

UA-series

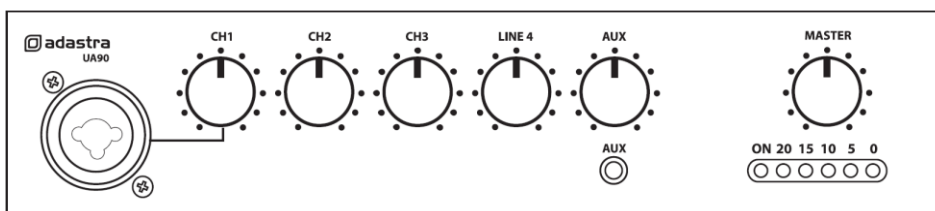
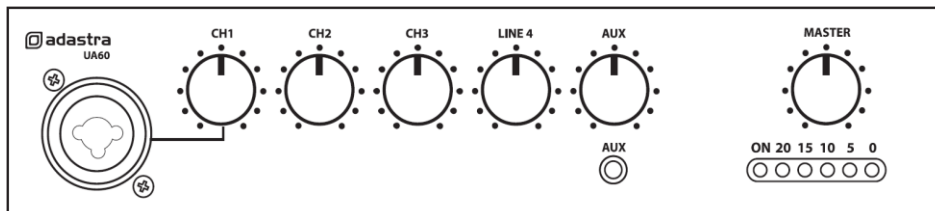
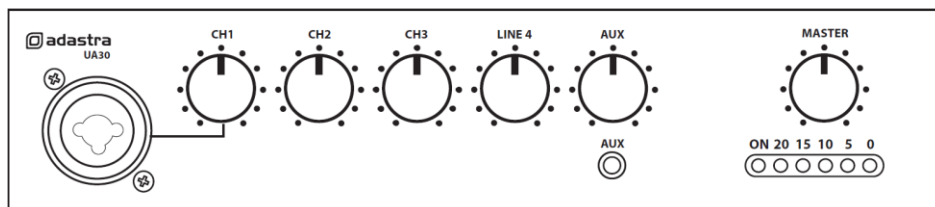
Compact 100V mixer-amplifiers

Item ref: UA30 953.183UK

UA60 953.186UK

UA90 953.189UK

User Manual



Version 2.0



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. 8Ω or 100V – do not mix or combine these outputs
- Do not connect 8Ω speakers to the 100V terminal or 100V speakers to the 8Ω terminal
- Do not allow any foreign objects to enter the case or through the ventilation grilles

Placement

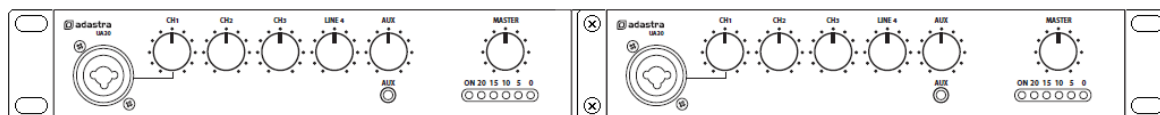
- Keep out of direct sunlight and away from heat sources
- Keep away from damp or dusty environments
- For rack-mounting, use the supplied accessories and ensure adequate support
- Ensure adequate airflow and do not cover cooling vents at the front and rear of the amplifier
- Ensure adequate access to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

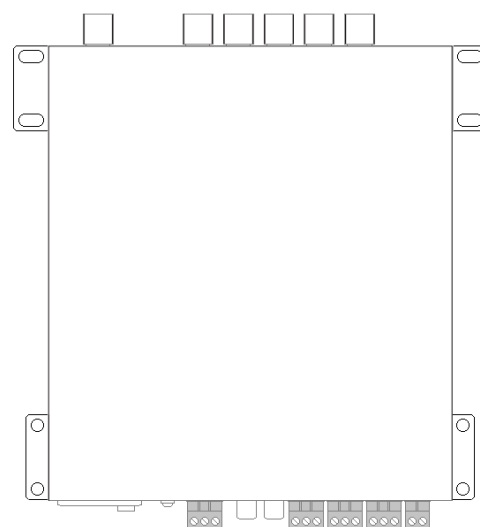
Rack mounting

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 UA 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.

