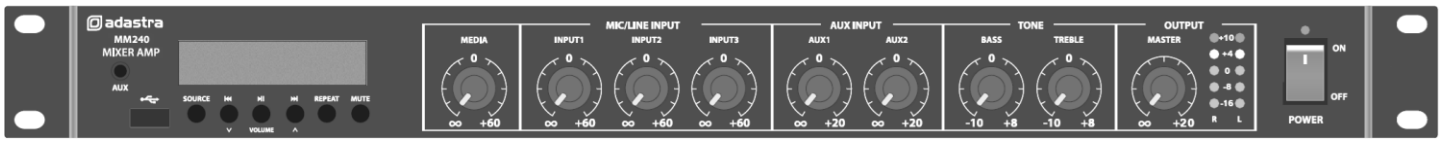
MM240

1U Rackmount Mixer-Amp with Bluetooth®, USB & FM Tuner

Item ref: 953.030UK

User Manual



Version 1.1

⚠	Caution: Please read this manual carefully before operating Damage caused by misuse is not covered by the warranty

Introduction

Thank you for choosing an Adastra MM240 mixer-amp with built-in media player as part of your sound system.
This unit is designed to offer high quality, dependable service for audio mixing and distribution.
Please read this manual to gain the best results from your product and avoid damage through misuse.

SAFETY SYMBOL AND MESSAGE CONVENTIONS



CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	AVIS RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR





This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.



SAFETY NOTICE

1. Prior to use, read through this manual
2. Keep the manual in good condition
3. Pay attention to safety warnings
4. Observe all operating requirements
5. Do not use the device near water or wet areas
6. For cleaning, only use a lint-free, dry cloth
7. Install according to the specifications
8. Place away from heat sources or heating appliances
9. Use mains lead provided and avoid damage to cable or connectors
10. Unplug power from mains during stormy weather or if unused for long periods
11. In case of malfunction, water ingress or other damage, consult qualified service personnel
12. Do not place in damp areas or near liquids or moisture. Do not spill liquids on the housing
13. Please pay attention to warning symbols during transit and placement
14. Terminals marked with the ϟ symbol are HAZARDOUS LIVE and should only be connected by qualified personnel
15. Ensure that the apparatus is connected to a mains socket with a protective EARTH connection
16. Ensure correct operation of the mains switch

Warning

To prevent the risk of fire or electric shock, do not expose any components to rain or moisture.
If liquids are spilled on the casing, stop using immediately, allow unit to dry out and have checked by qualified personnel before further use. Avoid impact, extreme pressure or heavy vibration to the case
No user serviceable parts inside – Do not open the case – refer all servicing to qualified service personnel.

Safety

- Check for correct mains voltage and condition of IEC lead before connecting to power outlet

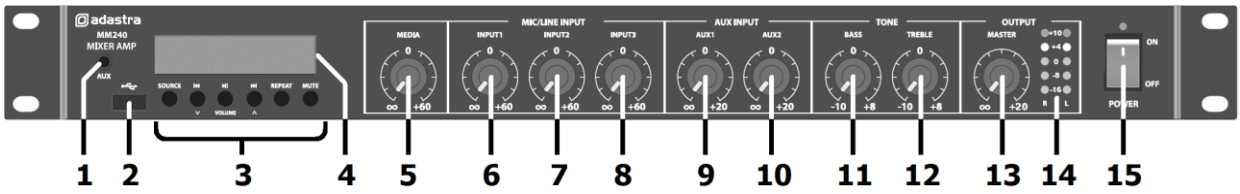
Placement

- This unit can be used free-standing or fixed into a 19" rack
- Ensure adequate support and access to controls and connectors when rack-mounting

Cleaning

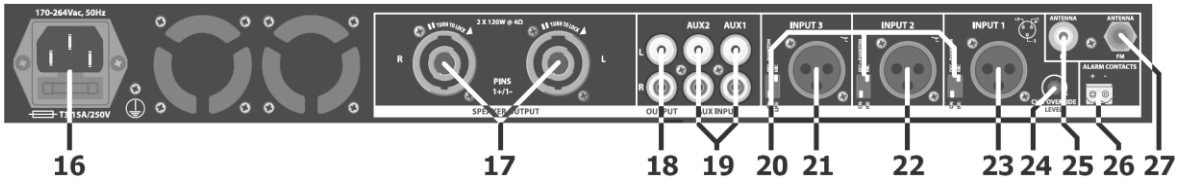
- Use a soft cloth with a neutral detergent to clean the housing as required
- Do not use strong solvents for cleaning the unit

Front panel



1. 3.5mm AUX input to media player
2. USB port
3. Media player control panel
4. Media player LCD display
5. Media player level control
6. Mic/Line input 1 level control
7. Mic/Line input 2 level control
8. Mic/Line input 3 level control
9. Aux line input 1 level control
10. Aux line input 2 level control
11. Bass EQ boost/cut control
12. Treble EQ boost/cut control
13. Master output level control
14. Output level LED indicators
15. Power switch and indicator

Rear panel



16. IEC mains inlet and fuse holder
17. L+R speaker output SPK sockets
18. Line output L+R RCA
19. Aux 1 + Aux 2 line inputs L+R RCA
20. Mic/Line and phantom switches
21. Mic/Line input 3
22. Mic/Line input 2
23. Mic/Line input 1
24. CH.1 override level adjustment
25. Bluetooth antenna connection
26. 24V emergency alarm contacts
27. FM tuner antenna F connector

Connection

Ensure the Power (15) is switched off until all input and output connections are in place.
Turn all rotary level controls (5 - 10) and Master level (13) fully down (anti-clockwise) to avoid loud noises when switching on.

