel 9/10. This is a 3.5mm stereo TRS (unbalanced) input, suitable for the connection of e.g. MP3 players. This AUX input is automatically overriding any other source connected to this channel once a connector is inserted.
- 20** POWER LED. Indicates whether the unit is switched on or off.
- 21** PHANTOM POWER LED. Indicates whether the rear-side PHANTOM POWER switch (3) is enabled.
- 22** LEVEL Meter. Indicates the main output level at connectors (4) in 4 steps: -20dB (lower white), 0dB (upper white), +6dB (lower red), Clip (upper red).
- 23** MAIN FADER. This 60mm sliding control determines the output level.
- 24** AUX RETURN volume control. Sets the volume of the signal fed into the rear-side AUX RETURN jacks (8).
- 25** AUX RTN SOLO. Assigns the AUX RETURN signal exclusively to the headphones/control room outputs (5, 27).

- 26** 2TRK ROUTING. Allows to assign 2TRK input (6) to the control room/phones output and the MAIN MIX output.
- 27** HEADPHONES Output. Carries the same signal as the control room output (5), which is the main signal, or the effects solo signal depending on switch (25). The 2TRK signal can be added to the output depending on the setting of the switch (26).
- 28** PHONES/CTRL Level Control. Sets the output level at both the front-side HEADPHONES output (27) and the rear-side CONTROL ROOM output (5).

D EFFECTS Processor



- 29** EFFECTS PRESET Selector. Changes the effects program. See below table for the available 16 settings. The active setting is displayed in the first two digits of the display (31).
- 30** EFFECTS VARIANT Selector. Changes one key parameter of the active effects program. See below table for applicable parameters. The variation setting is displayed in the 2nd two digits of the display (32).
- 31** Display. The 1st two digits show the selected effect program, the 2nd two digits show the selected variation.
- 32** TAP Button. Allows to set a manual speed for the time parameter of effects where time is decisive. See below table for further details. Note that not all effect programs are time-based, in which case this button will have no function. The TAP LED (34) shows the active speed setting.
- 33** TAP LED. Indicates the currently active speed of the time base for certain effects. The speed can be set by tapping along on the TAP button (33). Note that not all effect programs are time-based, in which case this LED will be off.
- 34** SIGNAL LED. Indicates that the effects processor receives an input signal. The signal fed to the effects processor is set by the AUX2(FX) controls (16).
- 34** CLIP LED. Indicates that the signal supplied to the effects processor is too loud. Reduce the signal by turning down the AUX2(FX) controls (16).

EFFECT PRESET CHART

The chart below describes the presets and what the Variable and Tap controls do for each one.

Preset	Name	Variable Parameter	Tap Control	Description
1	Flanger	Depth, from low to deep	-	Classic stereo flanger with a slow sweep
2	Chorus	Depth, from low to deep	-	Chorus/ensemble effect with short delays
3	Delay-M	Feedback, from single repeat to long repeating echos	Delay Time	Simple mono delay, great for vocals and guitars
4	Delay-PP	Feedback, from single repeat to long echo	Delay Time	Stereo "Ping Pong" delay that jumps from left to right output for complex effects
5	RV Plate	Decay & Brightness - from Short/Bright to Long/Warm	-	Emulation of a '70s plate reverb - a smooth decay for instruments
6	RV PPlate	Decay & Brightness - from Short/Bright to Long/Warm	-	Plate reverb with a short [20ms] pre-delay, perfect for adding space to vocals while keeping them clear and intelligible
7	RV Room	Decay & Brightness - from Short/Bright to Long/Warm	-	Emulates a small studio room, great for adding ambience to drums and instruments
8	RV Hall	Decay & Brightness - from Short/Bright to Long/Warm	-	Gives the sound of a concert hall, ideal for keyboards, string, and wind instruments
9	RV Spring	Decay & Brightness - from Short/Bright to Long/Warm	-	The sound of a spring reverb, adds a funky vintage sound to guitars
10	VocD	Detune amount, light to deep	-	Vocal doubler effect - a Pitch shifter with a slight echo to fatten vocals or guitars
11	Rev+DelM	Reverb decay, short to long	Delay Time	Reverb with a short mono delay
12	Rev+DelPP	Reverb decay, short to long	Delay Time	Reverb with a short stereo ping-pong delay
13	RV+Chorus	Reverb decay, short to long	-	Reverb and chorus multieffect, nice on keyboards
14	RV+Flange	Reverb decay, short to long	-	Reverb and flanger multieffect, interesting with guitar
15	RV+VocD	Reverb decay, short to long	-	Reverb with vocal doubler multieffect, great for pop vocals
16	Rotary	Depth light to deep	-	Emulation of the rotary speaker from an organ, fun for guitars or keyboards

