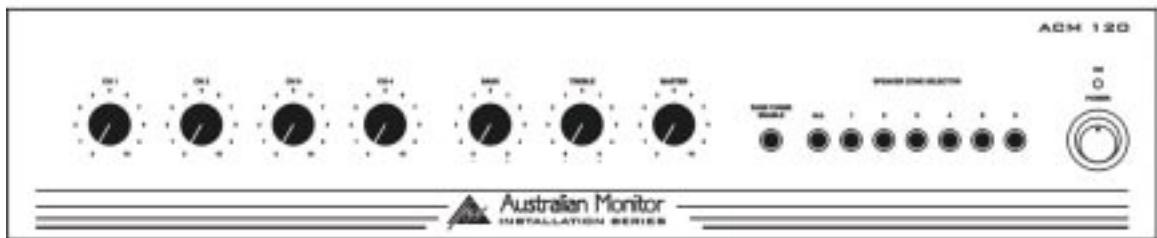




**ACM60, 60w Mixer Amplifier  
&  
ACM120, 120w Mixer Amplifier**



**Operating Manual**

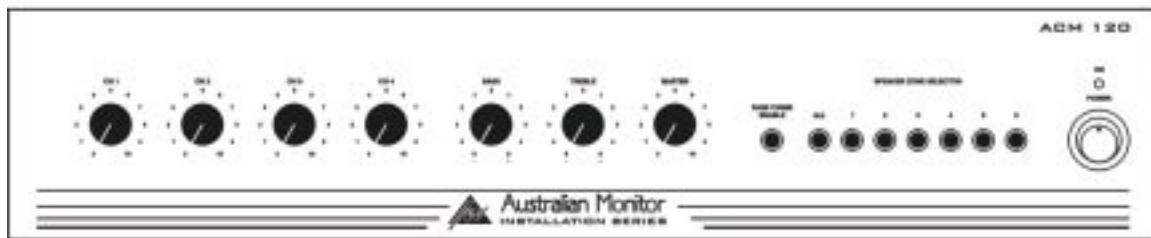
# **ACM60, 60w Mixer Amplifier**

**&**

# **ACM120, 120w Mixer Amplifier**

## **Product Description**

The ACM60 and ACM120 mixer amplifiers are designed for commercial installations. Both models operate on 230/240 VAC, 50Hz (or 115 VAC, 60Hz with factory modification) and may be desk or rack mounted (rack mount kit supplied fitted). Both amplifiers incorporate a 6 zone 100 volt line speaker zone selector with all call. The ACM60 will deliver 60 watts into a load of 8 ohms, 70 or 100 volt line. The ACM120 will deliver 120 watts into a load of 4 or 8 ohms, 70 or 100 volt line. As standard, both models are self standing and come with rubber feet. They may be stacked to a maximum of four units high.



## **Front Panel Features**

(ACM120 shown. The ACM60 has identical front panel features)

### **Microphone/Line Level Controls**

The 4 dual mic/line input controls are labelled Ch 1 through to Ch 4 and should be adjusted to provide the required level mix for each individual channel. Start with the controls set to level 0 and turn the controls clockwise until the desired mix level for each channel is reached.

### **Bass Control**

Setting this control in the centre position will give an overall flat bass response. Adjusting the bass control in a clockwise direction will provide up to 12 dB of bass boost @ 100 Hz. Adjusting the bass control in a counter-clockwise direction will provide up to -12 dB of bass cut @ 100 Hz. It is recommended to start with the bass control at the centre (0) position and adjust if necessary.

### **Treble Control**

Setting this control in the centre position will give an overall flat treble response. Adjusting the treble control in a clockwise direction will provide up to 9 dB of treble boost @ 10kHz. Adjusting the treble control in a counter-clockwise direction will provide up to -9 dB of treble cut @ 10 kHz. It is recommended to start with the treble control at the centre (0) position and adjust if necessary.

### **Master Output Control**

The master level pot controls the overall output level of the amplifier depending on the levels set for the individual input channels as detailed above. Start with the control set to level 0 and turn clockwise until the desired output level of the amplifier is reached.

### **Page Chime Enable Button**

This allows the user to disable or enable the Pre-Announce Chime. This switch does not however activate the chime. Activation is accomplished via the rear panel barrier strip (normally wired to a paging microphone). If the pre-announce chime is connected to a paging microphone (meaning that it would be activated by the switch on the microphone), the Page Chime Enable switch on the front panel of the amplifier allows the user to disable the chime function for those occasions when it is not wanted.

