MIDAS DM12 Input Analogue Live and Studio Mixer with Microphone Preamplifiers User Guide

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MIDAS DM12 Input Analogue Live and Studio Mixer with Microphone Preamplifiers

Product Information

The DM16/DM12 is a 16/12 input analogue live and studio mixer with MIDAS microphone preamplifiers. It is designed to provide high-quality sound and versatile connectivity options for live sound and recording applications. The mixer features a rugged construction, intuitive layout, and a range of advanced features that make it suitable for use in various settings.

Important Safety Instructions

- Always read and follow the safety instructions carefully.
- Do not remove the top cover or rear section of the mixer as there are no user-serviceable parts inside.
- Avoid exposing the mixer to rain and moisture.
- Ensure that the mixer is not installed near any heat sources, such as radiators or stoves.
- Use only the specified attachments and accessories.
- Do not use the mixer in a confined space, such as a bookcase.

Terminals marked with this symbol carry electrical current of suffi cient magnitude to constitute risk of electric shock.
Use only high-quality professional speaker cables with ¼” TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.
Caution To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.

- To reduce the risk of fi re or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.
- These service instructions are for use by qualifi ed service personnel only.
  To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fi t into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Use only attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
17. Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more

information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service.

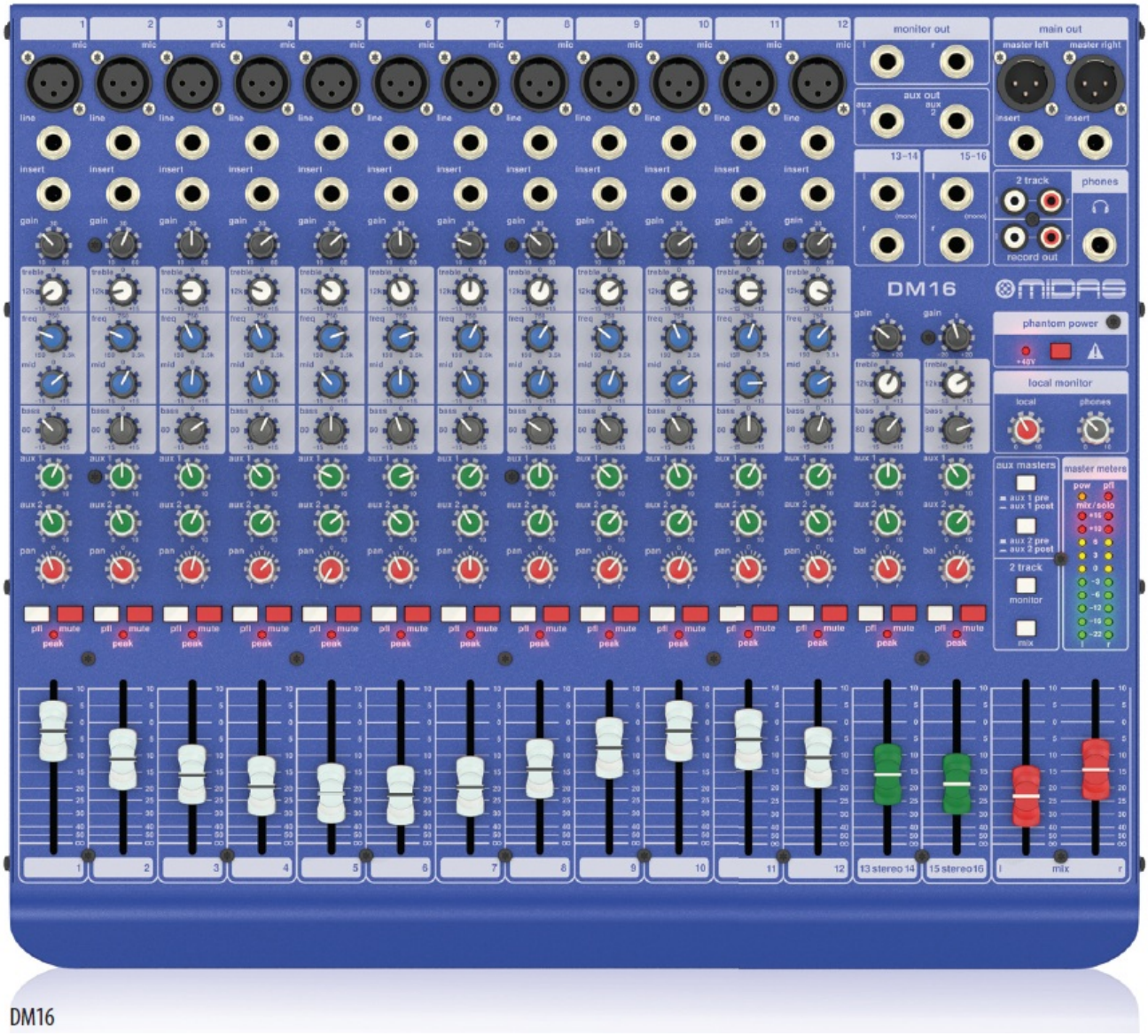
18. Do not install in a confined space, such as a book case or similar unit.
19. Do not place naked flame sources, such as lighted candles, on the apparatus.
20. Please keep the environmental aspects of battery disposal in mind. Batteries must be disposed-of at a battery collection point.
21. Use this apparatus in tropical and/or moderate climates.

