MA-630TU

ORDERCODE D6144

SHOWELECTRONICS FOR PROFESSIONALS

Congratulations!

You have bought a great, innovative product from DAP Audio.
The DAP Audio MA-630TU brings excitement to any venue. Whether you want simple plug-&-play action or a sophisticated show, this product provides the effect you need.

You can rely on DAP Audio, for more excellent audio products.
We design and manufacture professional audio equipment for the entertainment industry.
New products are being launched regularly. We work hard to keep you, our customer, satisfied.
For more information: iwant@dap-audio.info

You can get some of the best quality, best priced products on the market from DAP Audio.
So next time, turn to DAP Audio for more great audio equipment.
Always get the best -- with DAP Audio !

Thank you!

DAP Audio

DAP Audio MA-630TU™ Product Guide

Warning

Unpacking Instructions

Immediately upon receiving this product, carefully unpack the carton and check the contents to ensure that all parts are present, and have been received in good condition. Notify the dealer immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a device must be returned to the factory, it is important that the device is returned in the original factory box and packing.

Your shipment includes:
• DAP MA-630TU
• FM Antenna
• AM Antenna
• 19" mounting ears
• power cable - 2m
• User manual

CAUTION!
Keep this system away from rain and moisture!

Safety Instructions

Every person involved with the installation, operation and maintenance of this system has to:
- be qualified
- follow the instructions of this manual

CAUTION! Be careful with your operations.
With a dangerous voltage you can suffer
a dangerous electric shock when touching the wires!

Before you initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the system.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Please consider that damages caused by manual modifications to the system are not subject to warranty.

This system contains no user-serviceable parts. Refer servicing to qualified technicians only.

IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the system.

- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.

- Never use anything to cover the ground contact.
- Never leave any cables lying around.
- Do not insert objects into air vents.
- Do not connect this system to a dimmerpack.
- Do not switch the system on and off in short intervals, as this would reduce the system's life.
- Do not open the device and do not modify the device.
- Do not drive the inputs with a signal level bigger, than required to drive the equipment to full output.
- Do not plug Mics into the console (or stage box) while Phantom Power is on. Also mute the monitor / PA system when turning Phantom Power on or off. Allow the system to adjust for a couple of seconds, before setting the input gains.
- Only use system indoor, avoid contact with water or other liquids.
- Avoid flames and do not put close to flammable liquids or gases.
- Always disconnect power from the mains, when system is not used. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Always operate the unit with the AC ground wire connected to the electrical system ground.
- Make sure you don't use the wrong kind of cables or defective cables.
- Make sure that the signals into the mixer are balanced, otherwise hum could be created.
- Make sure you use DI boxes to balance unbalanced signals; all incoming signals should be clear.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the system and the power-cord from time to time.
- Please turn off the power switch, when changing the power cord or signal cable, or select the input mode switch.
- Extreme frequency boosts in connection with a high input signal level may lead to overdriving your equipment. Should this occur, it is necessary to reduce the input signal level by using the INPUT control.
- To emphasize a frequency range, you don't necessarily have to move its respective control upward; try lowering surrounding frequency ranges instead. This way, you avoid causing the next piece of equipment in your sound path to overdrive. You also preserve valuable dynamic reserve ("headroom")
- Avoid ground loops! Always be sure to connect the power amps and the mixing console to the same electrical circuit to ensure the same phase!
- If system is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the system has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your system. Leave the system switched off until it has reached room temperature.
- If your Dap Audio device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Dap Audio dealer for service.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- For replacement use fuses of same type and rating only.
- WARRANTY: Till one year after date of purchase.

Operating Determinations

This system is not designed for permanent operation. Consistent operation breaks will ensure that the system will serve you for a long time without defects.

If this system is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.
Any other operation may lead to dangers like short-circuit, burns, electric shock, etc.

You endanger your own safety and the safety of others!

Improper installation can cause serious damage to people and property !

Connection with the mains

Connect the device to the mains with the power-plug.
Always pay attention, that the right color cable is connected to the right place.

International	EU (including UK) From April 2004	North America	Pin
L	Brown	Black	Phase
N	Blue	White	Neutral
⏚	Green/Yellow	Green	Protective Earth

Make sure that the device is always connected properly to earth!

