APart MIXING AMPLIFIERS

100Volt

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MA-65

The MA-65 is developed by

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OWNER'S MANUAL

The MA65 is a very compact PA system with the features of a real professional.
With its three balanced microphone and two rca line inputs, this little one has a lot of potential.
The MA65 complies with the CE standards.

Before using your MA65, take a few minutes to read these instructions carefully.
This little time can avoid a lot of headaches afterwards.

FRONT PANEL

1. Power switch
To turn the power on and off.

2. Power / limit indicator
This led will light green after powering on and working under normal conditions.
When you draw too much power from your MA65, this led will turn red, telling you you're 3 dB under the peak power and limiting starts.
For the best sound and longest life this led should be kept green, giving you a safe margin.
This device has convection cooling and should operate within his normal level, which is maximum 65 watts. See that heat can be dispersed in an easy way. Keep +/- 10 cm free space to the MA65's top and sides.
Temperature protect : in case of overheating, the amplifier will switch itself off and reset after cooling down. However, please check your impedance of the speakerlines which is probably too low (overload !!)
In case of doubt, contact your APart dealer
In case of temp-protect, the indicator will be OFF with the unit switched on.

3. Mic.1 input
This balanced input has been wired in parallel with the XLR and Din5 input at the back.
Use either one of the three inputs for microphone 1. Microphone 1 can be given a priority over all the other inputs by using the VOX priority (see 21-22).

4. Input 1-2-3-4 volume controls
By turning each control clockwise the desired level of that input in the total mix is set.
To decrease these levels, turn counterclockwise.
The volumes of the inputs not in use, should be set fully counterclockwise. If not, hiss might occur.

5. Treble control
Adjust the level as per your taste or needs. Adding high frequencies gives brilliance to your sound. High frequency feedback can be removed by decreasing treble.
The centre position gives you a flat response.

6. Bass control
Adjust as per your taste. In reverberant rooms intelligibility can be increased by decreasing bass.
The centre position gives you a flat response.

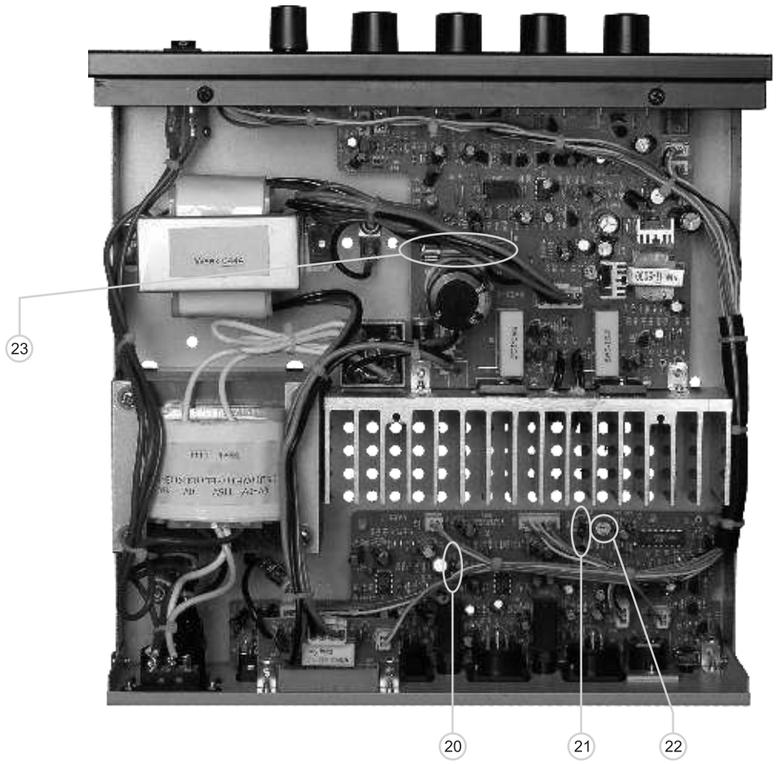
MIXING AMPLIFIERS

SAFETY INFORMATION

- Read all documentation before operating your equipment. Retain all documentation for future reference.
- Save the carton and packing material even if the equipment has arrived in good condition. Should you ever need to ship the unit, use only the original factory packing.
- Do not spill water or other liquids into or on the unit.
- Make sure power outlets conform to the power requirements listed on the back of the unit.
- Do not use the unit if the electrical power cord is frayed or broken.
- Always operate the unit with the AC ground wire connected to the electrical system ground.
- Have gain controls on amplifiers turned down during power-up to prevent speaker damage if there are high signal levels at the inputs.
- Do not connect the inputs / outputs of amplifiers or consoles to any other voltage source, such as a battery, mains source, or power supply, regardless of whether the amplifier or console is turned on or off.
- Power down & disconnect units from mains voltage before making connections.
- Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.
- Do not block fan intake or exhaust ports. Do not operate equipment on a surface or in an environment which may distort the normal flow of air around the unit. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically "blown free" of dust.
- Do not remove the cover. Removing the cover will expose you to potentially dangerous voltages.
- Do not drive the inputs with a signal level greater than that required to drive equipment to full output.
- Do not run the output of any amplifier back into another input.
- Do not ground the red output terminal, never connect a red output terminal to another red output terminal.
- In case of mal-function this device should be serviced by qualified service personnel only.

