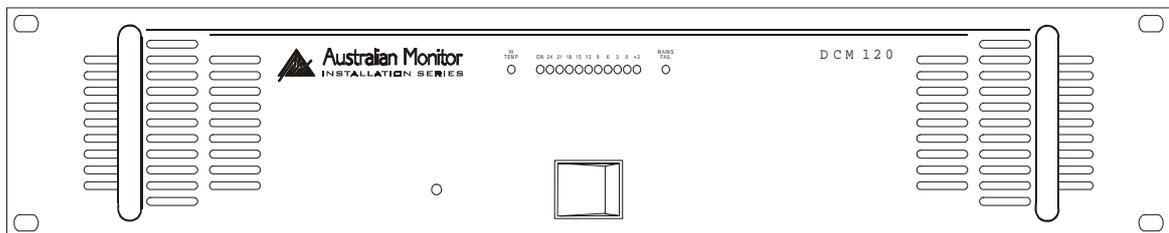




# DCM120

## 120w Power Amplifier

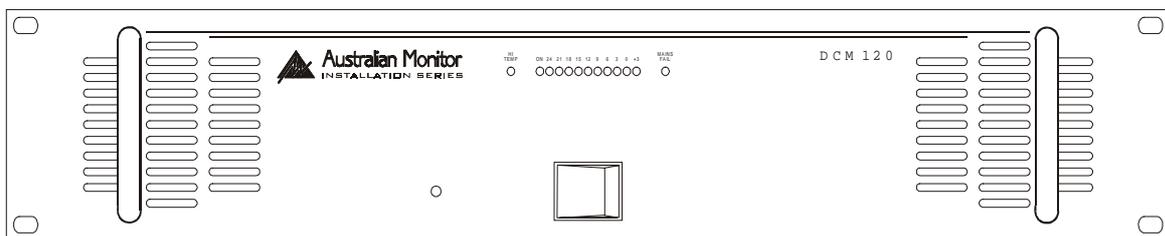


# Operating Manual

# DCM120, 120 Watt Power Amplifier

## Product Description

The DCM120 is a 120 watt power amplifier designed for commercial installations. It can be used for either low impedance (4 or 8 ohm) or 70v/100v line speaker systems. The amplifier can be mounted in a standard 19" equipment rack or it can be used on a shelf or table. The DCM120 features a line level input (with parallel output) and is normally used with mixers, mixer amplifiers or other power amplifiers. The DCM120 will operate from 230/240 VAC @ 50 Hz (115 VAC @ 60 Hz with factory modification) or 24 VDC and will meet its full performance specification on either voltage supply. The DCM120 also features a DC battery trickle charge facility, auto-sensing fan cooling, plus overload, short circuit and over temperature protection.



## Front Panel Features

### Power Switch

The rocker switch located in the front centre of the panel turns AC power on to the DCM120. Rocking the power switch to the right to turns the AC power 'on'. When the AC power is 'on', a blue LED will glow. Please note that this switch does not switch DC voltage. If a DC voltage supply is connected to the DCM120, the amplifier will operate as soon as the connection is made, regardless of the position of the AC power switch. If both an AC and DC voltage supply are connected and you rock the AC power switch to the 'off' position, the DCM120 will automatically continue to operate normally from the DC supply (and the 'mains failure' LED will also glow under these conditions).

### Level Control

The output level control is located in the centre of the front panel, just to the left of the mains rocker switch (recessed screwdriver adjustable pot). Turning the control clockwise will increase the output of the DCM120 towards its maximum output level while turning the control counter-clockwise will decrease the output level. Adjust this control for the desired output level depending on the level of the input signal (from a mixer or other signal source). The factory default setting for this control is such that a 1 volt input will give a 100 volt output.

### Amplifier Status Display

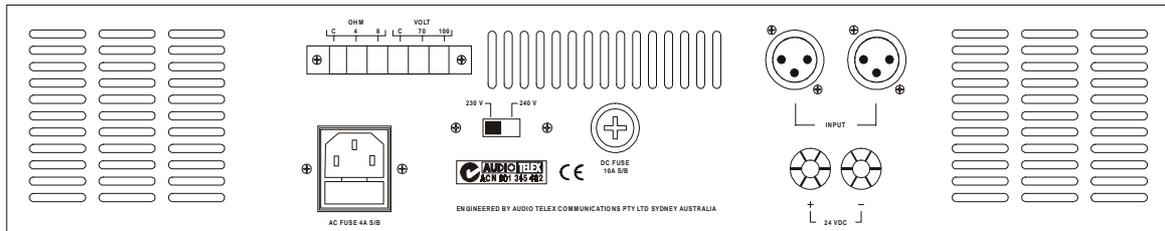
The amplifier status display highlights the operating condition of the DCM120. The status display indicates:

**High Temperature:** This red LED glows if the fan has failed and the amplifier has been shut down by its temperature control circuitry. If this LED is glowing and the fans have not failed, it means that the amplifier is operating in an ambient environment that is too hot for fan cooling to make any difference to the temperature of the amplifier.