⚠ Return Procedure ⚠

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Authorization Number (RMA number). Products returned without an RMA number will be refused. Highlite will not accept the returned goods or any responsibility. Call Highlite 0031-455667723 or mail aftersales@highlite.nl and request an RMA prior to shipping the device. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack the device, any shipping damage resulting from inadequate packaging is the customer's responsibility. Highlite reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

Note: If you are given an RMA number, please include the following information on a piece of paper inside the box:
1) Your name
2) Your address
3) Your phone number
4) A brief description of the symptoms

Claims

The client has the obligation to check the delivered goods immediately upon delivery for any short-comings and/or visible defects, or perform this check after our announcement that the goods are at their disposal. Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise.
It is the customer's responsibility to notify and submit claims with the shipper in the event that a device is damaged due to shipping. Transportation damage has to be reported to us within one day after receipt of the delivery.
Any return shipment has to be made post-paid at all times. Return shipments must be accompanied with a letter defining the reason for return shipment. Non-prepaid return shipments will be refused, unless otherwise agreed in writing.
Complaints against us must be made known in writing or by fax within 10 working days after receipt of the invoice. After this period complaints will not be handled anymore.
Complaints will only then be considered if the client has so far complied with all parts of the agreement, regardless of the agreement of which the obligation is resulting.

Description of the device

Features
The MA-630TU is a versatile 100V amplifier due to the matrix functionality. It has 4 inputs and 6 individual outputs. With the zone selection buttons you are able to route each input and the media player to your desired output and control different audio sources for 6 areas. With the headphones output on the front you are able to monitor each zone to check which music is playing in which area. The media player has a tuner and USB/SD slot. This makes the MA-630TU a complete stand-alone solution for shops, restaurants, schools, museums and any kind of public area where an audio solution is needed.

Features:
• 6 individual 30W outputs
• 3 inputs with matrix functionality
• Inputs: 1 x Mic, 2 x Line/Mic, 3 x Line
• Front line input: 3,5mm Jack
• AM/FM Tuner
• USB/SD Media Player
• Monitor functionality for each zone
• 8-16 Ohm & 70/100V output
• Chime & Siren
• Priority on input 1
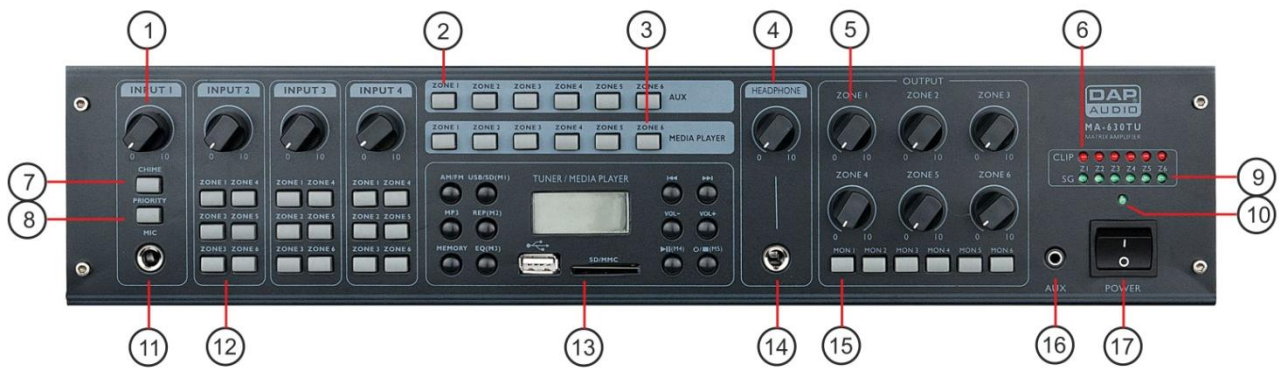• Limiter protection

Frontpanel

Fig. 1

1. Input level control
Use to adjust the input volume level for input channel 1-4.

2. Aux assign buttons
Use to assign the **aux (14)** input to one or more zones.

3. Media player assign buttons
Use to assign the **tuner/media player (13)** to one or more zones.

4. Headphone level
Is used to adjust your headphone volume level.

5. Zone level control
Use to adjust the output volume for zone 1-6.

6. Zone clip LED's
The clip LED indicates peak levels at the output of the corresponding zone. If the red LED blinks frequently or lights continuously, the output is likely to enter clipping. If this happens, we strongly suggest lowering the corresponding **zone (5)** control.