## All Call Button

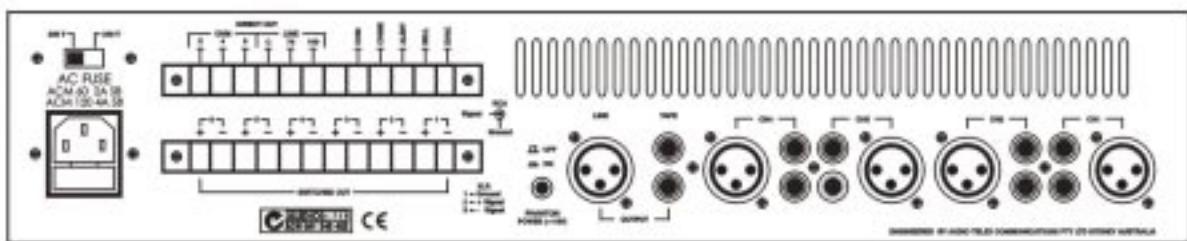
When pressed, the All Call button will connect the 100 volt output of the amplifier to all 6 of the switched outputs (if connected). Depressing this button again will disconnect the switched outputs. This switch is “push on-push off” and is non-interlocking.

## Speaker (Zone) Selector Switches

These 6 black buttons are for switching the 100 volt output of the amplifier to any combination of the 6 available speaker zones. The switches are “push on-push off” and are non-interlocking (both with each other and with the all-call button). The maximum capacity of each speaker zone is 60 watts so care should be taken to ensure that no individual zone is loaded down with any more than 60 watts, always remembering that the total load for the ACM60 is 60 watts and for the ACM120, 120 watts in total. Eg; It is possible on the ACM120, for example, to safely have one zone loaded with 60 watts and the remaining five loaded with 12 watts each.

## Power Switch

This switch controls the switching of AC power to the amplifier. Rocking this switch upwards turns on AC power to the amplifier while rocking the switch downwards turns power off to the amplifier. A blue LED above the switch will indicate whether the amplifier is switched on or off.



## Rear Panel Features

(ACM120 shown. The ACM60 has identical rear panel features)

### 230V/240V Slide Switch

The operating voltage of the amplifier is user selectable between 230V and 240V via a slide switch located on the top left side of the rear panel. This switch should be set to match the AC voltage of your country.

### AC Power Inlet

The 3 pin IEC power inlet is located on the bottom left of the rear panel and accepts a standard mains power lead fitted with an IEC connector. Before plugging in a power lead, please check the rear panel of the amplifier to ensure that the voltage switch is set correctly for your part of the world.

The operating voltage is 230/240 VAC @ 50 Hz or 115 VAC @ 60 Hz with factory modification. The inlet is equipped with an inbuilt AC fuse holder fitted with a 4 amp fuse (ACM120) or a 2 amp fuse (ACM60) plus a spare within the holder. Power consumption is 125 watts for the ACM60 and 250 watts the ACM120.

---- Please ensure that the mains power cord is disconnected before attempting to check or replace this fuse----

### Speaker Output Terminal Strip

The screw terminals on the left hand side of the strip allow access to the direct speaker outputs of the amplifier. The screw terminals on the right hand side are for activation of the in-built 4 tone generator. Reading from left to right the terminals are:

**Low Impedance Common** (use with 4 or 8 ohms)

**4 Ohms** (not available on ACM60)

**8 Ohms**

**Constant Voltage Common** (use with 70v or 100v)

**70 Volt Line**

**100 Volt Line**

**Spare**

**Tone Generator Common** (use with one of the 4 tones listed below)

**Pre-Announce Chime**

**Alert Tone**

**Bell Chime**

**Evacuation Tone**

**Note:** The minimum impedance (or maximum load) at 100 volt line should be no less than 80 Ohms for the ACM120 and no less than 160 Ohms for the ACM60.

## **Speaker (Zone) Output Terminal Strip**

Reading from left to right, these screw terminal pairs correspond to the switched 100 volt line outputs and are numbered 6 through 1 as indicated on the front panel of the amplifier. For each pair, the left hand terminal is the 100 volt output and the right hand terminal is the common.

## **Phantom Power Button**

This button enables or disables the 18 volts DC phantom power which is available on all microphone inputs (XLR's). The "in" position indicates that phantom power is on for all mics. The "out" position means that phantom power is switched off for all mics. Phantom power is required for electret condenser microphones which require DC power to operate. While some of these microphones can operate from an internal battery, having phantom power available on the amplifier eliminates the need to regularly change batteries in the microphone. While phantom power is not required for the more common Dynamic microphones, it will not damage them providing that they are balanced. Do not plug an unbalanced microphone in to any amplifier or mixer when phantom power is switched on.

## **Line Output**

The balanced XLR line level output provides a maximum of 700mV to allow for connection to up to 6 power amplifiers. Simply run a balanced cable from the line out of the ACM60 or ACM120 to the line input of the power amplifier. Pin connections are: **pin #1**-earth; **pin #2**-signal (high, +); **pin #3**-signal (low, -).

## **Tape Output**

Dual RCA output connectors provide a line level output with a maximum of 350mV into 10K Ohms which is ideal for connection to most standard tape recorders. This output is sourced before the master gain control and as such, the tape output level is not influenced by the operation of the master gain control.