LIMITED WARRANTY
For the applicable warranty terms and conditions and additional information regarding MUSIC Group's Limited Warranty, please see complete details online at
music-group.com/warranty

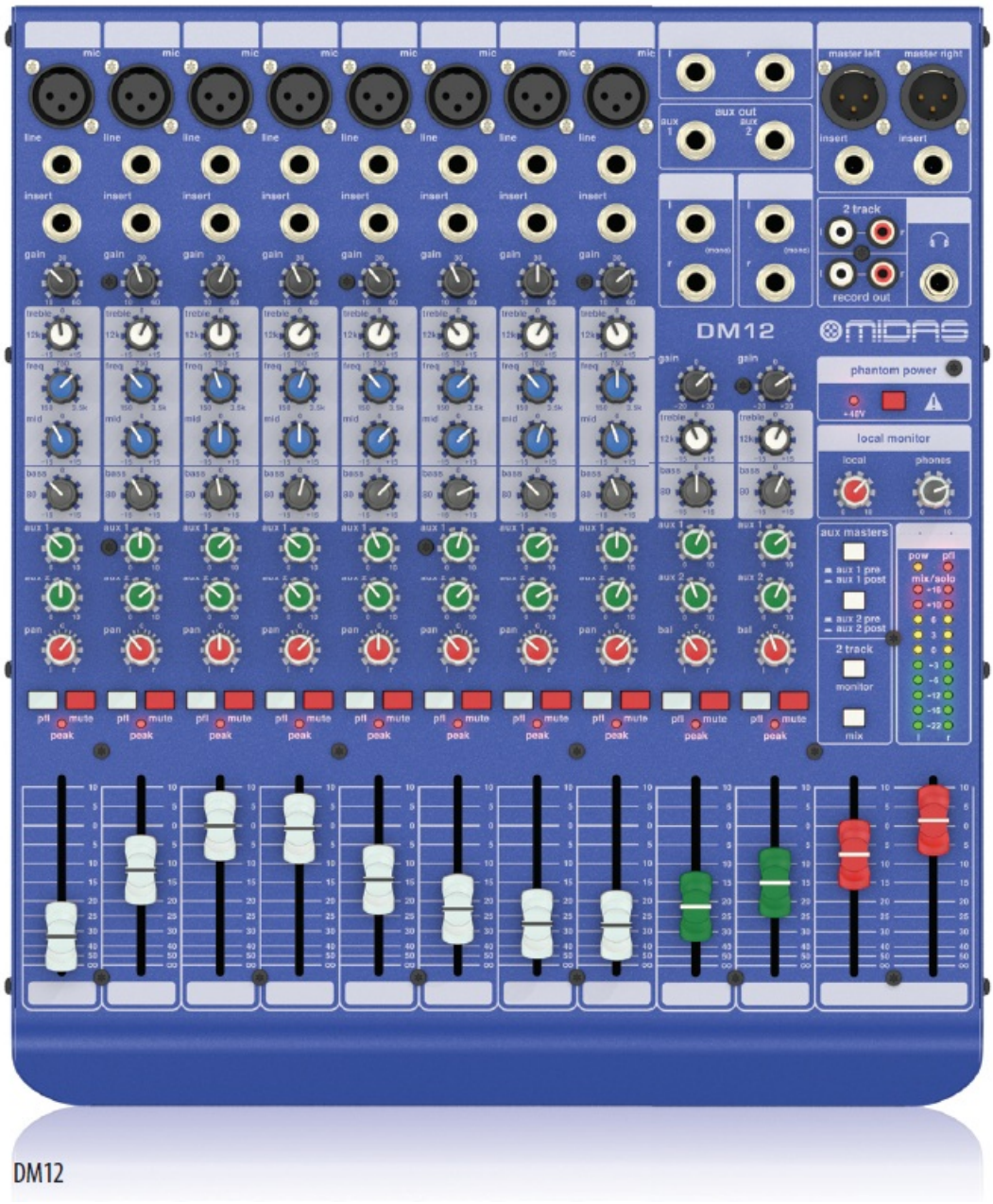
Product Usage Instructions

1. Connect your audio sources to the mixer using XLR or TRS cables.
2. Adjust the gain levels for each input using the gain knobs located on the top panel of the mixer.
3. Use the EQ controls to shape the sound of each input channel to your liking. The mixer features a 3-band EQ with sweepable mid-range control.
4. Use the auxiliary send controls to create monitor mixes or add external effects to your audio signal.
5. Use the pan and level controls to adjust the stereo image and overall volume of each channel.
6. Connect your main outputs to your amplifier or recording device using XLR or TRS cables.
7. Monitor your audio using the headphone output located on the front panel of the mixer.
8. Refer to the user manual for more advanced features and settings.

Introduction


DM16
MIDAS
monitor out
main out
master left
master right
aux out
13-14
15-16
2 track
phones
record out
phantom power
local monitor
aux masters
master meters
monitor
mix
stereo 14
stereo 16

DM16



Welcome!
Thank you for purchasing the DM16/DM12 analogue mixing console.
The DM12 and DM16 are classic analogue consoles with plenty of routing options, musical EQ and the smooth, professional sound pioneered by MIDAS.
These consoles off er plenty of versatility for both studio and live applications, and with proper care and maintenance, you can expect your MIDAS console to perform faithfully for many years to come.

Features

- Live performance and studio recording analogue mixer with 16/12 input channels
- 12/8 mono input channels with award-winning MIDAS microphone preamplifi ers
- 2 electronically balanced stereo line input channels on ¼ ” TRS connectors
- 3 band EQ on mono channels with swept mid band
- 2 aux sends with pre/post fade switching
- 60 mm precision long-life faders
- Rugged chassis construction for durability in portable applications
- Auto-ranging universal switch-mode power supply

- 3-Year Warranty Program
- Designed and engineered in England

About this manual
This is the operation manual for the DM16 and DM12 analogue mixing consoles. This manual is intended to help get your unit installed and in operation as quickly as possible by giving you unpacking, installation, connection, setting up and operating instructions. To help familiarise you with the DM16 and DM12, there is a description of the controls, along with easy-to-follow user instructions.

Getting Started

This section shows you how to unpack, install, connect up, switch on and configure the DM16/DM12 analogue mixing console.

This equipment is supplied by a mains voltage that can cause electric shock injury.