7. Priority button
Pushing this button allows you to switch the priority function for channel 1 on or off. If the priority function is active, all channels except channel 1 will be muted when the **mic 1 (11)** input picks up a signal.

8. Chime button
If pushed in, the device enters <u>chime mode</u>. In <u>chime mode</u>, the chime signal will be activated and all inputs except input 1 will be muted so you are able to broadcast a message after the chime signal.

9. Zone signal LED's
The signal LED indicates that there's an audio signal present at the output of the corresponding zone.

10. Power LED
Indicates the amplifier is turned on.

11. Mic input
Use to connect a microphone.

12. Zone assign buttons
Use to assign a channel to one or more zones.

13. Tuner/media player
See the next paragraph.

14. Headphone output
You can connect a pair of headphones with a minimum impedance of 32 Ohm to this stereo 1/4" jack. The jack should be wired as Tip=left, Ring=right and sleeve=ground.

15. Monitor buttons
Allows you to monitor one or more zones with your headphone.

16. Aux input
3,5mm stereo mini jack input for connecting a line level device such as an I-pod, CD player etc.

17. AC power switch
This is the main Power switch. Push to turn the amplifier on.
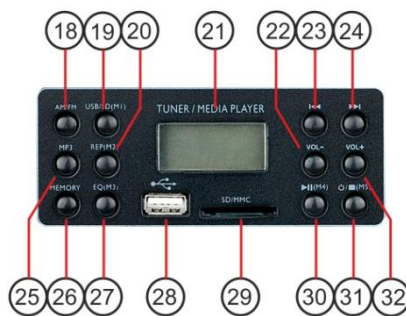

Tuner/media player

Fig. 2

18. AM/FM radio selection button
<u>MP3 mode</u>: Pushing this button allows you to enter <u>tuner mode</u>.
<u>Tuner mode</u>: Pushing this button allows you to select either the AM band or the FM band.

19. USB/SD (M1) button
<u>MP3 mode</u>: Pushing this button lets you select between USB or SD player mode.
<u>Tuner mode</u>: Pushing this button will recall memory preset M1.

20. Rep (M2) button
MP3 mode: Pushing this button lets you switch between Normal play, Repeat all and Random play.
Tuner mode: Pushing this button will recall memory preset M1.

21. Display
MP3 mode, this display shows the current track number.
Tuner mode, this display indicates the receiving frequency and memory number.

22. Volume -
Push this button to decrease the output level of the tuner – USB/SD player.

23. |◀◀ button
MP3 mode: Use this button for skipping tracks in backwards.
Tuner mode: Use this button to select the desired station. Each time this button is pushed in, the AM frequency decreases with 9Khz intervals, while the FM frequency decreases with 0,1Mhz. If the button is pushed in, longer than 1,5 seconds, the radio frequency will decrease automatically until a station is tuned in.

24. ▶▶| button
MP3 mode: Use this button for skipping tracks in forward direction.
Tuner mode: Use this button to select the desired station. Each time this button is pushed in, the AM frequency increases with 9Khz intervals, while the FM frequency increases with 0,1Mhz. If the button is pushed in, longer than 1,5 seconds, the radio frequency will increase automatically until a station is tuned in.

25. MP3 button
Pushing this button allows you to enter MP3 mode.

26. Memory button
Pushing this button allows you to store a radio station in memory presets M1-M5.

27. EQ (M3) button
MP3 mode: Pushing this button will allow you to select a preset equalizer.
Tuner mode: Pushing this button will recall memory preset M3.

28. USB slot
Reads USB sticks with a maximum capacity of 64Gb (FAT32 format). The USB slot reads MP-3 format only.

29. SD slot
Reads SD cards with a maximum capacity of 64Gb (FAT32 format). The SD slot reads MP-3 format only.

30. ▶/|| (M4) button
MP3 mode: Pushing this button will start playback. Pushing the button again will pause playback.
Tuner mode: Pushing this button will recall memory preset M4.

31. ⏻■ (M5) button
MP3 mode: Push this button to stop playback.
Tuner mode: Pushing this button will recall memory preset M5.
Pushing and holding this button for 3 seconds, turns the tuner/media player on or off.