Operation

A. Connections

For connecting this unit to AC mains, please note:

- Check whether the AC mains voltage and frequency is the same as this product is specified for (see rear panel of product). Whenever the specified voltage or your AC plug should not match the local conditions, do NOT plug the AC cord into the wall outlet and contact your dealer immediately.
- Do not operate this unit without the line cord earth ground connected. To do so may increase the risk of electric shock and increase line cord conducted emissions.

For making audio signal connections, always remember that good and reliable connections are a basic requirement for good sound and reliable operation. Bad soldering of cables can result in intermittent audio signals or temporarily lost ground connections, hence always use good cables. In case of doubt about making proper connections, please see check the standard pin assignments required for proper operation in the following section of this manual.

B. Powering up

Following a proper power-up sequence protects your equipment – specifically speakers – and your ears. Follow the below procedure:

- Turn down all output volume controls of any equipment in your audio system.
- Switch on your audio sources first (Tuners, CD Players, PC's with soundcards, Tapedecks, etc.)
- Switch on the audio mixer
- Switch on any audio processor between the mixer and the amplifier(s) [if any].
- Switch on the amplifier(s).
- Turn up the audio level on your sources if such controls are provided.
- Set the audio output of your mixer to a low level.
- Set the audio output of any audio processor between the mixer and the amplifier(s) to a medium level [if any such processors].
- Turn up the volume controls of your amplifier(s) slowly.
- Make adjustments to all volume settings as needed.

For switching off, follow the inverse sequence – always switch off your amplifier(s) first, then any processors between mixer and amplifier(s), then the mixer, then the sources.

C. Use

Apart from using good equipment, good sound comes from using it correctly. Level setting mistakes are one of the common reasons why even good equipment may not perform as desired. For setting levels, please be reminded that two guidelines need to be followed:

- Avoid distortion by leaving some headroom. Never overrun any audio-equipment's inputs. Level meters and displays allow you to make sure that signals do not enter critical levels.
- Avoid unnecessary amplification by using as little attenuation as possible. For example, if you turn down the input gain of a mixer to minimum, and then increase the main output of the mixer to maximum to drive your amplifier properly, you will create unnecessary noise, as you first dispose of some already existing signal level, and then later apply amplification (tainted with noise) to make it up.

Obviously, these two requirements are marking a levelling window that the operator must match to achieve a good sound with as little distortion and noise as possible.

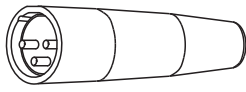
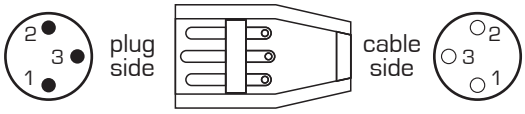
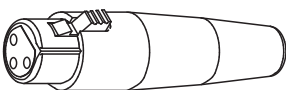
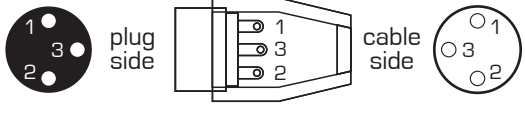
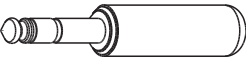
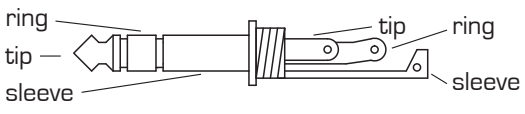
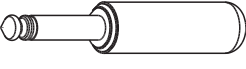
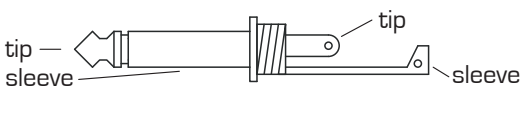
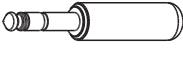
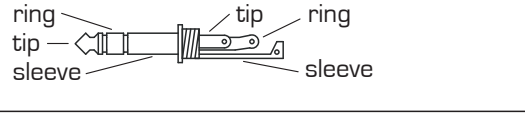
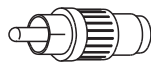
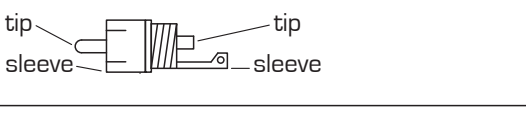