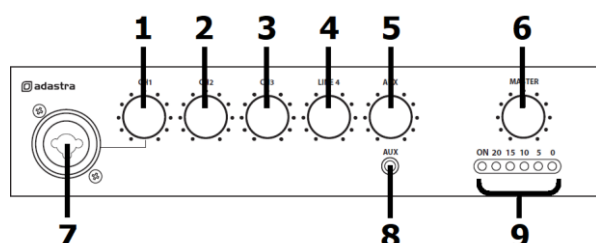


Wall or under counter mounting

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.

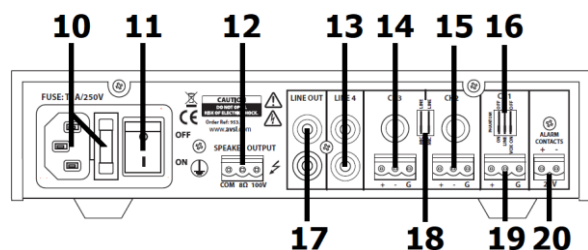


Front panel



1. CH1 volume control
2. CH2 volume control
3. CH3 volume control
4. LINE 4 volume control
5. AUX volume control
6. MASTER volume control
7. CH1 XLR/Jack input
8. 3.5mm stereo AUX input
9. Power and Audio output indicators

Rear panel



10. IEC power inlet and fuse holder
11. Power on/off switch
12. 100V and 8Ω 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
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.

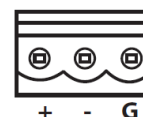
A pair of screw terminals is provided on the right side of the rear panel for connection to an alarm system if required (20). This connection will mute all channels except CH.1 (for alerts) when 24V is present across the terminals. (24V is a standard trigger voltage from most fire and security panels)



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 (such as CD or mp3) input 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 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 centre of the 3 DIP switches 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.

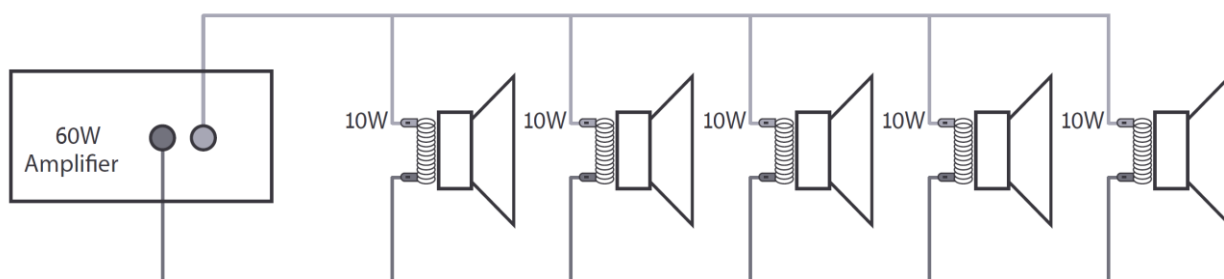
Speaker Connections

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 (12). 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.

Low impedance systems

The UA-series 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 (12). 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.

Operation

When all connections to the amplifier are made, turn all rotary controls down and switch on the power (11). A power LED will illuminate 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).

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

Specifications

| Model | UA30 | UA60 | UA90 |
|-------------------------|--|------------------|------------------|
| Output power: RMS | 30W | 60W | 90W |
| Dimensions | 249 x 210 x 44mm | 269 x 210 x 44mm | 300 x 210 x 44mm |
| Weight | 2.35kg | 2.47kg | 2.99kg |
| 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) | | |
| Line output | 2 x RCA (mono) | | |
| Speaker outputs | Screw terminals - 100V / 8Ω / 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 MEDIA 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) |
| 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 CH.1 microphone | Check that phantom power is switched on if a condenser microphone is 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 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 microphone input |
| | Increase Channel and/or MASTER levels |
| Feedback from microphone | Face microphone away from speakers and monitors |
| | Turn down Channel and/or MASTER level |
| Amplifier overheating or cutting out | Check that 8Ω speakers are not connected to 100V terminals |
| | Ensure total 100V speaker wattage is lower than amplifier rating |
| | Ensure that 100V and 8Ω speakers are not both connected |



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.