Before installing, setting up or operating this equipment, make sure that you have read and fully understand all of this section and the
“Important safety instructions” at the front of this manual. Refer to additional safety information on the top cover of the unit.

Unpacking
Carefully unpack your DM16/DM12 analogue mixing console. Then, inspect the console carefully for any signs of damage that may have occurred during transit and notify the courier immediately if you discover any.

Check the contents of your DM16/DM12 equipment package. If there are any parts missing, incorrect or faulty, please contact your local distributor or MIDAS.
Please retain the original packing in case you should need to return the equipment to the manufacturer or supplier, or transport or ship the unit later.

Installation
The position of the console will vary from venue to venue. When installing the console, take the following into consideration:

- Before installing and operating this Class 1 equipment, make sure it is correctly connected to the protective earth conductor of the mains voltage supply socket outlet through the mains lead.
- When positioning the console for FOH (Front Of House) use it is worth placing the console in a position where the sound system used can be heard properly from the mix position. Try to avoid placing the console behind pillars or large objects, or mixing from a level above the speaker position (for example, from a balcony).
- The console should be located in a convenient space commensurate with the use to which the console is being put.
- Ideally a cool area is preferred, away from power distribution equipment or other potential sources of interference.
- Do not install the equipment in places of poor ventilation.
- Do not install this equipment in a location subjected to excessive heat, dust or mechanical vibration. Allow for adequate ventilation around
  the equipment, making sure that its fans and vents are not obstructed. Whenever possible, keep the equipment out of direct sunlight.
- Do not place the equipment in an unstable condition where it might accidentally fall over.
- Provision should be made for some fl at surface surrounding the console to prevent people using the console

as a table top.

Power
The internal power supply is of the switch mode type that automatically senses the incoming mains voltage and will work where the nominal voltage is in the range 100 VAC to 240 VAC.

The correct leads for connection in the area to which the unit was shipped are supplied with the unit. The equipment should only be plugged into the mains outlets using the supplied leads.

Make sure the plug fi tted on the supplied mains cable is securely fi tted to the mains IEC connector on the unit. When fi tting or removing a plug, always hold the plug itself and never use the cable, as this may damage the cable. Never insert or remove an electric plug with wet hands.

