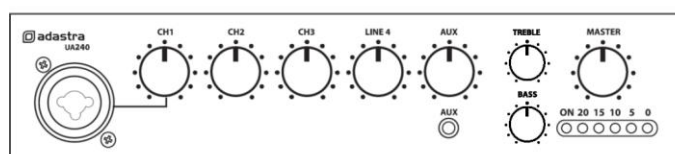
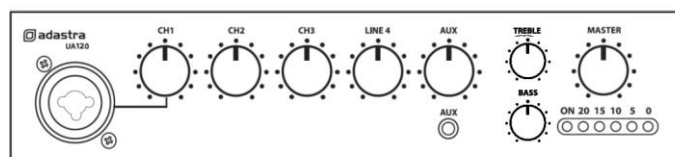
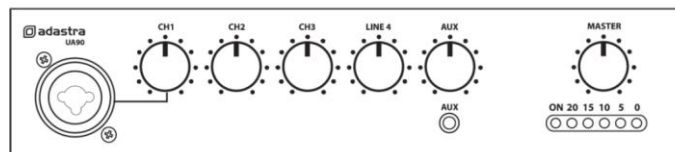
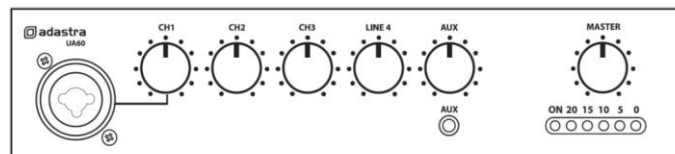
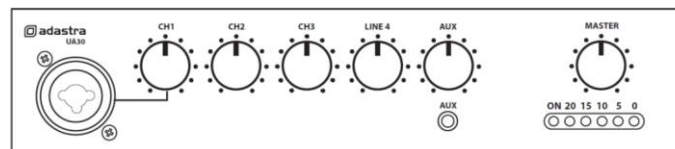


UA-series

Compact 100V mixer-amplifiers

Item ref: UA30	953.183UK
UA60	953.186UK
UA90	953.189UK
UA120	953.012UK
UA240	953.013UK
	User Manual



Version 2.1



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 UA-series mixer-amplifier as part of your public address system. This unit is designed to offer high quality, dependable service for mobile and installed systems. 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 ⚡ 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
- Use double insulated speaker wire with adequate current rating for 100V speaker connections
- Only use 1 type of output – i.e. 2Ω/8Ω or 100V – do not mix or combine these outputs on a single zone
- Do not connect 2Ω/8Ω speakers to the 100V terminal or 100V speakers to the 2Ω/8Ω terminal
- Do not allow any foreign objects to enter the case or through the ventilation grilles

Placement

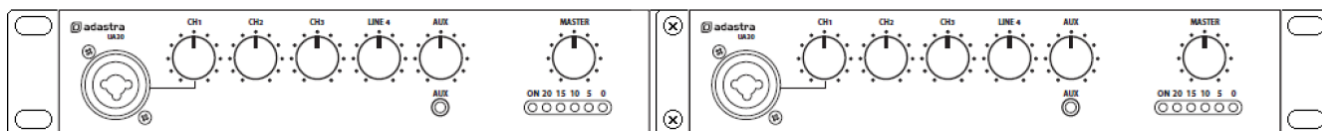
- Keep out of direct sunlight and away from heat sources
- Keep away from damp or dusty environments
- For rack-mounting, use the supplied accessories and ensure adequate support
- Ensure adequate airflow and do not cover cooling vents at the front and rear of the amplifier
- Ensure adequate access to 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

