

# CLASS AB LINEAR AMPLIFIERS

## Series BHE



20-2500 MHz 250 Watts



100-500 MHz 100 Watts

- Frequency range 20 to 1000 MHz
- Power output 100 to 1500 W
- AB linear
- Wide bandwidth
- AM, FM, CW, pulse & phase modulated signal inputs
- Built-in test diagnostics
- Field-replaceable modules
- Graceful degradation
- High efficiency switching power supplies
- Standard 19" Rack Mount Configuration

Series BHE Amplifiers are arranged in a variety of configurations, depending on the output power requirements and frequency range.

The series BHE wide bandwidths are ideal for multi-octave, frequency-agile systems; Typical applications include:

- EW/ECM systems
- Communication systems
- AM/FM transmitter boosters
- TWT replacement
- RFI/EMI testing
- High power calibration testing

### LOAD VSWR PROTECTION:

Series BHE amplifiers provide load VSWR protection via an electronic power output turndown system employing negative feedback techniques. The system is self-correcting as a function of load VSWR to infinity, at any phase angle. The typical response time is 60  $\mu$ sec.

### INPUT/OUTPUT OVERDRIVE PROTECTION:

A leveling loop system protects the amplifiers from input overdrive signals of up to +8 dB. Under an overdrive condition, the output power is controlled at a level 2 to 10% above the rated output power at normal input level conditions. A power overshoot will be present at the beginning of the overdrive condition, which is a function of the amount of overdrive. Note that this characteristic can be used to obtain a 1 to 3 dB output (or more depending on model) power increase for narrow pulses with a low duty cycle.

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## ELECTRICAL

Class of Operation .....	AB Linear
RF Input Power.....	1mW (0dBm) for full output power
RF Input Signals .....	CW, AM, FM, Phase and Pulse Modulation
Harmonics:	
• B.W. <One Octave .....	-30dBc Max
• B.W. <One Octave	
• Even .....	-20dBc Max
• Odd .....	-12dBc
Spurious .....	-60dBc Max
Input VSWR.....	2.0:1 nominal
Output Load VSWR .....	1.3:1, full forward power output 2:1, 0.5dB turndown nominal infinite, 10dB turndown nominal (see plot on this page)
AM Distortion (85% D.O.M.) .....	10% Max
Pulse Rise/Fall Time (typical)	
• 1.5-30MHz Models.....	500ns
• > 20 MHz Models.....	150ns
Noise Power Output	-86dBm/Hz typical (model dependant)
Maximum RF Input .....	+8dBm
RF Connectors	
• Input .....	Female Type N, Rear Panel
• Output .....	Female Type N or SC, Rear Panel (model dependant)
Built-in Test (Models => 500 W)	
• Digital Meters .....	Relative Forward/Reflected Power, Module Status, Power Supply Current and Voltage
• Indicators.....	Power On, Thermal Overload, Fault Sense
• Protection.....	Load VSWR, Thermal Overload, Input Overdrive, Graceful Degradation, Over voltage, Under voltage, Over current
AC Input	
• 100 and 200 W Models .....	Power Factor Corrected Universal Input 100-240Vac, 50/60Hz
• 500 to 1500 W Models .....	Power Factor Corrected 208, 380 or 440VAC available, 50/60Hz, 3 Phase 5 wire (400Hz available)
Efficiency (AC to RF) .....	16% typical

## AVAILABLE OPTIONS

- Digital Interfaces available: ETHERNET, RS422, RS232, IEEE488
- Mechanical or Solid State Switched Filter Assemblies
- Forward/Reflecting Sample Ports
- Relaxed turndown into High Load VSWR available for some models
- AM Leveling Loop
- Noise Quieting
- Remote On/Off
- Other Primary Power (AC or DC)
- Rack Mounting Slides
- Custom Specifications



100-500 MHz 1100 Watts



20-500 MHz 200 Watts

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Model No.	Frequency (MHz)	Power Out (W)	KVA	Driver		Power Amp		Cabinet Height Power Supply		Combiner Filter		Total Height		Combined Weight (lbs) (kg)	
				(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)
BHE1637-100	1.5-30	100	1.3			5.22	13.26					5.22	13.26	40	18.19
BHE1637-200	1.5-30	200	1.8			5.22	13.26					5.22	13.26	40	18.19
BHE1637-500	1.5-30	500	2.5			8.72	22.15					8.72	22.15	80	36.36
BHE1637-1000	1.5-30	1000	3.7			8.72	22.15	5.22	13.26			13.94	35.4	165	75
BHE1637-1500	1.5-30	1500	7.5	12.22	31.04			8.72	22.15	12.22	31.04	33.16	84.23	237	107.5
BHE1858-100	100-500	100	1.3			5.22	13.26					5.22	13.26	40	18.19
BHE1858-250	100-500	250	3.3			5.22	13.26					5.22	13.26	40	18.19
BHE1858-500	100-500	500	3.75			8.72	22.15	5.22	13.26			13.94	35.4	185	84.1
BHE1858-1100	100-500	1100	6.8			12.22	31.04	8.72	22.15			20.94	53.19	237	107.5
BHE2718-100	20-100	100	1.7			5.22	13.26					5.22	13.26	40	18.19
BHE2718-200	20-100	200	3.3			5.22	13.26					5.22	13.26	40	18.19
BHE2718-500	20-100	500	3.5			8.72	22.15					8.72	22.15	80	36.36
BHE2718-1500	20-100	1500	8.8			12.22	31.04	8.72	22.15			20.94	53.19	237	107.5
BHE2728-1000	20-200	1000	6.6			8.72	22.15	8.72	22.15			17.44	44.3	237	107.5
BHE2758-100	20-500	100	1.7			5.22	13.26					5.22	13.26	40	18.19
BHE2758-200	20-500	200	2.6			5.22	13.26					5.22	13.26	40	18.19
BHE2758-500	20-500	500	3.5			8.72	22.15	5.22	13.26			13.94	35.4	180	81.82
BHE2758-800	20-500	800	6.5	8.72	22.15	12.22	31.04	8.72	22.15	8.72	22.15	38.38	97.49	400	181.82
BHE22748-100	225-400	100	0.7			5.22	13.26					5.22	13.26	40	18.19
BHE22748-200	225-400	200	2.6			5.22	13.26					5.22	13.26	40	18.19
BHE22748-500	225-400	500	3.2			12.22	31.04					12.22	31.04	110	50
BHE22748-1000	225-400	1000	7.5			12.22	31.04	8.72	22.15			20.94	53.19	237	107.5
BHE4819-100	400-1000	100	0.86			5.22	13.26					5.22	13.26	45	20.45
BHE4819-200	400-1000	200	2			5.22	13.26					5.22	13.26	55	25
BHE4819-500	400-1000	500	4.9			8.72	22.15	5.22	13.26			13.94	35.4	185	84.1
BHE4819-1000	400-1000	1000	7.5			12.22	31.04	8.72	22.15			20.94	53.19	237	107.5
BHC88148-100	850-1450	100	1.3			5.22	13.26					5.22	13.26	40	18.19

Specifications are subject to change without notice.