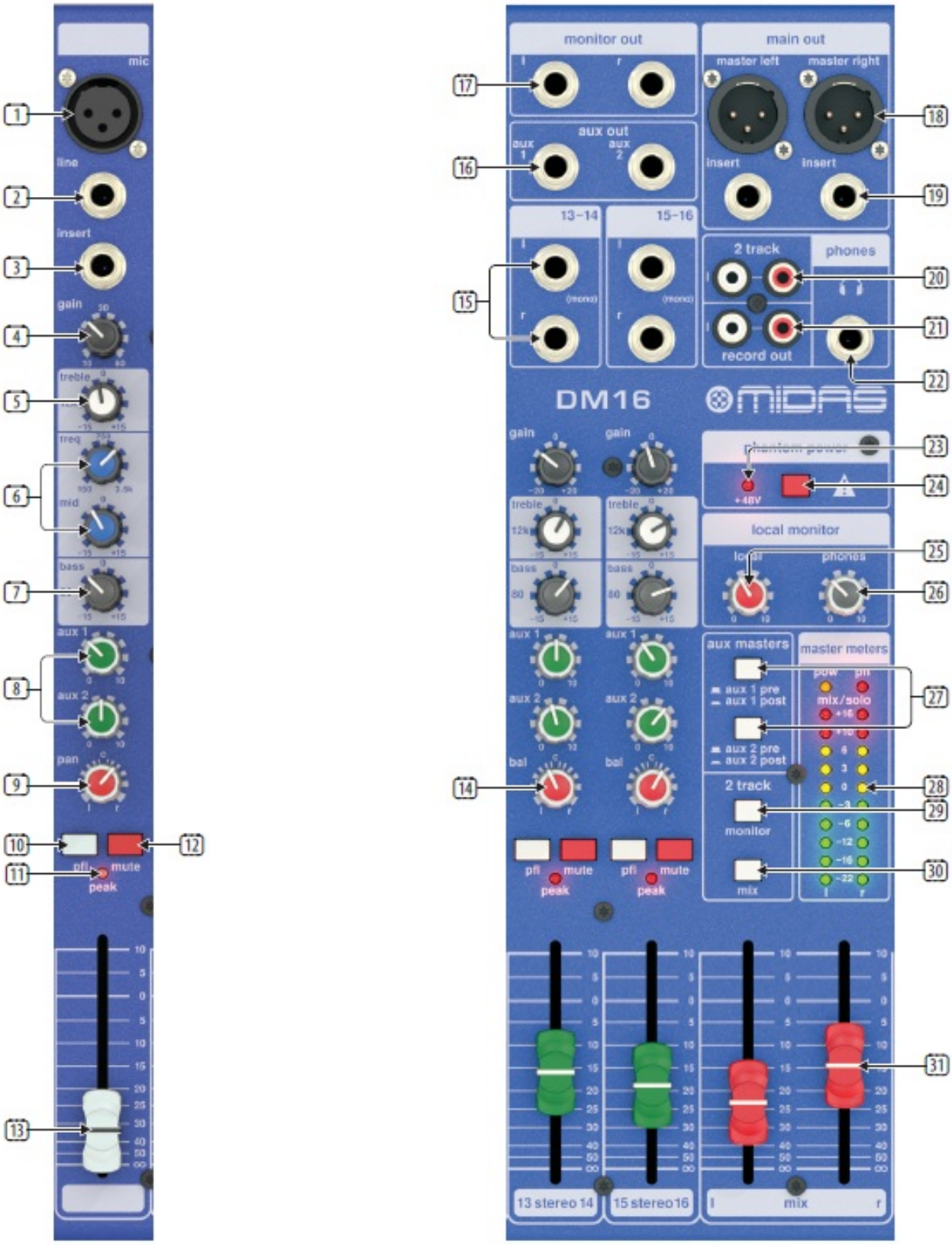
Handling the equipment
When lifting or moving the equipment, always take its size and weight into consideration. If necessary, use suitable lifting equipment or transporting gear, or suffi cient additional personnel.

Completely isolate the equipment electrically and disconnect all cables from the equipment before moving it. Do not insert your fi ngers or hands in any gaps or openings on the equipment, for example, vents.

Electric fields
In accordance with Part 15 of the FCC Rules & Regulations, “… changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.”

Should this product be used in an electromagnetic field that is amplitude modulated by an audio frequency signal (20 Hz to 20 kHz), the signal to noise ratio may be degraded. Degradation of up to 60 dB at a frequency corresponding to the modulation signal may be experienced under extreme conditions (3 V/m, 90% modulation).