## **Microphone Inputs**

All four inputs are dual mic/line with microphone inputs being via a 3 pin XLR connector per channel. The mic input sensitivity is 1mV @ 200 ohms. Pin connections are: **pin #1**-earth; **pin #2**-signal (high, +); **pin #3**-signal (low, -). Phantom power of +18 volts is available on all microphone inputs. Reading from left to right across the rear panel, the inputs are 4, 3, 2, & 1.

## **Line Inputs**

All four inputs are dual mic/line with line/auxiliary inputs being via dual RCA connectors per channel. Line inputs 1, 2 & 3 have an input sensitivity of 75mV @ 47K ohms. Input 4 has an input sensitivity of 300mV @ 47K ohms making it suitable for high level inputs such as a CD player. Reading from left to right across the rear panel, the inputs are 4, 3, 2, & 1.

## Other Features

### Tone Generators

Four separate tones are available from the in-built tone generator board. All four tones can be activated individually via a contact closure connected to the screw terminals on the rear of the amplifier. To activate the bell chime for example, just run a pair of wires from the Tone generator common and the Bell terminal to an external switch. Activating the switch, or closing the pair of wires, will activate the bell. When any tone is activated, all inputs (except for inputs one and two) will automatically mute. To adjust the level of the tone generator, disconnect the power lead, remove the amplifier lid and locate the pot labeled R6. (located behind the Bass adjustment pot). This pot adjusts the level for all 4 tones.

#### Tones available on the ACM60 and ACM120 include:

- Evacuation Tone (to Australian Standard AS2220.1.2)
- Alert Tone (to Australian Standard AS2220.1.2)
- Bell Tone
- Pre-Announce Chime

### Muting

A VOX muting card is installed in the ACM60 and ACM120. This feature provides automatic muting of some channels when others are active. It is normally used so that a paging microphone can have priority (by muting) over background music. VOX muting is available from channels 1 and 2 meaning that any signal on channels 1 and 2 (mic or line) will mute channels 3 & 4. The muted channels will automatically ramp back up to normal volume when the signal on channels 1 and/or 2 is no longer active. The amplifier ships with the VOX muting function enabled. To disable the VOX muting, disconnect the mains power lead and remove the lid of the amplifier. Looking down from the front of the amplifier, a three position jumper (labeled JP2) is located just to the left and behind the level pot for channel 1. To disable VOX muting, move the jumper to the middle and left pins. (Factory setting is with VOX enabled with the jumper on the middle and right pins).

### Fuse Sizes

Mains ACM60, 240 VAC: 2 Amperes Slow Blow

Mains ACM120, 240 VAC: 4 Amperes Slow Blow

### Notes

The DC fuse is located on the circuit board. This is a feature of the ACM series amplifiers, which are equipped with a current limiting circuit preventing excessive DC currents, thus eliminating the risk of blowing high tension fuses. In the unlikely event that the DC fuse actuates, the output transistors should be checked, as it is probable that the amplifier has been subjected to very extreme conditions.

# Important Safety Information

1. **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.
2. **Read all documentation before operating your equipment.** Retain all documentation for future reference.
3. **Follow all instructions** printed on unit chassis for proper operation.
4. **Do not spill water or other liquids into or on the unit,** or operate the unit while standing in liquid.
5. **Make sure power outlets conform to the power requirements** listed on the back of the unit.
6. **Do not use the unit if the electrical power cord is frayed or broken.** The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
7. **Always operate the unit with the AC ground wire connected** to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.
8. **Mains voltage must be correct and the same as that printed on the rear of the unit.** Damage caused by connection to improper AC voltage is not covered by any warranty.
9. **Have gain controls on amplifiers turned down during power-up** to prevent speaker damage if there are high signal levels at the inputs.
10. **Power down & disconnect units from mains voltage before making connections.**
11. **Never hold a power switch in the "ON" position if it won't stay there itself!**
12. **Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.**
13. **Do not block fan intake or exhaust ports.** Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, weathersheet, carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically "blown free" of foreign matter.
14. **Do not remove the cover.** Removing the cover will expose you to potentially dangerous voltages. There are no user serviceable parts inside.
15. **Do not drive the inputs with a signal level greater than that required to drive equipment to full output.**
16. **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.
17. **Do not run the output of any amplifier channel back into another channel's input. Do not parallel- or series-connect an amplifier output with any other amplifier output.**
- Audio Telex Communications Pty Ltd is not responsible for damage to loudspeakers for any reason.*
18. **Do not ground any red ("hot") terminal.** Never connect a "hot" (red) output to ground or to another "hot" (red) output!
19. **Non-use periods.** The power cord of equipment should be unplugged from the outlet when left unused for a long period of time.
20. **Service Information** Equipment should be serviced by qualified service personnel when:
  - A. The power supply cord or the plug has been damaged.
  - B. Objects have fallen, or liquid has been spilled into the equipment
  - C. The equipment has been exposed to rain
  - D. The equipment does not appear to operate normally, or exhibits a marked change in performance
  - E. The equipment has been dropped, or the enclosure damaged.



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