32. Volume +
Push this button to increase the output level of the tuner/media player.

Backpanel

Fig. 3

33. AC Inlet with integrated fuse holder
This connector is meant for the connection of the supplied main cord. Connect one end of the power cord to the connector, the other end to the mains, then turn on the **power (17)** switch to operate the unit.
Make sure that the supply voltage matches the operation voltage before connecting the unit to mains. Replace the fuse only with a fuse of the same specification (230V:T2,5A).

34. AC-selector
Before connecting your MA-630TU to the mains, make sure the AC-selector is set to the proper voltage used in your country. If you're not sure, consult a skilled technician.

35. Zone 1-6 com speaker terminal
Connect these terminal with the – terminal of your zone speaker(s).

36. Zone 1-6 70V output terminal
Each zone has its own output terminal. Connect this terminal to the + terminal of your 70V high impedance speaker load. In case of using several speakers make sure all speakers are wired in parallel.
The total power rating of the high impedance speakers connected to this terminal summed, should never exceed 30W.

37. FM antenna connector
Connect your FM antenna to this connector.

38. Siren remote terminal
Use this terminal for connecting a remote switch or relay contact. If these two contacts are shorted, all inputs except **mic input (11)** will be muted when **mic input (11)** detects a sound.

39. Input 4 assign switch
This switch allows you to assign the **Tape (46)**, **CD (47)** or **Aux (48)** input to channel 4.

40. Input 3 impedance/level switch
This switch allows you to set up **combo input 3 (49)** for line level, microphone level with phantom power or microphone level without phantom power.

41. Input 2 impedance/level switch
This switch allows you to set up **combo input 2 (50)** for line level, microphone level with phantom power or microphone level without phantom power.

42. GND Screw
This screw offers a separate ground connection. Can be useful in case of grounding problems.

43. Zone 1-6 low impedance speaker terminals
Connect this terminal to the + terminal of either an 8Ω or 16Ω speakerload.
In case of using several speakers, make sure that the total speaker load is the same as the impedance of the corresponding terminal. The total power rating of the low impedance speakers connected to this terminal summed, should be at least 30W.

44. Zone 1-6 100V high impedance terminals
Each zone has its own output terminal. Connect this terminal to the + terminal of your 100V high impedance speaker load.
In case of using several speakers make sure all speakers are wired in parallel.
The total power rating of the high impedance speakers connected to this terminal summed, should never exceed 30W.

45. AM antenna connector
Connect your AM antenna to this connector.

46. Input 4 tape RCA input
Use to connect a tape recorder output.

47. Input 4 CD RCA input
Use to connect a CD player.

48. Input 4 aux RCA input
Use to connect a line level device.

49. Combo input 3
Combo input for channel 3. Accepts balanced or unbalanced inputs.

50. Combo input 2
Combo input for channel 2. Accepts balanced or unbalanced inputs.

Operation

Installation
Remove all packing materials from the MA-630TU. Check that all foam and plastic padding is removed. Secure the equipment into a 19" rack if preferred. Connect all cables.

Set Up and Operation
Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate an 115V specification product on 230V power, or vice versa.

Before powering up the first time, make sure the AC-selector switch is set to the proper voltage.

Damage caused by connecting the amplifier to improper AC voltage is not covered by any warranty.

NOTE: Always turn off and disconnect the amplifier from mains voltage before making audio connections. Also, as an extra precaution, have the attenuators turned down during power-up.

Operating the Tuner

Selecting a station
Use the **AM/FM (18)** button to select either AM or FM band. Push the ◄◄(23) or ►►|(24) button to tune stepwise.
Pushing the ◄◄(23) or ►►|(24) button for more than 1second will let you speed up the searching.

Selecting a preset.
Use the **AM/FM (18)** button to select either AM or FM band.
Push **M1 (19)**, **M2 (20)**, **M3 (27)**, **M4 (30)** or **M5 (31)** to recall preset M1-M5.

Storing a station in Memory
Push the **memory (28)** button. "Memory" appears in the display and the preset number changes into a line.
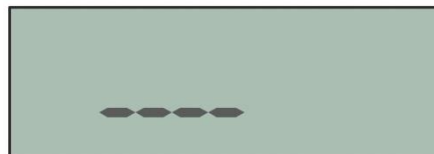
FM   MEMORY   MHz
97.1   -

Now push button **M1 (19)**, **M2 (20)**, **M3 (27)**, **M4 (30)** or **M5 (31)** to store the preset in the desired memory location.