Top Panel



1. MIC input connects microphones and other balanced signals using XLR connectors.
2. LINE input uses a ¼” TRS plug to connect either balanced or line-level unbalanced signals.
3. INSERT jack uses a ¼” TRS plug to bring external eff ects processing (typically compression) into the channel’s signal path. This jack requires specialised insert cables that split into two plugs (either ¼ ” TS or XLR) to access the external unit’s in and out connections.
4. GAIN knob adjusts the sensitivity of the MIC and/or LINE inputs.

5. TREBLE knob adjusts the high frequencies.
6. MID and FREQ knobs adjust midrange frequencies. Adjust the FREQ knob to select the specifi c frequency adjusted by the MID knob.
7. BASS knob adjusts the low frequencies.
8. AUX 1 and AUX 2 knobs controls the amount of signal sent from each channel to the AUX OUT jacks for monitoring or external eff ects processing. Use the AUX MASTERS buttons to control whether the AUX channels send a pre-fader signal (PRE) or a post-fader signal (POST).
9. PAN knobs control the left-right stereo placement for each channel.
10. PFL (Pre Fader Listen) button, when pressed, solos the channel and sends the input signal to the MASTER METERS section for more precise gain-setting. In PFL mode, the soloed signal routes to the MONITOR OUT and PHONES outputs, and the PFL LED in the MASTER METERS section will light up.
11. PEAK LED lights when the channel signal overloads.
12. MUTE button mutes the channel.
13. CHANNEL FADERS control the final level for each channel within the overall mix.
14. BAL knob controls the relative left-right balance for stereo signals coming in through the STEREO 1 and STEREO 2 inputs.
15. STEREO 1 and STEREO 2 inputs can be used to route left-right stereo signals into the mix, such as stereo returns from external effects processors. For mono signals, use the L (MONO) input of each pair of stereo inputs.
16. AUX OUT jacks can be used to route AUX mixes out to external effects processors or to stage monitors. For send-and-return effects processing, use the STEREO 1 and STEREO 2 inputs to route the effected “wet” signals back into the overall mix.
17. MONITOR OUT jacks use ¼” TRS plugs to route a copy of the final mix out to local or studio monitors. Control the MONITOR OUT level by using the LOCAL knob in the LOCAL MONITOR section. In PFL (Pre Fader Listen) mode, the soloed PFL signal will override and replace the main mix signal in the MONITOR OUT output.
18. MASTER LEFT and MASTER RIGHT jacks use XLR connectors to send the final stereo mix out to monitors or the main house mix (live sound).
19. MAIN OUT INSERT jacks use a ¼” TRS plugs to apply external effects processing to the final mix before the signal goes out through the MASTER outputs (e.g., to compress the entire fi nal mix). This jack requires specialised insert cables that split into two plugs (either ¼ ” TS or XLR) to access the external processor’s in and out jacks.
20. 2 TRACK uses RCA jacks to route an additional line-level stereo signal into the main mix (MIX button) and/or the MONITOR OUT mix (MONITOR button). Control the level of the 2 TRACK signal by using the volume control on your stereo sound source.
21. RECORD OUT uses RCA jacks to send a line-level copy of the final mix signal out to external recording devices.
22. PHONES jack connects headphones using a ¼” TRS plug. Control the output level by using the PHONES knob in the LOCAL MONITOR section. The PHONES source signal comes from the main mix, except in PFL mode, when the soloed PFL signal will override and replace the main mix signal.
23. +48 V LED lights up to indicate that phantom power has been activated.
24. PHANTOM POWER button turns phantom power on and off .
25. LOCAL knob controls the output level for the MONITOR OUT jacks.
26. PHONES knob controls the output level for the PHONES jack.

