- Remote monitoring
- Fully integrated supervision
- Plug and play, minimal set up

The VA300+M amplifier is designed to provide reliable efficient service in critical life dependant alarm and voice broadcast applications (PA/GA). The unit is based upon a compact industry standard size Euro card module designed to plug in/out of a 6U high card cage. The VA300+M incorporates an integral supervisory package, which silently and automatically monitors amplifier and the associated loudspeaker line insulation with respect to earth.

The VA300+M front panel carries on LED diagnostic display with a ten digit line output volt meter and robust alloy handle to facilitate rapid withdrawal of the complete assembly and exchange with absolute minimum of down time. Surface mount manufacturing ensures consistent performance, obviates troublesome wiring looms, multiple printed circuit cards and shrinks the entire power amplifier module/supervisory to a single multi function motherboard.

Unique Vari-mode output stage configuration eliminates EMC emissions and critical loading requirements associated with pure Class D amplification, whilst maintaining extremely high efficiencies during emergency broadcast request. Amplifier frequency response bandwidth extends to 25 kHz thereby enabling automatic amplifier/line checking at inaudible ultrasonic frequencies. The VA300+M amplifier is fully electronically protected against open/short/any abnormal load or temperature condition with automatic reset (once the condition is resolved) and is almost totally indestructible.

Output to loudspeaker network(s) is standard 100 V line with 70 V line as an option. Due to the excellent power density/printed circuit card board area ratio the units are fitted to shallow depth low profile 19 inch racking thereby saving considerable weight and floor space.

The VA300+M amplifier incorporates automatic supervision for up to eight separate loudspeaker networks. Each line is equipped with PSC VODEC intelligent end of line supervisory device type PAS88 or EOL**. No calibration is required other than simple switch selection of quantity of lines to be monitored e.g, 1 to 8. This obviates use of:

- Conventional current monitoring schemes, which provide very poor resolution
- DC supervisory systems that require blocking capacitors to be fitted inside each loudspeaker

Remote monitoring

The VA300+M is enhanced to capture and report detailed operational information in real-time and when connected to M Class infrastructure all this information is available to a remote server, which logs and displays data as required.

The remote monitoring features are robustly implemented and designed in such a way that it will not affect PA/GA critical functions in any way. Additionally the VA300+M is enhanced to store and report its unique serial number and other asset management data to further improve uptime and afford predictive maintenance.

The VA300+M offers an optional upgrade to include line impedance monitoring, which also reports through the M Class infrastructure to the remote server. This is a cost effective mechanism which compliments the existing end of line supervisory. The VA300+M is fully backward compatible with original P3 VA300+ amplifiers and may be used in non M Class systems.

Temperature monitoring and Protection monitoring

There is a thermal sensor fitted to each amplifier module which is arranged to conduct at temperatures exceeding about 90 °C. The temperature sensor illuminates the red temperature LED on the front panel of the amplifier. In addition the fans are activated. The temperature sensor has no effect on the operation of the amplifier.

Protection

The amplifier is fitted with comprehensive thermal protection which ensures that the amplifier can never be damaged through high ambient temperature. The point at which the protection is applied is dependent on a number of variables:

- Load on the amplifier
- Signal level into the amplifier
- Type of signal applied to the amplifier
- Rail voltage on the amplifier
- Ambient temperature

Technical data

Supply input	DC 48 V unregulated
Consumption	350 mA Quiescent max. 8.5 A
Efficiency	better than 80 %
Input sensitivity	0 dBm (770 mV RMS)
Frequency response – 3dB points	150 Hz and 20 kHz
Distortion	better than 2 %
Regulation	better than 3 dB
Line output	100 (70) Volt line within 1 dB
Protection	V/I protection and temperature
Power output capability	325 W
Dimensions (width x height x depth)	50 mm x 262 mm x 174 mm (1.97 inch x 10.31 inch x 6.85 inch) (6 units)
Weight	2.5 kg (5.5 lbs)
Temperature range	0 °C to +50 °C (+32 °F to +122 °F)
Construction	anodised alloy front panel and chassis
Finish	natural alloy
Service location	safe area internal
Humidity	25 to 85 % non-condensing
Vibration	max. shock 1 g any direction
Standards	BS-EN 60945; BS-EN 61010-1; DNV Certified