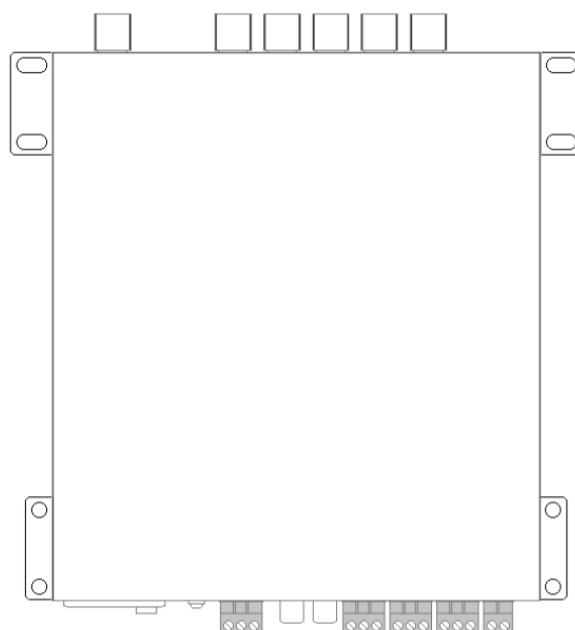
Rack mounting

The UA series amplifiers can be mounted into a 19" rack cabinet using the supplied rack accessories. As shown below, the 2 joining brackets link a pair of UM series amplifiers together to form a full-width 1U rack-mount pair. One rack ear can be mounted at each end for fixing to the rack strip.

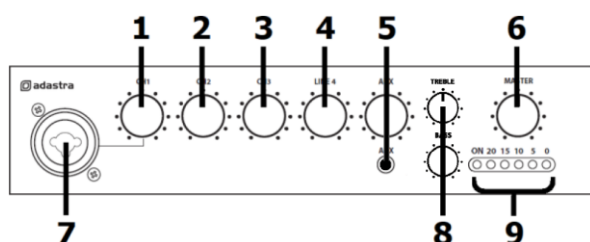


Wall or under counter mounting

The rack mounting accessories can also be attached so that the amplifier can be mounted against a wall or under a counter or work surface. To do this, mount the rack ears with the tabs aligned with the top of the housing to provide mounting holes to screw the amplifier to the underside of a work surface or against a wall with the controls visible vertically.



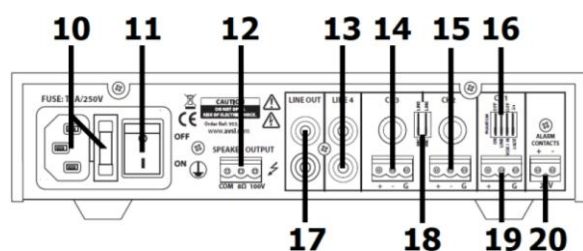
Front panel



1. CH1 volume control
2. CH2 volume control
3. CH3 volume control
4. LINE 4 volume control
5. AUX volume control & 3.5mm input

6. MASTER volume control
7. CH1 XLR/Jack input
8. TREBLE & BASS EQ (UA120 and UA240 only)
9. Power and Audio output indicators

Rear panel

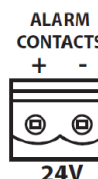


10. IEC power inlet and fuse holder
11. Power on/off switch
12. 100V and 8Ω/2Ω speaker output terminals
13. LINE 4 RCA input
14. CH3 6.3mm and screw terminals input
15. CH2 6.3mm and screw terminals input
16. CH1 Phantom-Mic/Line-Vox DIP switches (UA120 or UA240 include a 100V/2Ω DIP switch)
17. LINE OUT RCA output
18. CH2/CH3 Mic/Line DIP switches
19. CH1 screw terminals input
20. 24V MUTE terminals

Connection and setup

Set the rear power switch (11) to the "off" position and connect the rear IEC inlet (10) to the mains using the supplied mains lead (or an equivalent approved type). Check that the supply voltage is 170-264Vac 50Hz.

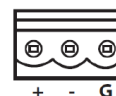
A pair of screw terminals is provided on the right side of the rear panel for connection to an alarm system if required (20). This connection will mute all channels except CH.1 (for alerts) when 24V is present across the terminals. (24V is a standard trigger voltage from most fire and security panels)



Note: Screw terminal blocks can be unplugged from the panel for convenience during connection.

If using a main microphone for paging or announcements, connect this to the CH.1 input on the front panel (7) via either XLR or 6.3mm jack. This may also be a line level input (such as CD or mp3) if required.

Alternatively, the CH.1 mic or line source can be connected on the rear panel via a screw terminal input (19), which is labelled "+ / - / G".



For Unbalanced connection, connect the signal (core) wire to "+" and connect the Ground (braid) to "-" and "G".

