



### New GENERATION Integrated Amp. **M SERIES - 1**

- New all silver front panel with **red** indicator lights
- New chassis and cover with increased ventilation
- High quality Mains inlet filter
- Full functional System remote control (*Silver Colour*)
- 20% higher output power (*85 Watts/Channel into 8Ω, 120 W/Ch into 4Ω*)
- Dedicated output protection board with high current relays
- Five line inputs plus tape input and output
- Manual input selector
- Tape monitor function
- Manual standby function
- Input and status indicator
- Motorised volume control with LED position indicator
- -20dB mute function
- 2 pre-amplifier outputs
- Power amplifier input (***requires internal work for activation***)
- 350VA ultra low noise, low leakage Toroidal transformer
- Short circuit protection
- Power supply failure detection
- Pre power-up diagnostic check
- Gold plated input RCA connectors and speaker binding posts



## ADDITIONAL INFORMATION



The new **GENERATION** Caspian Integrated Amplifier benefits from a **split power supply** module based on the world acclaimed **M SERIES** Mono amps. The front stage, with low noise transistors and high current drivers, is now isolated from the output stage. Thanks to this module, the new **GENERATION** Caspian Integrated, provides better control over the loudspeakers with far lower distortion. Precise timing, enhanced clear sound staging and amazing portrayal of detail has redefined the performance of this world wide acclaimed amplifier. With this new upgrade the new **GENERATION** Caspian **M SERIES- 1** integrated amplifier has set a new standard in its class.

## SPECIFICATIONS

## M SERIES - 1 Integrated Amplifier

<b>Line Inputs</b>	5 plus Tape
<b>Input Impedance</b>	47 k $\Omega$
<b>Input Sensitivity (70W)</b>	Line 240mV
<b>Line Outputs</b>	Tape, Preamplifier (x2)
<b>Output Voltage</b>	240mV (Tape Out) 700mV (Pre Out)
<b>Power Outputs</b>	Loudspeaker, L & R
<b>Output Power</b>	85 Watts, into 8 $\Omega$ both channels driven 120 Watts, into 4 $\Omega$ both channels driven
<b>Power Supply</b>	350VA Ultra Low Noise Toroidal Transformer 4 Regulated Supply Rails 4 Isolated Supply Rails
<b>Current Output</b>	50 Amps Peak to Peak
<b>Damping Factor</b>	>140 (8 $\Omega$ )
<b>Frequency response</b>	-3dB, <1Hz – 90kHz
<b>Gain</b>	40dB Overall (Pre & Power) 9.3dB Preamplifier 30.7dB Power Amplifier
<b>Harmonic Distortion</b>	0.002% 1kHz, 0.015% 20kHz 10W - 8 $\Omega$ 0.0025% 1kHz, 0.03% 20kHz 50W - 8 $\Omega$
<b>Signal to Noise Ratio</b>	Line 108dBa (ref. 500mV) 85dBa (ref. 1W, 8 $\Omega$ )
<b>Power Source</b>	100V – 120V 50Hz / 60Hz 220V – 240V 50Hz / 60Hz (via Mains inlet filter)
<b>Power Consumption</b>	< 230 W
<b>Dimension</b>	432 x 330 x 70 (W x D x H) mm 432 x 330 x 80 (including feet)
<b>Weight</b>	12 Kg



## Function of an Amplifier

- To utilise the power supply and copy the input signal much greater in amplitude
- To control the loudspeaker and make it do exactly as it is told

Circuit design, choice of components, PCB lay-out, power supply, chassis ..... all have profound influence on the amplifier's ability to copy the signal faithfully. Also to control the loudspeaker the amplifier should be able to drive the load presented by the *cross-over* and the *drive-units*. This is generally a reactive load and thus it would present phase shifts in loudspeakers requirements for current and voltage. This means that at different frequencies and impedances the loudspeaker may require the current well in advance of the voltage and vice versa. Below shows the ability of a typical Mseries integrated amplifier in providing power at different impedances and different phase angles:

Dynamic Power @	-60°	-30°	0°	+30°	+60°
8 Ohm	99	96	96	96	99
4 Ohm	155	150	148	149	158
2 Ohm	180	182	180	180	185
1 Ohm	92	94	95	90	91

As shown above a typical Mseries integrated amplifier's out put into +/- 60° phase angle is almost constant and stable down to 1 Ohm.



- Should be placed on good quality, non-resonant, level table or shelf
- Good quality interconnects should be used (Roksan HDC-02A recommended)
- All analogue interconnects should be twisted together where ever possible.
- Keep AC Mains cables together and away from signal cables
- Signal cables should not run along mains cables (cross them at 90° if required)
- Good quality Speaker cables should be used (Roksan HDC-02S recommended)
- Always bi-wire if possible and and run the cables along each other; avoid coiling the cables