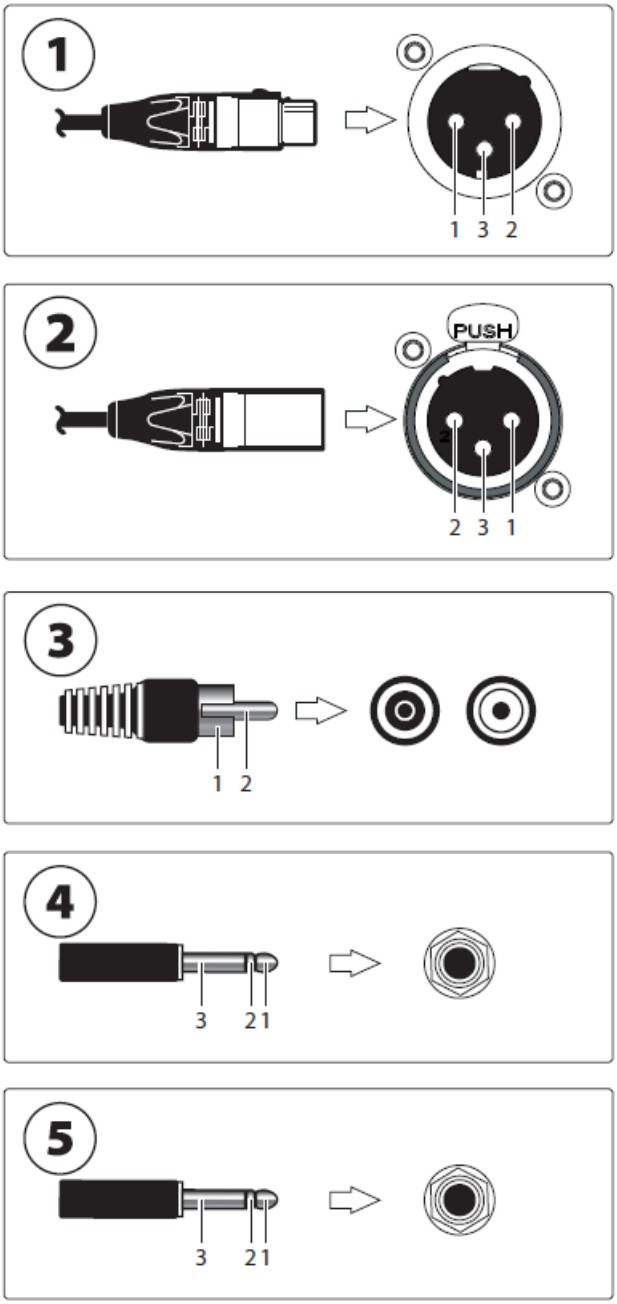
27. AUX MASTERS buttons control the pre-fader (PRE) and post-fader (POST) settings for the AUX 1 and AUX 2 knobs.
28. MASTER METERS display levels for the main mix, as well as soloed channels with the PFL (Pre-Fader Listen) function activated for detailed gain-setting. The POW LED lights to indicate that the unit has been powered up. The PFL LED lights up to indicate that the meter is being used for PFL gain setting.
29. 2 TRACK MONITOR button routes the stereo 2 TRACK signal into the MONITOR OUT mix.
30. 2 TRACK MIX button routes the stereo 2 TRACK signal into the main mix.
31. MIX faders adjust the overall output of the mixer at the MASTER LEFT and MASTER RIGHT jacks.

Rear Panel

32. AC IN accepts the included power cable for connection to a mains outlet.
33. POWER ON switch turns the mixer on and off .
34. SERIAL NUMBER for Warranty registration.

Connectors

To ensure the correct and reliable operation of the equipment, only high quality balanced, screened, twisted pair audio cable should be used. XLR connector shells should be of metal construction so that they provide a screen when connected to the console/snake and, where appropriate, they should have Pin 1 connected to the cable screen.

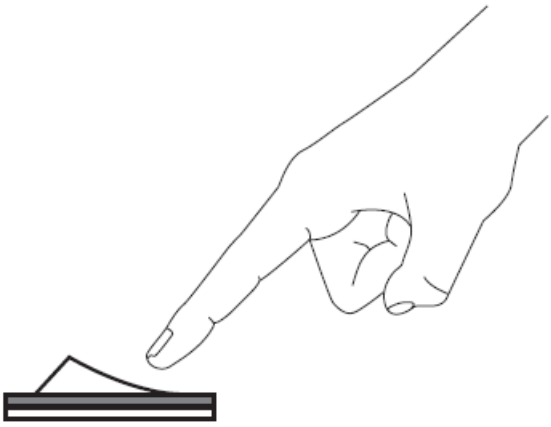


1. Line output audio connector. Female XLR plug and male XLR chassis connector with the following pinouts: 1 = ground; 2 = hot; and 3 = cold.
2. Mic/line input audio connector. Male XLR plug and female XLR chassis connector with the following pinouts: 1 = ground; 2 = hot; and 3 = cold.
3. RCA connectors (2 track/record out). Male RCA plug and female RCA chassis connector with the following pinouts: 1 = ground; 2 = signal.
4. ¼” TRS jack plug (inserts). Male ¼” TRS plug and female TRS chassis connector with the following pinouts: 1 (tip) = send; 2 (ring) = return; 3 (sleeve) = ground.
5. ¼” TRS jack plug (input, output, phones). Male ¼” TRS plug and female TRS chassis connector with the following pinouts: 1 (tip) = hot; 2 (ring) = cold; 3 (sleeve) = ground.