Set the BASS and TREBLE Tone controls (11, 12) to the vertical position (zero)

Channels 1, 2 and 3 can accept microphones or mono line level inputs, such as CD, TV or electronic keyboard. Connect the main microphone or line level signal to Mic/Line 1 input (28) on the rear panel via balanced XLR.

If a condenser mic is being used, connect via XLR, select Mic level and 20V Phantom power on via the channel 1 DIP switches (27)

Further mic or line level signals can be connected to inputs 2 and 3 (24, 26) in the same way as for channel 1
Set the DIP switches for channels 2 and 3 (23, 25) to suit the input source.
Connect stereo line level sources to AUX 1 and AUX 2 RCA inputs (21, 22).

Loudspeakers should be connected to the MM240 via Speakon leads to the rear Left and Right outputs (17). These are wired inside each connector to the 1+ and 1- terminals.

Important: Ensure that the load is no lower than 4Ω for each output.
(e.g. 2 x 4Ω speakers… or… 2 pairs of 8Ω speakers wired in parallel)
Ensure that the speakers can handle 120W from each output.
Line outputs are available on L+R balanced XLR (18) for stereo operation.
Record outputs on L+R RCA (20) are unaffected by the Master level control.

For Bluetooth reception, connect the supplied mini antenna to the Bluetooth antenna connection (30)
This antenna may need to point sideways or straight out if rack-mounted. Use the position that gives the best reception.

For the FM tuner to function correctly, it is advisable to connect an FM aerial to the F type antenna connector (31)

If available, connect a 24V trigger from an alarm panel to the alarm contacts (17) to mute all except channel 1 in an emergency. (The 24V contacts can be connected with either polarity +/- or -/+ to operate)

Connect the rear IEC inlet (16) to the mains using the supplied mains lead (or an equivalent approved type). Ensure that the supply voltage is correct for this equipment and that the mains outlet is switched on.

Operation

If any other amplifiers or active speakers are connected to the line outputs, keep these switched off until the MM240 is powered up.

Switch on the power and the Power LED indicator should light (15). Turn up the Master level (13) part way.
If connected, speak into a microphone whilst gradually turning up its channel level control (6, 7 or 8)

If no microphones are connected, a line input or internal media player (see below) can be used for checking.
The L+R output meters (14) should light up and the sound should be heard through the connected speakers.
Increase the Master output level if required and set the relevant channel level control to the required volume.

Repeat the above steps for all connected inputs whilst balancing the levels between channels as required.

For the AUX line inputs, a single rotary control for each (9, 10) adjusts the level of both left and right RCA inputs.

Channel 1 input also has a priority function which attenuates all other channels when there is a signal on Ch.1
Turning the CH.1 override level control (29) clockwise increases the amount that it mutes all other channels.

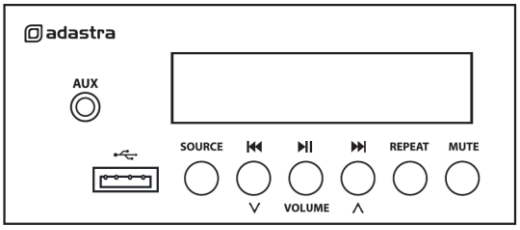
Sensible use of the output meters (14) will help to avoid overdriving the amplifier outputs.
The +10dB LED should only light briefly on percussive or transient parts of the sound (i.e. bass drum)

If the +10dB LED is lit for any longer than short bursts, the level controls will need to be turned down.
This will avoid signal clipping and overdrive, which can be damaging to the speakers.

For overall tone adjustment, moving the BASS and TREBLE EQ controls (11, 12) can help to tailor the sound quality as required.

If the sound is too thin sounding, turn up the BASS rotary. If it is too deep sounding, reduce the BASS level.
If the sound is not very clear, turn up the TREBLE rotary. If it is too harsh sounding, reduce the TREBLE level.

Media player



MM series mixer-amplifiers are fitted with a built-in media player. This section comprises a Bluetooth receiver, USB audio player, FM tuner and AUX input. Pressing the SOURCE select button will step through Bluetooth, USB, AUX and FM tuner modes. Pressing the MUTE button for any source will mute the output.

Bluetooth

The Bluetooth function allows connection of a smart phone or tablet to the media player section for playback of stored files or streamed digital audio.
In order to enable this function, it will be necessary to pair the sending device to the receiver as follows.