For Balanced connection, there will be 2 core wires. Connect the hot (usually red) wire to "+" and the cold (white, black or blue) wire to "-". Then connect the Ground (braid) separately to "G".

CH.1 has a bank of 3 DIP switches dedicated to it on the rear panel (16) above the terminals.

The right-side DIP switch selects between 100V or 2Ω output (UA120, UA240 only)

Ensure the correct setting before attempting to operate either 100V or low impedance.

For UA30/60/90, the low impedance output is 8Ω minimum load and does not have a switch.

The third DIP switch from the left allows the VOX function to be switched on or off.

When this function is switched on, the input to CH.1 will override the other inputs, causing the volume of any of the other 3 channels to be suppressed when any sound is present on CH.1

When CH.1 is silent, the other 3 channels return to full output volume automatically.

This function is useful for "auto-ducking" background music when making announcements.



The second DIP switch from the left selects between MIC or LINE input. Position this switch depending upon which input source is used, so that the correct channel input level is set for the input type.

The left side DIP switch is labelled "PHANTOM" and switches 24Vdc phantom power to the CH.1 front XLR input for use with paging or condenser microphones that require phantom power.

CH.2 and CH.3 can also accept either microphone or line input, via either 6.3mm jack or screw terminal inputs on the rear panel (14, 15)

The screw terminals for CH.2 and CH.3 are connected in the same way as described above for CH.1

For 6.3mm jack, connection can be Unbalanced (Tip +, Sleeve -/GND) or Balanced (Tip +, Ring -, Sleeve GND)

There are a pair of DIP switches (18) for CH.2 and CH.3 to select MIC or LINE, depending upon the input type. Note: No phantom power or vox override are available on these inputs.



CH.4 is an input for Line level only and is connected via a pair of RCA sockets (13)

Connect the Left and Right output from a CD, mp3, DAB/FM tuner, message machine or other line level source to these sockets using a standard twin RCA/phono lead (L+R are summed to mono).

CH.5 is an auxiliary input connected via a 3.5mm stereo jack on the front panel (8).

This is a line input and can be used for connecting a smart phone, laptop or mp3 player for audio playback.

A twin RCA line output (17) is provided for connecting the mix of all channels onto further amplifiers.

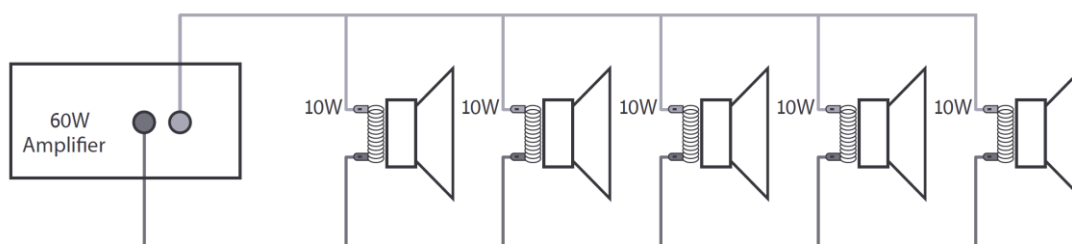
Speaker Connections

The UA series amplifiers can be used either as 100V line amplifiers or standard low impedance power amplifiers. These 2 configurations cannot be used together, so it is important to decide which method will be used at the start.

100V line systems

For 100V line systems, connect the amplifier to the first speaker in the system using double-insulated speaker wire which has adequate current rating to handle the total output of the amplifier.

Connect the "100V" output terminal to the positive (+) connection of the speaker and "COM" output to the negative (-) connection of the speaker (14). Connect further speakers in parallel to the first speaker with all positive terminals connected together and all negative terminals connected together as shown below.



A 100V line speaker system can comprise of many speakers connected together. The determining factor for how many speakers can be used on a single amplifier is the power rating. For most purposes, it is advised to connect as many speakers as needed with a combined wattage of no more than 90% of the amplifier's output power rating.

The terminals of a 100V speaker are connected to a transformer and in some cases, this transformer may be "tapped" for different power ratings. These tapings can be used to adjust the wattage (and output volume) of each speaker in the system to help achieve the ideal total power of the system for the amplifier.

To use the 100V output on a UA120 or UA240, it is necessary to set the 100V/2Ω DIP switch to "100V".