3

FM   MHz
97.1   3

Operating the media player

Switching between radio and MP3 playback
Insert a USB stick or a SD stick and push the **MP3 (25)** button. Now the mediaplayer will search for an inserted USB stick or SD card.

- - - -

The display will briefly show USB if a USB stick is inserted and then proceed in playback mode.

USB

During playback the display will show the current track as shown below.

► Mp3 USB
0002 00:00

If a SD card is inserted, the display will show SD instead of USB.

Starting Playback
Push the ►/|| (32) button to start playback when you have selected a track from the (optional) USB stick.

or push the ▶/❚❚ **(30)** during the pause condition to restart playback.

Stop Playback

There are two ways to stop playback:
1. Push the ▶/❚❚ **(30)** button during playback to pause at that point.
2. Push the ⏻ ■ **(31)** button during playback.

Pausing

Push the ▶/❚❚ **(30)** button to switch between <u>play mode</u> and <u>pause mode</u>. The display in the figure below shows the USB-player in <u>pause mode</u>.

```
❚❚      Mp3 USB
0002 00:00
```

Note: In case the SD player is selected, the display will show SD instead of USB.

Selecting Tracks

Push the ▶▶❘ **(24)** or ❘◀◀ **(23)** button to move to next higher or lower track. The selected track will be indicated in the display. The figure below shows that track 2 is selected.

```
▶      Mp3 USB
0002 00:00
```

- Hold the ❘◀◀ **(23)** or ▶▶❘ **(24)** button to change tracks continuously at a higher speed.
- When a new track is selected during playback, playback starts as soon as the skip search operation is completed.
- If the ▶▶❘ **(24)** button is pushed while at the last track, the first track is selected. In the same way, If the ❘◀◀ **(23)** button is pushed while at the first track, the last track is selected.

Repeat/ Random play

Push the **rep (20)** button once to repeat the current track.

```
▶      Mp3 USB    ↺₁
0002 00:00
```
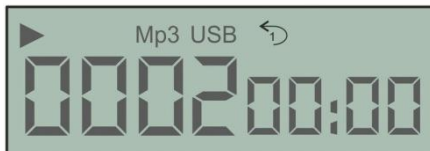
Push the **rep (20)** button again to repeat the whole disc.

```
▶      Mp3 USB    ↺all
0002 00:00
```

Push the **rep (20)** button again to start random play.

```
▶      Mp3 USB    random
0002 00:00
```

Push the **rep (20)** button a fourth time, to exit the Repeat/ Random Mode.

Switching between USB and SD playback

Make sure that an USB stick as well as a SD-card are inserted. If you are in USB mode, push the **USB/SD (19)** button. Now the display will search for a SD- card
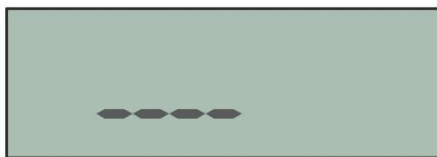
If a SD card is found, the dispay will briefly show *SD*.

If no SD card is found, the display will show *No SD*.

Connecting Inputs

Use the jack inputs at the front or the XLR input connectors on the rear to supply audio signals to your DAP Audio amplifier. The connectors accept balanced and unbalanced audio connections. (The PA- Series amplifiers are configured standard with "Pin 2 hot" on XLR inputs. For more Information, see the section on Connection cables on page 14.

Connecting Outputs.

Speakers are connected using terminal connectors. See the examples below and following page.

Low impedance outputs

You can use as many speakers as you want as long as the total impedance matches the amplifiers output.

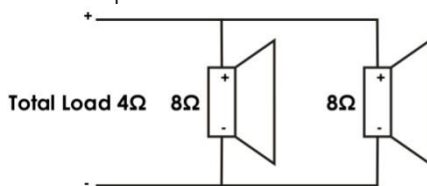**Example 1:** using the 4Ω output with two 8Ω speakers.

