A14

Rackmount 2-Zone Amplifier with Dual Audio Players

Item ref: 953.414UK

User Manual

Version 1.0

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

Introduction

Thank you for choosing the Adastra A14 rackmount 2-zone amplifier for your sound system installation. This amplifier is designed to offer high quality, reliable service for mobile and installed systems. Please read this manual fully and follow the instructions to achieve the best results with your new purchase and to 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 ⚡ 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
- It is recommended to use speaker wire with a minimum current rating of 6A per output.
- Do not allow any foreign objects to enter the case or through the ventilation grilles

Placement

- Keep out of direct sunlight and away from heat sources
- Keep away from damp or dusty environments
- For rack-mounting, use the rack ears provided and ensure adequate support for the weight of the amplifier
- Rack ears may be rotated to mount this amplifier flat against a wall or beneath a work surface if preferred.
- Ensure adequate air-flow and do not cover cooling vents
- Ensure adequate access to controls and connections

Cleaning

- Use a soft cloth with a neutral detergent to clean the casing as required
- Use a vacuum cleaner to clear ventilation grilles of any dust or debris build-ups
- Do not use strong solvents for cleaning the unit

Front panel
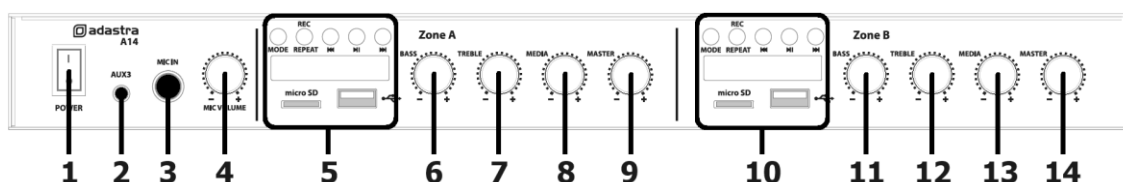
1. Power on/off switch
2. AUX3 input (3.5mm stereo)
3. MIC input (6.3mm)
4. MIC volume
5. Zone A media section (player A)
6. Zone A BASS EQ
7. Zone A TREBLE EQ

8. Zone A MEDIA player level
9. Zone A MASTER level
10. Zone B media section (player B)
11. Zone B BASS EQ
12. Zone B TREBLE EQ
13. Zone B MEDIA player level
14. Zone B MASTER level

Rear panel
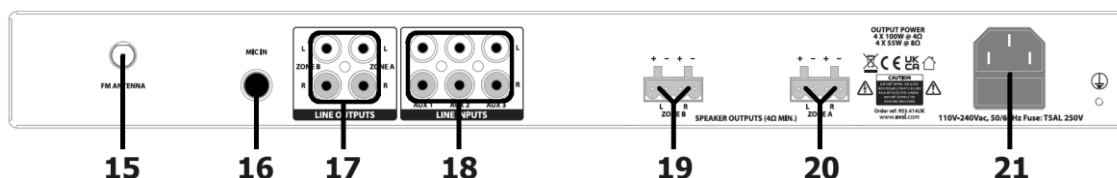
15. FM antenna connection (F type)
16. MIC input (6.3mm parallel with front panel)
17. LINE OUTPUTs (2 x L+R RCA)
18. LINE INPUTs (3 x L+R RCA)

19. Zone B Speaker Outputs (L+R terminals)
20. Zone A Speaker Outputs (L+R terminals)
21. IEC mains inlet & fuse holder

Speaker connections

The A14 has 4 speaker output channels which are divided into 2 stereo zones, A and B (20, 19)
When connecting speakers, connect "−" to the "−" output terminal and "+" to the "+" output terminal.
Connect speakers with a combined impedance of no lower than 4Ω (4 Ohms) to each output channel.

- If the speakers are 8Ω impedance, you can connect up to 2 speakers in parallel to each channel.
- If the speakers are 16Ω impedance, you can connect up to 4 speakers in parallel to each channel.

Some example wiring diagrams are shown opposite with speakers connected in parallel.