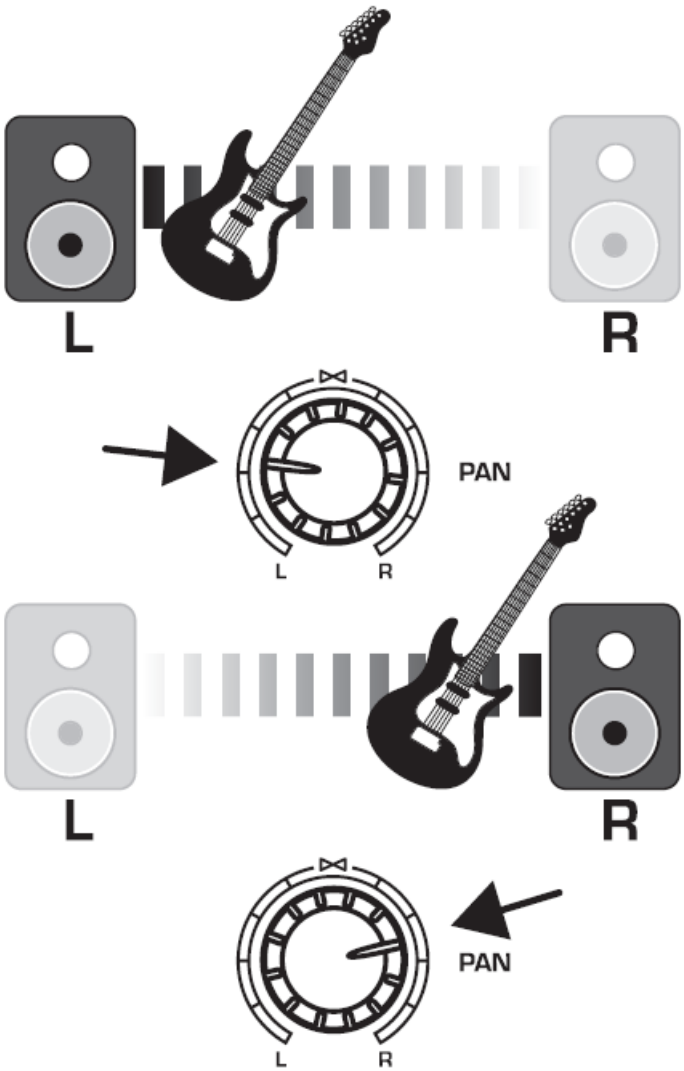
Operation

Basic Operation

1. Make sure the power to all devices is turned off !
2. Connect all appropriate power and audio cables to the mixer.
3. Set the controls with all knobs centered and all faders down/off .
4. Turn the mixer on.



5. Set the GAIN for each channel. (See the Gain Setting section for details.)
6. With the MAIN MIX faders and LOCAL MONITOR knobs all the way down, turn on your PA system or monitors.
7. Slowly raise the MAIN MIX faders or LOCAL MONITOR knob to the desired level.
8. Adjust the relative level of each channel by raising each CHANNEL FADER.



9. Adjust the left-right position of a channel in the stereo field if necessary by turning the channel's PAN or BAL knob.
10. For live applications, adjust the overall output from the mixer to the power amp or powered speakers by raising the MIX faders. If the red +10 or +16 LEDs on the MASTER METERS light, lower the MIX faders.

11. Use the AUX 1 and AUX 2 knobs to send the channel signals out to an effects processor or stage monitor connected to the AUX OUT jacks. If used for effects, route the signal back from the processor to the STEREO 1 or STEREO 2 inputs.