**Power:** This LED glows blue if AC power is switched on to the DCM120. Note that this LED does not indicate the presence of a DC supply voltage.

**Mains Failure:** The LED glows red if there is a failure in the AC mains power supply. However, this LED will only glow if there is a DC supply voltage present. If no DC supply voltage is present then this LED will not glow.

**Output Level VU Meter:** A 10 segment LED VU meter is provided to give an indication of the output signal level of the amplifier from -25 to +3 dB. During normal operation, the LED's will oscillate with changes in the program signal. Care should be taken to avoid more than occasional illumination of the red LED's. If the LED's in the red zone are lit continually, then the output level control (or the level of the input signal to the DCM120) should be adjusted to reduce the output level. Too much output level can cause distortion, activate the internal limiter or possibly damage the connected speaker system.



## Rear Panel Features

### 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 label shows the correct AC operating voltage for your part of the world.

The inlet is equipped with an in-built AC fuse holder fitted with a 4 Amp slow blow fuse plus a spare fuse. **Please ensure that the mains power cord is disconnected before attempting to check or replace this fuse.** Power consumption is 300 VA (max).

### Speaker Output Terminal Strip

Located on the top left of the rear panel is the speaker output terminal strip. Reading from left to right, the connections are:

- COM** Common or “-” for low impedance speaker loads (4 or 8 ohms).
- 4** The “+” for 4 ohm speaker loads (use with common)
- 8** The “+” for 8 ohm speaker loads (use with common)
  
- COM** Common or “-” for 70v or 100v speaker loads (maximum load of 80 ohms at 100v)
- 70** The “+” for 70v line speaker loads (use with common)
- 100** The “+” for 100v line speaker loads (use with common)

Please ensure that the correct “Common” is used. Low impedance and 70/100v loads can be used simultaneously but please pay careful attention to the overall speaker load. When used individually, the low impedance load should be 4 ohms or higher while the 100v line load should not fall below 80 ohms. When both outputs are used simultaneously, ensure that neither output is loaded to maximum.

### 24 Volt Power

Located on the rear panel are the red and black connection posts for 24v power. This feature can be used as either a back-up facility (if mains power fails) or for applications where AC power is not available. The left side red post is the + (positive) terminal while the right side black post is the - (negative) terminal. The DC current drain is 8 Amps maximum at full power. This socket also provides trickle charge to a DC battery supply (if connected) when the DCM120 is operated from AC mains power. The level of trickle charge is 300 mA, maximum.

## **XLR Audio Input and Parallel Output**

The input to the DCM120 is transformer balanced @ 10K ohms. When signal is connected to one XLR, the other XLR becomes a line level output allowing the input signal to be distributed (split) to other amplifiers. In some projects, the same input may be looped through to multiple amplifiers using this method. Up to 6 amplifiers can be looped together without any noticeable loss in level. A distribution amplifier should be used when more than 6 amplifiers need to be looped.

The XLR's are wired as follows: **Pin 1:** Shield. **Pin 2:** Hot, +, Positive. **Pin 3:** Cold, -, Negative

## **DC Fuse Receptacle**

Located on the rear panel is the DC fuse receptacle. Access the DC fuse by turning the cap counter-clockwise with a screwdriver. The value of the fuse is 10 Amps. **Please ensure that the AC power switch is in the 'off' position and that the mains power cord is disconnected before attempting to check or replace this fuse**

## **Cooling Fan (Air Intake)**

The cooling fan is temperature sensitive and will only switch on when the temperature of the DCM120 had reached a pre-determined range. The fan will stay on and only switch off again once the temperature of the DCM120 has fallen below a pre-determined level. If the DCM120 is operating continually at conservative levels and proper load conditions, it is possible that the cooling fan will not switch on at any time during normal operation. When operating, the fan works with air flow from the front to the rear of the DCM120.

## **Fuse Sizes**

Mains, 240VAC: 4 Amperes Slow Blow.

# 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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