The impedance, measured in "Ohms" (Ω) will also determine the power output.

The amplifier delivers its maximum power output at the minimum impedance (4Ω).

Higher impedances give a lower output.

- Note: Some speakers have 4Ω impedance, in which case connect only 1 speaker to each channel.

70W rms per output @ 8Ω

100W rms per output @ 4Ω
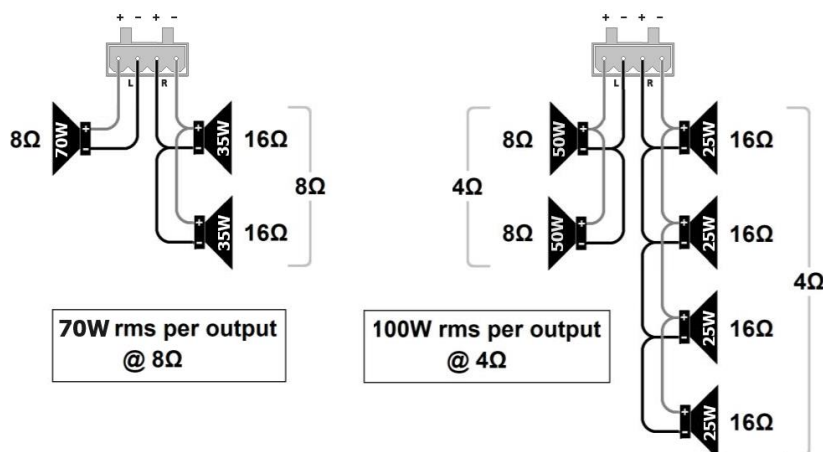
The combined load on each output shares the power from the amplifier. If the amplifier is delivering 100W to 2 speakers connected in parallel with the same impedance, they must each be capable of handling 50W.

Input connections

The A14 has a microphone input (**MIC IN**), which can be connected at either the front or rear panel (3, 16)
This is active on both stereo zones at all times for announcements and alerts.
The volume level of this is controlled by the **MIC VOLUME** control (4)

The A14 also has 3 stereo **LINE INPUTS**, which can be input at the rear using left+right RCA connectors (18)
These RCA inputs (named **AUX1**, **AUX2** and **AUX3**) can accept standard line level audio from sources such as CD players, laptops, DAB tuners etc.
For mp3 players or smart phones, **AUX3** can alternatively be input at the front via a 3.5mm stereo plug (2)

In addition to speaker outputs, the **LINE OUTPUTS** from each stereo zone (17) can be connected as a line level stereo output onto further amplifiers using twin RCA leads

For FM radio reception, an **FM ANTENNA** can be connected via an 'F' type connector on the rear panel (15)

The last connection to be made is to connect the supplied (or equivalent) power lead to the IEC mains inlet on the rear panel (21)

Operation

When all connections to the amplifier are made, turn all rotary controls down and switch on the power (1) and the media players will display the word "Hi".

Turn **BASS** and **TREBLE** controls (6, 7, 11, 12) to the 12 o'clock position (pointing straight up) and turn the **MASTER** rotary controls (9, 14) up part way for testing.

If a microphone is connected to the **MIC IN** jack (3 or 16) gradually increase the **MIC VOLUME** control (4) and speak into the mic until it is heard through the speakers.

Note: the microphone input overrides output from the media players.
To stop any unwanted interruptions to music playback, switch off or disconnect the microphone (or turn MIC VOLUME fully down) when announcements are not being made.

Any microphones connected should not be able to "hear" the speakers, which can cause feedback (squealing or howling) and should not be pointed towards the speakers. If this still happens, turn down the volume for that microphone and adjust Bass and/or Treble EQ controls to reduce the feedback.

To check the other inputs, play a signal into one of the AUX1, AUX2 or AUX3 inputs and select it for either player A or B and turn up its respective **MEDIA** control (8, 13) until the signal is heard through the speakers.

The same test applies for the internal media players (see below) by playing an audio track or radio station. Again, make sure **MEDIA** and **MASTER** for that zone (player) are not turned down.