1. Open the Bluetooth settings menu on the smart phone or tablet (or other sending device)
2. Scan for Bluetooth devices and look for "adastra_0000" in the list of available devices (ensure that the UM amp is powered on and within reception range)
3. Select "adastra_0000" and the sending device should confirm that it is connected as an audio device. (note that "0000" may be a different number if it has been edited – see below)
4. Play audio from the sending device, ensuring that volume controls are not turned down/muted
5. Turn up the MEDIA volume control on the amplifier to the required level.

The Previous ⏮, Next ⏭ and Play/Pause ⏵⏸ buttons will operate in Bluetooth as remote playback controls. Holding the Previous track or Next track buttons will adjust the output volume of the player down or up.

The Bluetooth name can be customized to enable identification of individual nearby amplifiers.
To customize the Bluetooth number press and hold the Play/Pause ⏵⏸ button until adastra_0000 is displayed with one of the characters flashing. Press Previous ⏮ or Next ⏭ buttons to edit the number and Play/Pause ⏵⏸ to select another character. Hold Play/Pause ⏵⏸ to store the ID and exit.

Note: Android devices have the facility to re-name devices within the Bluetooth settings menu.
If the Bluetooth ID has been re-named on the Android device, editing the Bluetooth ID on the media player will not affect the name displayed on that Android device.

FM Tuner

The FM tuner function operates in the same way as a standard FM radio and benefits from the connection of an FM antenna to the rear panel 'F' type connector.

If no channels are tuned in, press the Play/Pause ⏵⏸ button to begin auto tuning, which scans available stations and stores them as channels within the FM tuner. Pressing Play/Pause again will abort auto-tuning.

To delete any selected station, press and hold the REPEAT button.
Repeat the auto tuning process to re-populate any missing presets.

To step through pre-set stations, press the Previous ⏮ or Next ⏭ buttons.
Turn up the MEDIA volume control to hear the output from the speakers and increase to the required level.

Holding the Previous ⏮ or Next ⏭ buttons will adjust the output volume of the player.

USB player

When a USB memory stick is inserted into the USB port, the track number and time will show in the display and audio files will start to play automatically.

If playback does not start automatically, press the SOURCE select button and Play/Pause ⏵⏸ button to check if the player is set to the correct mode. Try Previous ⏮ and Next ⏭ buttons if the selected track is unable to play. Also, check that the audio files are mp3 type.

Turn up the MEDIA volume control to hear the output from the speakers and increase to the required level.

There are 3 repeat modes: Repeat All tracks, Repeat Current track and Random.
Pressing the REPEAT button will cycle through these modes as shown in the top right of the display.

Pressing the Previous ⏮ button briefly steps backwards through tracks on the memory device. Press and hold this button to decrease the playback volume.

Pressing the Next ⏭ track button briefly steps forwards through tracks on the memory device.
Press and hold this button to increase the playback volume.

To pause the current track, press the Play/Pause ⏵⏸ button and press it again to resume playback.

AUX input

When a playback device is connected to the 3.5mm AUX input, the display will show "AUX".
Alternatively, this source can be selected by the SOURCE button.

The output level of this AUX input is controlled by the MEDIA volume control and is independent of the rear RCA line inputs. When other media player sources are selected, this AUX input is muted.

Specifications

Power supply	170-264Vac, 50/60Hz
Fuse	T2AL
Inputs	3 x XLR/jack (bal/unbal) mic/line, 2 x Aux L+R RCA, 3.5mm jack to media player
Audio source	Internal Bluetooth, USB, FM & Aux player
Output power: RMS	2 x 120W @ 4Ω
Speaker outputs	L+/L-/R+/R- screw terminals (Euroblock)
Line outputs	L+R XLR, Record out (RCA)
Emergency control	24V contacts mute all except channel 1
Phantom power	+20V (switchable channels 1-3)
Input impedance	2.2k Ohms (mic/line), 10k Ohms (aux)
Controls	Media, 3 x Mic/Line, 2 x Aux, Treble, Bass, Master level
Rear panel controls	CH.1 override level, mic/line and phantom DIP switches
Frequency response	Mic: 20Hz - 18kHz, Line: 14Hz - 20kHz, Aux: 10Hz – 23kHz
Input sensitivity	-45dBV
Input sensitivity: aux/line	-10dBV
Signal to noise ratio	Mic: 55dB, Aux/Line: 60dB
Dimensions	482 x 130 x 44mm
Weight	1.96kg

Disposal: The "Crossed Wheelie Bin" symbol on the product means that the product is classed as Electrical or Electronic equipment and should not be disposed with other household or commercial waste at the end of its useful life. The goods must be disposed of according to your local council guidelines.

Hereby, AVSL Group Ltd. declares that the radio equipment type 953.030UK is in compliance with Directive 2014/53/EU

The full text of the EU declaration of conformity is available at the following internet address: http://www.avsl.com/assets/exportdoc/9/5/953030UK%20CE.pdf

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