CAUTION

TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER OR BACK
NO USER-SERVICEABLE PARTS INSIDE
SERVICING ONLY FOR QUALIFIED PERSONNEL



Inside settings should only be done by persons familiar to electrical equipment!

MA65 INSIDE CONTROLS

20. Phantom on/off jumper
The **MA65** has been shipped with this jumper in the OFF position. When you set this jumper to the ON position, phantom power will be supplied to all microphone inputs, so you can use condenser microphones.
In this case ***NO*** unbalanced jacks should be used! Phantom power does not damage dynamic microphones.

21. Vox mute on/off jumper
The **MA65** has been shipped with this jumper in the OFF position. When you set this jumper to the ON position, vox muting will be activated on input 1.
This voice activated mute overrides the hard mutes activated by mute contacts. In this way a two level mute is available. The level at which vox muting starts is to be set by internal attenuator **22**.

22. Vox sense level
With this attenuator you set the audio level at which vox muting starts for microphone 1.
This is only possible when the vox on/off jumper is set to the ON position. You need to set this level, otherwise background noise or a noise picked up by your microphone cable might already activate the vox mute.

23. Power supply fuse
When this fuse blows, replace it by the same type.
When this happens frequently, contact your nearest dealer.

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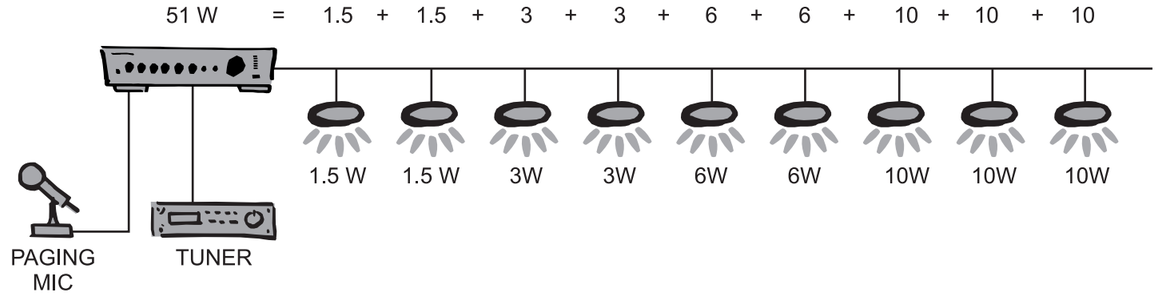
How to deal with 100V loudspeaker systems



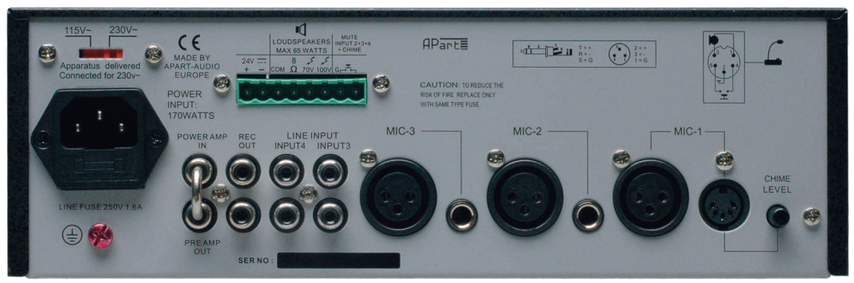
In fact working with 100V loudspeakers is rather simple, when done in the right way.
Each 100V loudspeaker has a 100V transformer which can be set to a certain power, for example: 1,5 3 ,6 or 10W. As the example shows, the sum of all loudspeaker settings should never exceed the amplifier's power specifications.
Never use low impedance (= 8 ohm) loudspeakers on a 100Volt system, even not one.

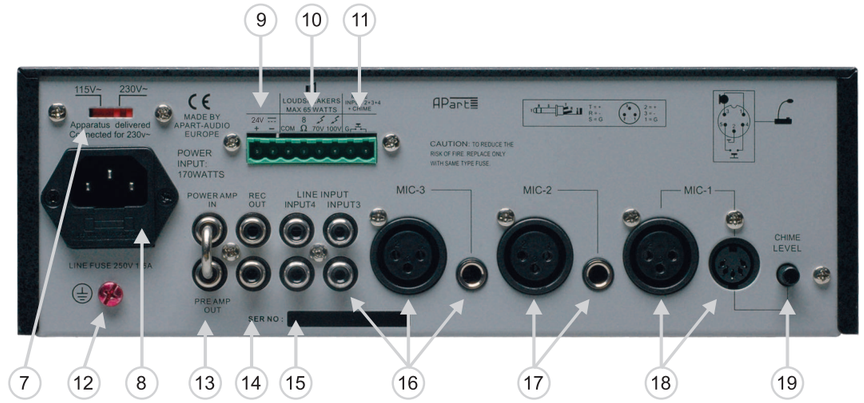
More technically: When your paging amp has a maximum output of 65 watts at 100V, this means that the minimum impedance connected should be at least 153 ohm (100x100/65).
To check your loudspeaker lines use a decent **impedance** checker (example AP WM100).