In addition to input and output volume controls, there are BASS and TREBLE controls (6, 7, 11, 12) to adjust the tone of the overall output of each pair of outputs. At the 12 o'clock position, these controls apply no effect to the signal (no boost or cut).

Moving the **BASS** control clockwise boosts the low frequencies in the audio, whilst moving it anticlockwise will cut these low frequencies.

Likewise, moving the **TREBLE** control clockwise boosts the high frequencies in the audio, whilst moving it anticlockwise will cut these high frequencies.

Adjust these EQ controls to suit the type of audio signal or compensate for the room acoustics.

To avoid loud pops through the speakers, turn down both **MASTER** volume controls before powering down.

Media Players

Unlike most other dual zone amplifiers, Zone A and Zone B each have an independent media player section. Each of these modules can play mp3/wma tracks from USB or microSD media, receive an audio stream via Bluetooth or tune into FM radio. The media players also act as source selectors for line inputs AUX1, 2 and 3.

Front panel control for each media player is operated by 5 buttons and a **MEDIA** volume control (8, 13)

MODE	Press repeatedly to select: AUX1 → AUX2 → AUX3 → USB → microSD → FM → Bluetooth
REPEAT /REC	Short press to select repeat mode. Hold 5 seconds to begin recording (AUX/FM mode)
⏮	Previous track or FM station
▶ ⏸	Play or pause current track. In FM mode, this will initiate auto-tuning of FM stations.
⏭	Next track or FM station
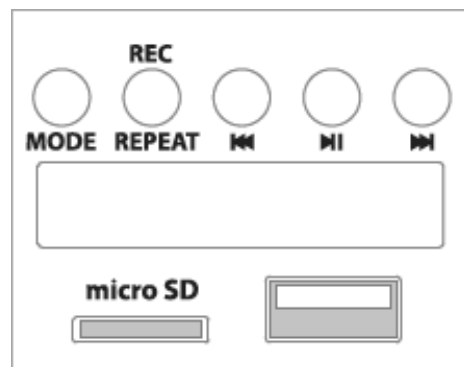
AUH1, *AUH2* and *AUH3* modes select the relevant Aux1, Aux2 or Aux3 input as the input source for that player. In addition to AUX1/2/3, player B also has an option for *AUH4* (Aux4), which selects player A as the audio source for player B, enabling both zones to have the same playback from player A.

USB/SD player

If no USB or microSD memory devices are connected, the MODE button will skip these inputs.
When a USB or microSD with mp3 or wma tracks on it is inserted, playback will start automatically.
The last connected device will override the current playback source.

Press ▶ ⏸ to play or pause the current track. Press ⏮ to select the previous track or ⏭ for the next track.
Press **REPEAT** to set the repeat mode: *OnE* = current track, *Fod* = Folder, *rd0* = random, *ALL* = all tracks.

In AUX or FM modes, holding REPEAT for 5 seconds will start recording to USB.
If no USB device is connected, recording will be to microSD instead (if a microSD card is inserted)
Press ▶ ⏸ to stop recording and play the file or hold **REPEAT** again to just stop recording.

Files are stored in a folder called "RECORD" and sub-folder called "AUX" or "FM" and recordings will be in mp3 format, named as "FM0001, FM0002, FM0003" etc. or "AUX0001, AUX0002, AUX0003" etc.

FM Tuner

Press the MODE button until the display shows "MHz" in the bottom right corner, with a number showing the frequency. The player is now in FM tuner mode for playing radio stations to its zone. FM tuner mode benefits greatly from having an FM aerial connected (15).

In FM mode, press ▶ ⏸ to initiate auto-tuning, which will sweep across all FM frequencies, storing the strongest signals as channels (CH01, CH02, CH03… etc.).
The strongest signals will be FM radio stations. If not, check the FM aerial connection or positioning and retry.
The stored channels can be selected using the ⏮ and ⏭ buttons.

Bluetooth

When one or both players are in $bLUE$ mode, the Bluetooth receiver for that player is activated.
This will enable wireless streaming of audio from a paired smart phone, laptop or tablet computer.