Fig. 5

Example 2: using the 4Ω output with four 4Ω speakers
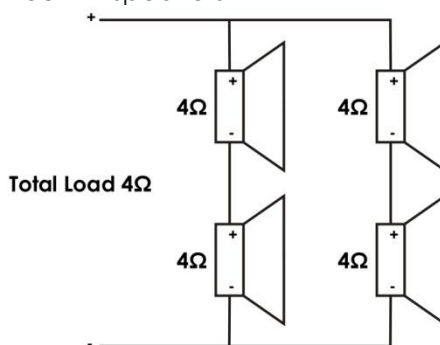

Fig. 6
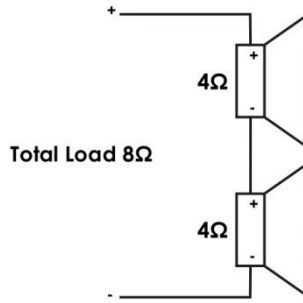
Example 3: using the 8Ω output with two 4Ω speakers.

In a low impedance system, the total speakerload should always match the amplifier impedance. This to avoid overloading the amplifier.
The total speaker power should be at least the power of the amplifier to avoid damage to the speakers.
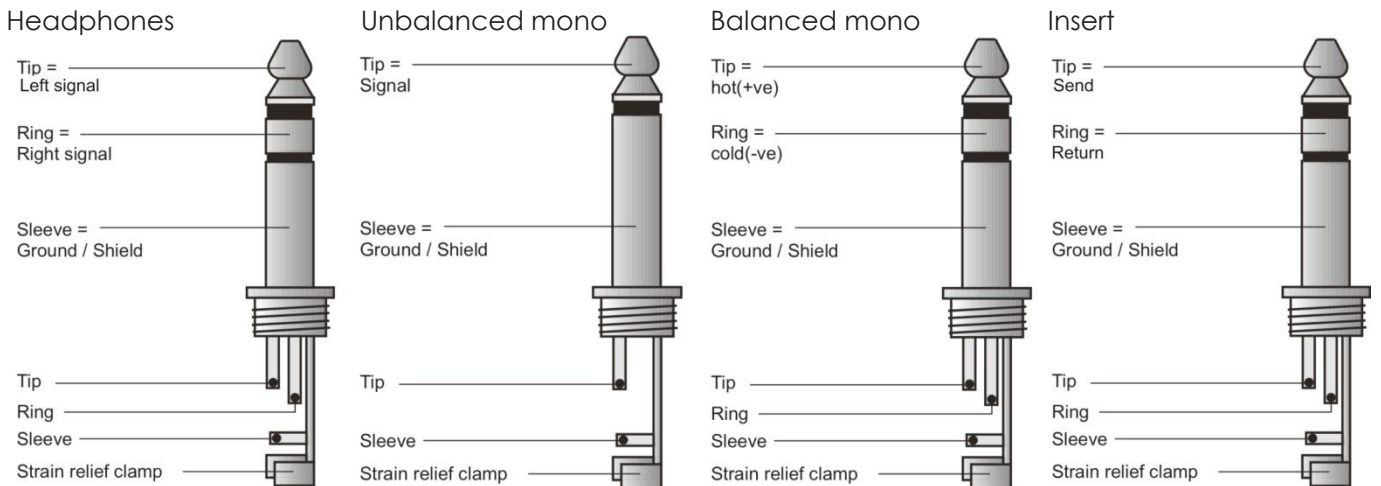
High impedance outputs
If using either the 70V outputs or the 100V outputs, note that all speakers should be wired in parallel.