Technical Specifications

	DM16	DM12
Mono Inputs		
Mic inputs (MIDAS mic preamp)	8	12
Type	XLR, balanced	
Mic EIN @ 60 dB gain, 50 Ω source at insert send	-131 dBu, unweighted, 20 Hz to 20 kHz	
Mic EIN @ 60 dB gain, 150 Ω source at insert send	-128 dBu, unweighted, 20 Hz to 20 kHz	
Noise @ 10dB Gain, at insert send	-97 dBu, unweighted, 20 Hz to 20 kHz	
Frequency response (-1 dB) at main output	20 Hz to 20 kHz (-1 dB)	
Frequency response (-3 dB) at main output	70 kHz (-3 dB)	
Mic Gain range	+10 dB to +60 dB	
Max. input level	+11 dBu @ +10 dB gain	
CMRR @ +60dB gain	Typically -90 dB	
Impedance	2 kΩ, balanced	
Distortion (THD+N) at 0 dBu	0.005% @ 1kHz	
Phantom power	Switchable, +48 V	
Line Input		
Type	¼" TRS, balanced	
Impedance	20 kΩ balanced / unbalanced	
Line Gain range	-10 dB to +40 dB	
Max. input level	+30 dBu	
Stereo Inputs		
Type	4 x ¼" TRS connector, balanced	
Impedance	20 kΩ balanced / unbalanced	
Gain range	-20 dB to +20 dB	
Max. input level	+21 dBu	
Equaliser		
Low	±15 dB @ 80 Hz, shelving	
Mid (mono inputs only)	±15 dB @ 150 Hz to 3.5 kHz, variable semi-parametric	
High	±15 dB @ 12 kHz, shelving	
Channel Inserts		
Type	¼" TRS connector, unbalanced	
Max. input / output level	+21 dBu	
Aux Sends		
Type	2 x ¼" TRS connector, balanced	
Impedance	240 Ω balanced, 120 Ω unbalanced	
Max. output level	+21 dBu	
Monitor Out		
Type	2 x ¼" TRS connector, balanced	
Impedance	240 Ω balanced, 120 Ω unbalanced	
Max. output level	+21 dBu	
Main Out		
Type	2 x XLR, electronically balanced	
Impedance	100 Ω balanced, 50 Ω unbalanced	
Max. output level	+21 dBu	
Main Out Inserts		
Type	2 x ¼" TRS connector, unbalanced	
Max. input / output level	+21 dBu	

	DM16	DM12
Phones Output		
Type	¼" TRS connector, unbalanced	
Impedance	25 Ω	
Max. output level	+21 dBu	
2-Track Input		
Type	2 x RCA, unbalanced	
Impedance	20 kΩ	
Max. input level	+21 dBu	
Record Out		
Type	2 x RCA, unbalanced	
Impedance	1 kΩ	
Max. output level	+21 dBu	
Main Mix System Noise		
Main mix @ -∞, channel fader @ -∞	-104 dBu, unweighted, 20 Hz to 20 kHz	
Main mix @ 0 dB, channel fader @ -∞	-91 dBu, unweighted, 20 Hz to 20 kHz	
Main mix @ 0 dB, channel fader @ 0 dB	-84 dBu, unweighted, 20 Hz to 20 kHz	
Power Supply / Voltage (Fuses)		
Switch mode power supply	100-240 V~ 50/60 Hz, switchable (T 1.6 A H 250 V)	
Power consumption	40 W	
Mains connection	Standard IEC receptacle	
Dimensions / Weight		
Dimensions (H x W x D)	95 x 438 x 370 mm (3.7 x 17.2 x 14.6")	95 x 328 x 370 mm (3.7 x 12.9 x 14.6")
Weight	5 kg (11 lbs)	3.9 kg (8.6 lbs)

Other important information

1. Register online. Please register your new MUSIC Group equipment right after you purchase it by visiting midasconsoles.com. Registering your purchase using our simple online form helps us to process your repair claims more quickly and efficiently. Also, read the terms and conditions of our warranty, if applicable.
2. Malfunction. Should your MUSIC Group Authorized Reseller not be located in your vicinity, you may contact the MUSIC Group Authorized Fulfiller for your country listed under “Support” at midasconsoles.com. Should your country not be listed, please check if your problem can be dealt with by our “Online Support” which may also be found under “Support” at midasconsoles.com. Alternatively, please submit an online warranty claim at midasconsoles.com BEFORE returning the product.
3. Power Connections. Before plugging the unit into a power socket, please make sure you are using the correct mains voltage for your particular model. Faulty fuses must be replaced with fuses of the same type and rating without exception.

FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION

Responsible Party Name: MUSIC Group Research UK Limited
Address: Klark Industrial Park, Walter Nash Road, Kidderminster. Worcestershire. DY11 7HJ. England.
Phone Number: +44 1562 741515

DM16/DM12
complies with the FCC rules as mentioned in the following paragraph:
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Important information:
Changes or modifications to the equipment not expressly approved by MUSIC Group can void the user's authority to use the equipment.

midasconsoles.com

Documents / Resources

	MIDAS DM12 Input Analogue Live and Studio Mixer with Microphone Preamplifiers [pdf] User Guide DM16, DM12, DM12 Input Analogue Live and Studio Mixer with Microphone Preamplifiers, Input Analogue Live and Studio Mixer with Microphone Preamplifiers, Live and Studio Mixer with Microphone Preamplifiers, Studio Mixer with Microphone Preamplifiers, Mixer with Microphone Preamplifiers, Microphone Preamplifiers

References

- Midas | Home