Search in the Bluetooth menu on the sending device for "A series A" (player A) or "A series B" (player B).
Select to pair and confirm on the sending device to enable the player to receive an audio stream from it.

Whenever Bluetooth mode is selected and a paired device is within range, re-connection will be automatic.
Playing a track on the sending device will now be streamed wirelessly through the connected player A or B.
Pressing ▶ ‖ , ◀◀ or ▶▶ buttons will play/pause and navigate through tracks in a similar way to USB playback.

Remote control

Each A14 is also supplied with 2 remote control handsets for controlling the media players. Each handset only addresses its own media player and is labelled on the back with either "A" or "B" to denote its zone.

As supplied, each handset will have a plastic tab at the bottom to preserve battery charge before first usage.
Remove this tab by pulling away from the handset to engage the battery and activate the remote control.
If this needs to be replaced, the battery compartment can be slid out from the bottom to reveal the cell.
Replace the battery with a CR2025 button cell.

Point the top of the remote control towards its media player display and operate in line of sight.

Some of the controls on the remote handset mirror those on the front panel and are described below.
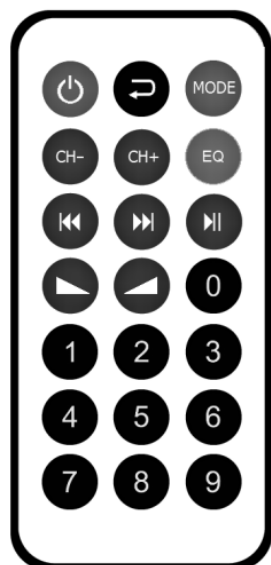
⏻	Media player power on/standby button
↩	Repeat mode – select Random, One, Folder or All tracks
MODE	Select USB, SD, FM tuner or Bluetooth mode
CH- / CH+	Select FM radio station
EQ	Select preset: Eq1 flat, Eq2 DJ, Eq3 voice, Eq4 classical, Normal
◀◀ / ▶▶	Previous or Next track select
▶ ‖	Play / Pause track (auto-tune in FM tuner mode)
◣ / ◢	Adjust media player volume down or up
0 - 9	Direct track or channel access – key in number

Specifications

Power supply	230Vac, 50Hz (IEC)
Output power: 4 Ohms	2 x 2 x 100Wrms
Output power: 8 Ohms	2 x 2 x 70Wrms
Inputs: mic	6.3mm (front and rear panel in parallel)
Inputs: aux	Aux 1-3 (L+R RCA rear panel) + Aux 3 also 3.5mm on front panel
Audio source	Dual internal USB/microSD player / FM tuner / Bluetooth receiver
Antenna connection	F-type (FM tuner)
Dimensions	482 x 285 x 44mm (1U)
Weight	2.933kg

Troubleshooting

No power LED on control panel	Ensure IEC lead is in good condition and connected properly
	Ensure POWER switch is on and check mains inlet fuse
Power light and output LEDs lighting but no output	Check speaker output terminals are connected correctly
	Check speakers are working (test on another amp if available)
	Check memory device is connected properly (remove and re-insert)
	Check file types – standard mp3/wma/wav digital audio files required
	Check memory device works on a PC or Mac for standard playback
Bluetooth cannot connect	Ensure that Bluetooth is enabled on sending device
	Ensure that the sending device is within Bluetooth range (5-10m)
	Check that the device is connecting to "A series A" or "A series B"
No audio from Bluetooth device	Ensure that volume controls are not turned down on sending device
	Check volume and Play/Pause buttons on media player
Output too loud or distorted	Reduce MIC, AUX and/or MASTER volume levels
	Ensure that a Hi-Z line level input is not connected to the Mic input
Output too quiet or inaudible	Increase MIC, AUX and/or MASTER volume levels
	Check for quiet recording of media files on USB/microSD
	Check MIC is not overriding media playback, causing it to mute
Feedback from microphone	Face microphone away from speakers and monitors and reduce level
Amplifier overheating	Ensure cooling vents are clear from debris and dust
	Ensure that the load impedance on any output channel is no less than 4Ω