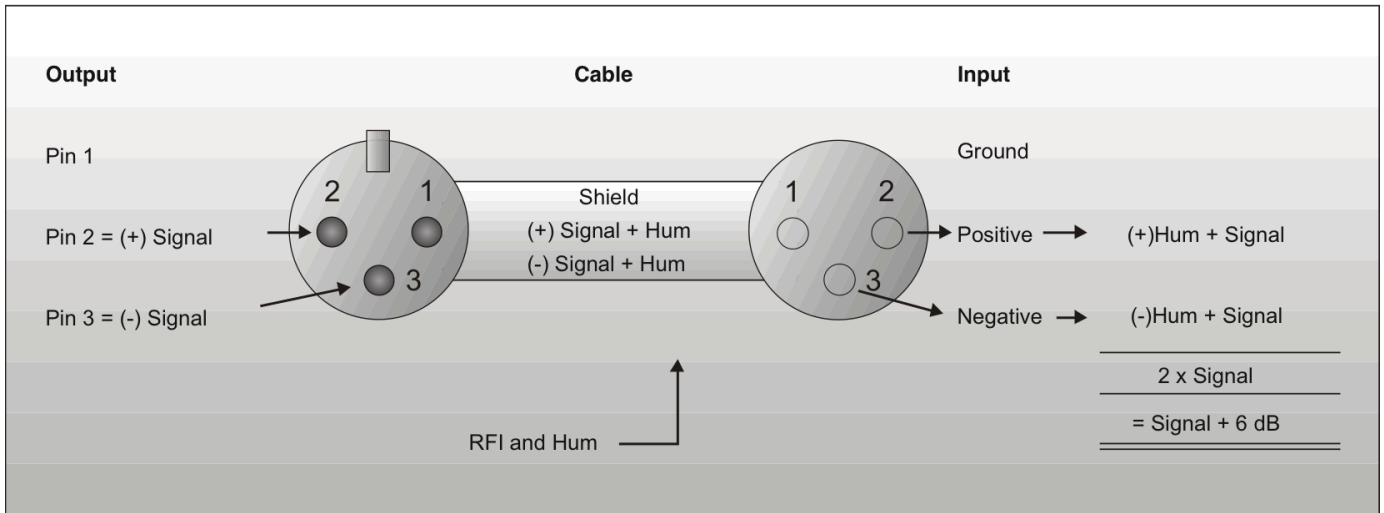**The total power of all speakers summed together should never exceed the total power of the amplifier in a high impedance (70V or a 100V) system!**

Connection Cables

Take care of your cables, always holding them by the connectors and avoiding knots and twists when coiling them: This gives the advantage of increasing their life and reliability.
Periodically check your cables. A great number of problems (faulty contacts, ground hum, discharges, etc.) are caused entirely by using unsuitable or faulty cables.

Headphones
Tip = Left signal
Ring = Right signal
Sleeve = Ground / Shield
Tip
Ring
Sleeve
Strain relief clamp

Unbalanced mono
Tip = Signal
Sleeve = Ground / Shield
Tip
Sleeve
Strain relief clamp

Balanced mono
Tip = hot(+ve)
Ring = cold(-ve)
Sleeve = Ground / Shield
Tip
Ring
Sleeve
Strain relief clamp

Insert
Tip = Send
Ring = Return
Sleeve = Ground / Shield
Tip
Ring
Sleeve
Strain relief clamp

Output	Cable	Input
Pin 1		Ground
	Shield	
Pin 2 = (+) Signal	(+) Signal + Hum	Positive → (+)Hum + Signal
	(-) Signal + Hum	
Pin 3 = (-) Signal		Negative → (-)Hum + Signal
		2 x Signal
	RFI and Hum	= Signal + 6 dB

Compensation of interference with balanced connections

Balanced use with XLR connectors

1 = Ground / Shield
2 = hot (+ve)
3 = cold (-ve)