Now you are ready to get the best result on distributing your music and messages to your audience.
Your little giant is like a Swiss knife which will astonish you and many others!

Technical specifications

InputMIC1 (Front / Rear)	Bal. Jack / Bal XLR - DIN5 (2mV)
MIC2	Bal. Jack - XLR (2mV)
MIC3/LINE3	Bal. Jack - XLR (2mV) / RCA Cinch (250 mV)
LINE4	RCA Cinch (250 mV)
Power amp in	RCA Cinch (1V)
Output Power RMS	65 watt
Rated-Program	
Speaker outputs	8 Ohm, 70 - 100 Volt (Euroblock)
Pre amp out	RCA Cinch (1V)
Record out	RCA Cinch (650 mV)
Chime	Yes (ding-dong) via contact closure (Euroblock)
Priority system	2-step priority mute system (VOX / contact closure)
Limiter	Dynamic-slow @ -3 dB, defeatable via internal jumper.
Frequency Range	60 Hz - 18 kHz
S/N Ratio	-67dB (mic open), -77dB (all at zero)
Distortion	< 0.5%
Power supply	24V DC (Euroblock)- 230V AC
Dimensions (H x W x D)	88 x 272 x 286 mm
Weight	5.9 Kg





REAR PANEL

7. Voltage selector
Set the local voltage. If any doubt, contact your dealer. The unit is shipped with the selector set to 230VAC.
8. Mains socket
The unit can be connected to the mains circuit by a standard IEC type power cord. This socket contains a 1,6AT, slow blow fuse. Use a screw driver to flip out the fuse compartment and to replace it by the same type. When this fuse blows frequently you should bring the MA65 to a qualified service centre. First check whether you didn't use a quick-blow fuse!
9. DC power inlet
The MA65 can be fed from any 24VDC power supply such as your batteries.
14VDC.
10. Speaker output (max. 65 watts)
For low impedance use COM and 8 Ω. Keep impedance above 8 Ω.
For 70 or 100V speaker lines use COM and 70 or 100V terminals. Don't mix the types of speaker connections. Only one at the time should be used. For 100V operation, the minimum impedance has to be 153 Ω. For 70V operation the minimum impedance should be 75 Ω.
11. Mute control terminals
By shorting this terminals the signals coming from inputs 3 and 4 will be muted and the chime will be activated, if the chime level has been turned on (see 19).
12. Ground terminal
By connecting external equipment to your MA65, hum noise might occur. Connecting this terminal to the functional terminal of the other equipment may reduce this noise. A more common solution to get rid of buzz (ground loops) is to use a ground-loop isolator in the signal path.
13. Pre amp in / out
You can send the signal of the preamplifier to an external device such as an equalizer (APart PXQ2215) or limiter and feed the treated signal back into the amplifier via the poweramp input. When you don't use this feature, the RCA bridge should be placed.
14. Rec out
When you need a copy of the contents you page, you can connect this output to any recording device such as tape decks, MD recorders, VHS recorders, etc….You can also use this output to feed an extra amplifier. When you connect your MA65 pre amp out or record out to a microphone input of another mixing amplifier, this input will have signal overload and the sound will be masked. In this case you should use a DI-box or other signal levelling device. Never connect this output to an amplifier loudspeaker output!
15. Line 4 input
Here you can connect any line level stereo device such as tuners, CD players, MD players, etc….
16. Line 3 / Mic 3 input
Use only one of these parallel wired inputs at the time! For line levels see 15. To the XLR3 balanced input you can connect any microphone using a balanced, two wire shielded, cable. (1=earth / 2 =hot / 3=cold). For using condenser microphones see 20.
17. Mic 2 XLR / JACK
Use only one of these parallel wired balanced inputs at the time! See wiring diagram at the back. You can use an unbalanced microphone on the Jack input. WARNING! When you have activated the phantom power you should NOT branch any unbalanced jack!
18. Mic 1 XLR / DIN5
Use only one of these parallel wired balanced inputs at the time! See wiring diagram at the back. These two inputs have been wired in parallel with the balanced jack input at the front. When you use the APart MICPAT or MICPACB paging microphones, connected directly to the DIN5 input, the signals fed into input 3 and 4 are muted automatically while paging. To use VOX MUTE see 21.
19. Chime level
When you use the mute/chime contacts of the DIN5 connector or the mute contacts described in item 11, the level of the chime can be set with this attenuator. When you turn him completely counterclockwise NO chime shall be heard.