



## **CBA 1G-500** **80 MHz TO 1 GHz 500 WATT** **CLASS A BROADBAND AMPLIFIER**



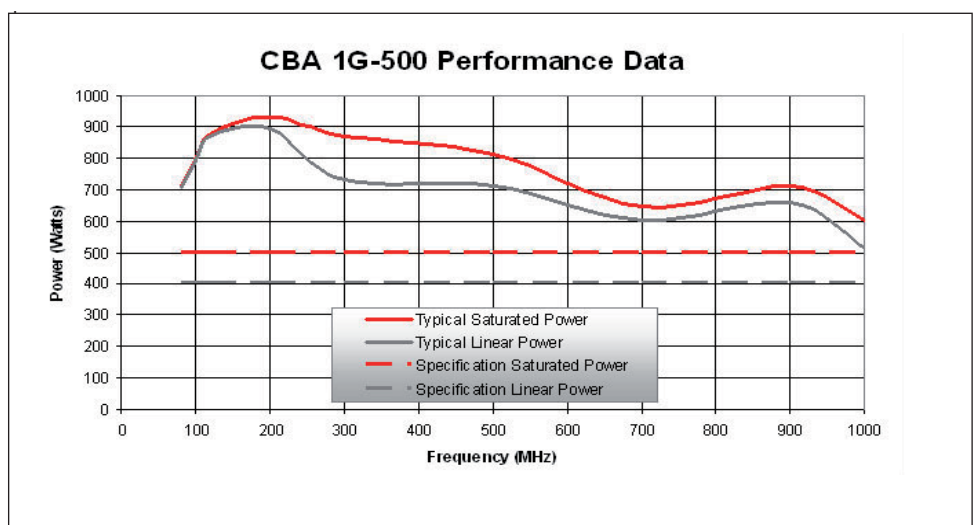
- **Class A linear and low distortion design**
- **High reliability gallium arsenide technology**
- **Mismatch tolerant and unconditionally stable**
- **Wide instantaneous bandwidth**

Designed specifically for radiated EMC testing, this mismatch tolerant Class A amplifier delivers power continuously into the very poor match typically associated with broadband EMC antennas when used at low frequency.

Since antennas typically exhibit their lowest gain at the lowest frequency, more power is required here than at the higher frequencies. Unlike other amplifiers designed for general purpose applications, this EMC specific amplifier maximises the linear power at the lowest frequency, making it ideal for use in this very specialised application.

The GaAs Class A design ensures a high reliability, low distortion linear performance across the frequency range. This design also ensures that the amplifier will continue to operate at full power even when presented with an open or short circuit at its output. The use of gallium arsenide technology represents a breakthrough in amplifier design for this frequency range and output power. Previous designs based on silicon technology suffer from relatively poor compression characteristics, low efficiency and sometimes poor reliability.

The unit is powered from a switched mode power supply for high efficiency, high power factor and wide voltage range operation. The unit is air-cooled with integral fans, and is protected against faulty cooling by excess temperature sensing. A safety interlock connector is provided, which the user can short circuit to ground, to put the amplifier into standby mode. Front panel indicators are provided to indicate over-temperature and rf interlock operation.





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## Technical specifications

Frequency range (instantaneous)	80 to 1000 MHz
Rated output power	500 W minimum (700 W typical 80 MHz to 500 MHz)
Output power at 1 dB gain compression	400 W minimum (600 W typical 80 MHz to 500 MHz) (500 W typical 80 MHz to 1 GHz)
Gain	58 dB
Third order intercept point (see note 1)	66 dBm
Gain variation with frequency	±3 dB
Harmonics at 400 W output	Better than -20 dBc
Output impedance	50 Ohms
Stability	Unconditional
Output VSWR tolerance (see note 2)	Infinite any phase
Input VSWR	2:1
RF connector style	Type N female
Safety interlock	BNC female, s/c to mute
USB interface	Optional
Supply voltage	170 to 264 Vac
(see options for three phase configuration)	
Supply frequency range	45 to 63 Hz
Supply power	<4 kVA
Mains connector	Appropriate IEC60309 plug (see options)
Conducted and radiated emissions	EN61326 Class A
Conducted and radiated immunity	EN61326: 1997 Table 1
Mains harmonic currents	EN61000-3-2
Voltage fluctuations and flicker	EN61000-3-3
Safety	EN61010-1
Case dimensions	19 inch, 25U rack, 800 mm deep
Mass	110 kg
Operating temperature range	0 to 40°C
Options (select at time of ordering)	
341-737	Three phase plus P.E. delta connection no neutral (4 pin plug), voltage range applies Line to Line
341-837	Three phase, neutral plus P.E. star connection (5 pin plug), voltage range applies Line to Neutral

## Notes:

1. The third order intercept point is a nominal value, as its calculation depends upon the power level at which distortion measurements are made.
2. Output VSWR tolerance is specified for excitation within the permitted levels and frequency range.