Low impedance systems

The UA30/60/90 amplifiers can alternatively provide an output for a single 8Ω speaker by connecting the "8Ω" output to the positive (+) speaker connection and "COM" output to the negative (-) speaker connection. It is important to ensure that the speaker load is no lower than 8Ω and that the power handling of the speaker is equal to or greater than the output power of the amplifier.

For UA120 and UA240, this low impedance output is stable down to 2Ω, meaning up to 4 x 8Ω speakers may be connected in parallel or other load combinations of 2Ω or above.

To use the 2Ω output on a UA120 or UA240, it is necessary to set the 100V/2Ω DIP switch to "2Ω"

Operation

When all connections to the amplifier are made, turn all volume controls down and, for UA120 or UA240, turn TREBLE and BASS (8) controls to the vertical (12 o'clock) position. Switch on the power (11) and a power LED will light at the left side of the audio output indicator LEDs (9).

Use either a microphone or a line input signal for checking the system. Turn up the MASTER rotary control (6) part way for testing and increase the rotary control for the channel being used for testing (1-5) until the output is heard through the speakers. Turn up the MASTER to the maximum required volume level and reduce the channel volume control if necessary. Then check each input being used in turn to set the correct level.

Note: If a microphone is being used, point it away from the speakers, making sure that it is not able to "hear" the speakers, which can cause feedback (squealing or howling noise).

For UA120 and UA240, the global TREBLE and BASS controls (8) can help to adjust the tone of the output to suit the environment or audio source type.

The vertical (12 o'clock) position is neutral.

Turning the TREBLE control down cuts the high frequency content and tuning it to the right of vertical will boost these frequencies.

Turning the BASS control down cuts the low frequency content and tuning it to the right of vertical will boost these frequencies.

When the UA amplifier is not being used, turn down the MASTER control before powering down to avoid loud clicks or pops.

Specifications

Model	UA30	UA60	UA90	UA120	UA240
Output power: RMS	30W	60W	90W	120W	240W
Height	44mm				
Width	210mm				
	249mm2	269mm2	330mm	350mm	350mm
Weight	2.35kg	2.47kg	2.99kg	3.57kg	4.53kg
Power supply	170-264Vac, 50Hz (IEC)				
Amplifier: construction	Class D + transformer output				
Inputs	3 x mic/line (Jack/Euroblock), 1 x line (2 x RCA), 1 x aux (3.5mm)				
Phantom power	+20V CH1 (XLR or rear terminals)				
Line output	2 x RCA (mono)				
Speaker outputs	Screw terminals - 100V / 8Ω / Com			100V / 2Ω / Com	
Mute	24V relay contacts				
THD	<0.4% @ 1kHz				
Input impedance	1k Ohms (mic/line)				
Input sensitivity	-10dB (line), -45dB (mic)				
SNR	80dB (line), 75dB (mic)				
Frequency response	100Hz - 18kHz				

Troubleshooting

No power LED on control panel	Ensure IEC lead, mains switch and inlet fuse
Power LED is on but no other LEDs and no output	Check input signals and condition of input connection leads
	Check MASTER, MIC, LINE IN or AUX controls are turned up
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 that the 100V/2Ω DIP switch is set to the correct type (UA120/240)
No output from CH2, 3, 4 or 5	Check that CH.1 Vox is not activated with the channel volume turned up
No output from CH1	Check that phantom power is switched on if a condenser mic. is being used
Output is very loud or distorted	Check level of input signal is not too high
	Ensure that the MIC/LINE DIP switch is not set to MIC for a line level input
	Reduce Channel, EQ and/or MASTER levels
Output is working but at very low level	Check input audio source level is not too low
	Ensure that the MIC/LINE DIP switch is not set to LINE for a mic. input
	Increase Channel, EQ and/or MASTER levels
Feedback from microphone	Face microphone away from speakers and monitors
	Turn down MIC and/or MASTER level
Amplifier overheating or cutting out	Check that 8Ω speakers are not connected to 100V terminals (UA30/60/90)
	Ensure total 100V speaker wattage is lower than amplifier rating
	Ensure that 100V and 8Ω speakers are not both connected (UA30/60/90)



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.

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