WARNING - HEALTH RISK

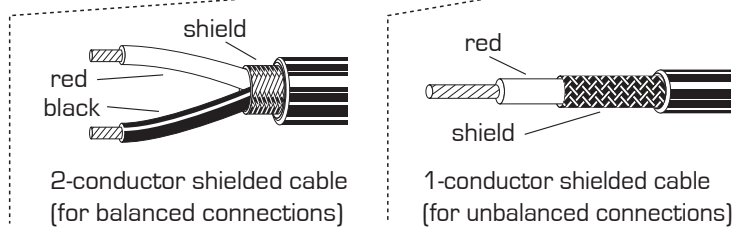
Excessive volume levels on headphones or other sound systems may cause hearing damage. Always turn the volume control to minimum when you switch the unit on, and avoid prolonged exposure to sound pressure levels exceeding 90dB.

Connections

The LMRx series mixers use the below connector types, for which the pin assignment must comply with the following specification. Always make sure to use good connectors and cables to ensure proper operation. Balanced connections are to be preferred over unbalanced connections where applicable and feasible. Avoid unbalanced connections exceeding 2m of cable length.

	Structure	Balanced connection	Unbalanced connection
XLR male 		red = 2 black = 3 shield = 1	red = 2 shield = 1+3
XLR female 		red = 2 black = 3 shield = 1	red = 2 shield = 1+3
6.35mm TRS-stereo 		red = tip black = ring shield = sleeve	red = tip shield = sleeve+ring
6.35mm TRS-mono 		red = tip black = sleeve shield = uncon.	red = tip shield = sleeve
3.5mm TRS-stereo 		red = tip black = ring shield = sleeve	red = tip shield = sleeve+ring
RCA 		red = tip black = sleeve shield = uncon.	red = tip shield = sleeve

CABLE Types





Technical Specifications

SFrequency response (Mic In @ -20 dB):	CMRR (Maximum Gain).....>50dB @ 1kHz
Mic In to Main Out.....10Hz-22kHz +0-1dB	Crosstalk (adjacent channels).....-65dB
THD (Mic In @ -20 dB).....0.01%	AC IN.....100-250V~ 50Hz-60Hz (25W)
SNR Mic In to Main Out.....>90dB	Dimensions.....W483xH133.0xD162.0mm
Preamp Noise (EIN 150Ω source):.....-114 dB	Weight.....3.75 kg
Residual Output Noise.....<-95dB	

Maintenance and warranty

While we have chosen the best components to make this product as rugged and reliable as possible, some parts in audio products (potentiometers, faders, switches) are subject to wear which is a matter of operation cycles, and not of time. While providing a full time-based warranty according to the country's of purchase requirements on the function of the electronic circuitry, we hence have to limit the warranty on such electro-mechanical parts to 90 days from the date of purchase.

In many cases, malfunction of electro-mechanical parts occurs due to dust contamination, which may require cleaning of such parts. As the inside of such parts is not accessible, a common practice is to use cleaning fluids in the shape of sprays. Please be reminded that many of such fluids contain chemicals which may wash away the dust but at the same time corrode or damage contact surface and may cause cosmetic damage to other parts. We hence explicitly exclude any claims for exchange of damaged part due to mechanical or chemical impact.

EC Declaration of Conformity

Manufacturer: Adelto Technologies Limited
Address: Unit 2A Springfield Road, Springfield Industrial Estate
Burnham-on-Crouch, Essex CM08UA, England

We declare on our own responsibility, that the equipment

Hill Audio LMR-1202FX

is in conformity with the following directives and standards or regulations:

EMC Directive 2014/30/EU
EN55032:2012 (Emissions)
EN55103-2:2009 (Immunity)
EN61000-3-2:2014
EN61000-3-3:2013

LVD Directive 2014/35/EU
EN60065:2014

ROHS2 Directive 2011/65/EU

and is marked as follows:



Burnham-on-Crouch, 30.06.2017
Place and date of issuing


Authorized Signature

www.hill-audio.com



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Adelto Technologies

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