Output   Input

For unbalanced use PIN 1 and PIN 3 have to be bridged
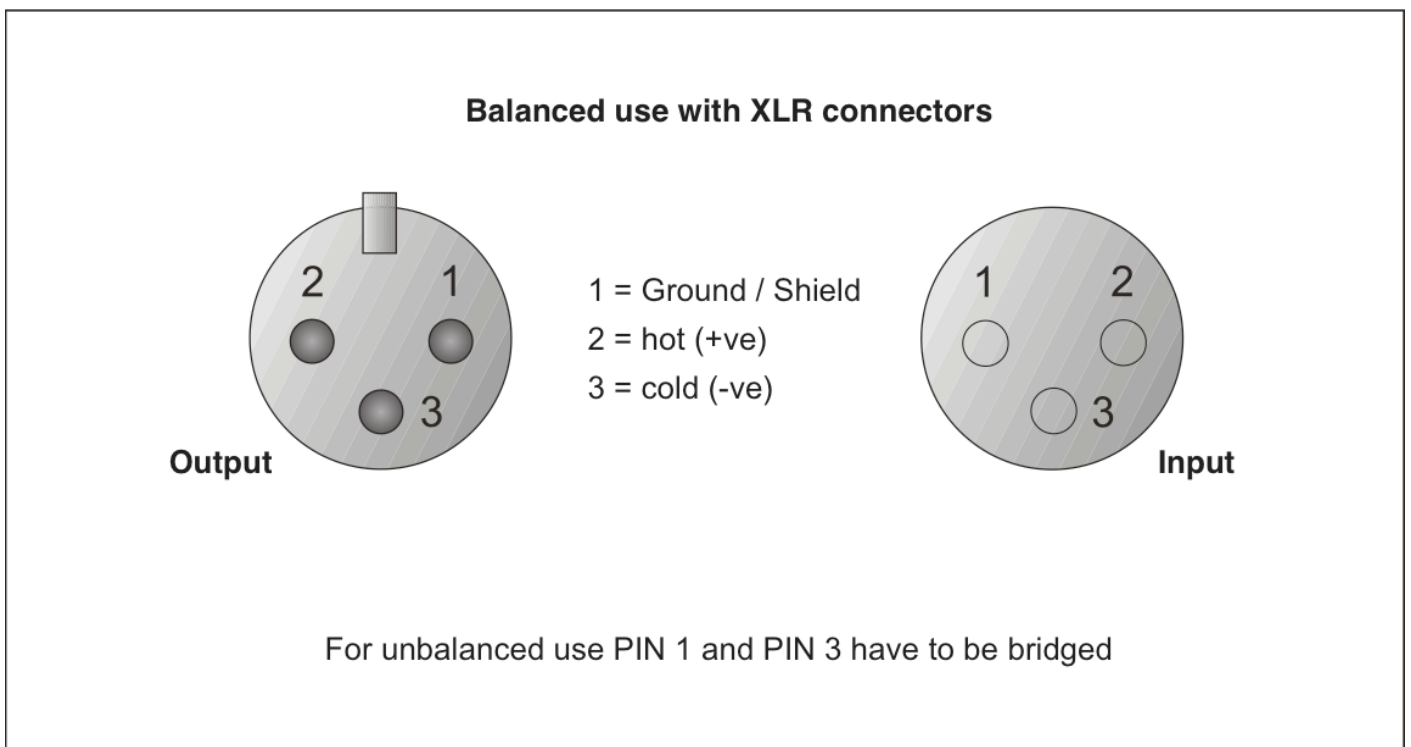
Maintenance

The DAP Audio MA-630TU requires almost no maintenance. However, you should keep the unit clean. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Do not use alcohol or solvents.
Keep connections clean. Disconnect electric power, and then wipe the audio connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

Troubleshooting

DAP Audio MA-630TU
This troubleshooting guide is meant to help solve simple problems. If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.
1. If the device does not operate properly, unplug the device.
2. Check power from the wall, all cables, connections, etc.
3. If all of the above appears to be O.K., plug the unit in again.
4. If nothing happens after 30 seconds, unplug the device.
5. Return the device to your DAP Audio dealer.

Replacing a Fuse
Power surges, short-circuit or inappropriate electrical power supply may cause a fuse to burn out. If the fuse burns out, the product will not function whatsoever. If this happens, follow the directions below to do so.
1. Unplug the unit from electric power source.
2. Insert a flat-head screwdriver into a slot in the fuse cover. Gently pry up the fuse cover. The fuse will come out.
3. Remove the broken fuse. If brown or unclear, it is burned out.
4. Insert the replacement fuse into the holder where the old fuse was. Reinsert the fuse cover. Be sure to use a fuse of the same type and specification. See the product specification label for details.

Product Specifications

Output Power:	6 x 30W
Power outputs:	8-16 Ohm, 70V, 100V (terminal strip)
Input 1:	Microphone (6.3mm Jack)
Input 2:	Line/Microphone with phantom power (XLR/Jack combo)
Input 3:	Line/Microphone with phantom power (XLR/Jack combo)
Input 4:	TAPE/CD/AUX switchable (RCA)
Tuner Presets:	5
Media player:	MP3 format
Media player EQ:	pop/classic/jazz/rock
Indication LEDs:	Signal & Clip for each output, Power
Chime:	Two tones pre-announcement
Priority:	Input 1 (switch & terminal strip, N.O. contact)
Siren:	Sinus sweep, (terminal strip)
Main power supply:	230V AC, 50/60Hz
Fuse:	T2,5A
Power consumption:	414W
Power connection:	IEC
Dimensions:	420 x 374 x 100mm (WxDxH)
Weight:	11,5 Kg
Accessories:	19" Rack mounts

Design and product specifications are subject to change without prior notice.

CE

Website: www.Dap-audio.info
Email: service@highlite.nl

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