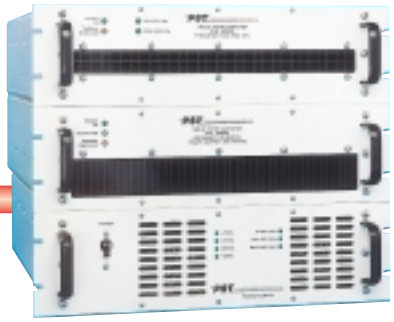
20-150 MHz 500 Watts

20-2500 MHz

200/300/50 Watts



Series BHE

DESCRIPTION:

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

FEATURES:

- Frequency range 1.5 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

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 µsec. The magnitude of turndown follows the curve shown in Fig. A. Page 10.

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.

10-1000 MHz 1 kW

Series BHE

ELECTRICAL

RF Input Power	1 mW (0 dBm nominal), for full power output
RF Input Signals	CW, FM, AM, pulse and phase modulation
Input Overdrive Projection	8 dB above nominal input power required for full power output.
Input VSWR	2:1 nominal
Output Load VSWR:	
• Series BHE	1.3:1, full forward power output; 2.0:1, -0.5 dB nominal
Harmonics:	
• <One Octave	-30 dBc
• >One Octave:	
• Even	-20 dBc (-25 dBc for BHE 4819, 5819)
• Odd	-12 dBc
Spurious Signals	-60 dBc
Class Operation	AB linear
Efficiency (AC to RF)	16% typical
AM Distortion (85% D.O.M.)	10% maximum
Pulse Rise/Fall Time (typical):	
• 1.5-30 MHz Models	500 nsec
• > 20 MHz Models	150 nsec
Noise Power Output	-86 dBm/Hz typ. (model dependant)
RF Input Connector	Type N, rear panel
RF Output Connector	Type N or SC, (model dependant) rear panel
Primary Power:	
• 100 and 200 W Models	115 or 220 VAC ±10%, 50/60 Hz
• 500 and 1000 W Models	208, 380 or 440 VAC, 50/60 Hz, 3-phase, 5 wire (single phase 220 VAC optional on certain models)
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, overvoltage, undervoltage, overcurrent

AVAILABLE OPTIONS

- Rack Mounting Slides
- Remote Turn-on/off
- Mechanical or Solid State Switched Filter Assemblies
- Noise Quieting (Look Through)
- AM Leveling Loop
- Sample Ports (Forward, Reflected)
- Other Primary Power (AC or DC)
- IEEE 488/RS232/RS422/RS485/Ethernet control and monitor interfaces
- Custom Configurations

Specifications are subject to change without notice.
For Environmental Specifications, see Page 18, Table 2.

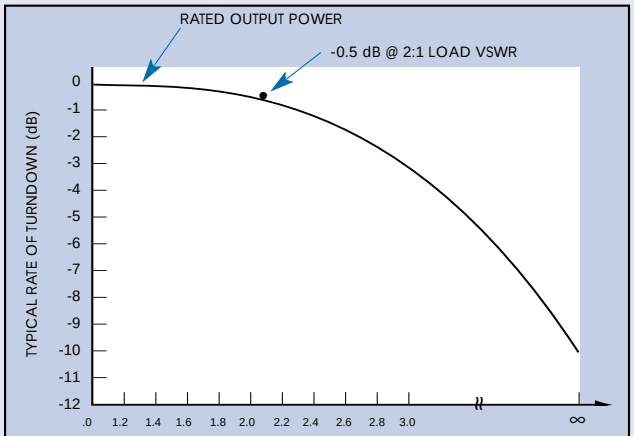


Fig. A AMPLIFIER LOAD VSWR

Series BHE

Model No.	Frequency Range (MHz)	Power Output (W)	Line Power (KVA)	Configuration/Cabinet Height						Total Height		Approx. Weight	
				Amplifier		Driver		Power Supply					
				(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)	(lbs)	(kg)
BHE1637-100	1.5 to 30	100	0.6	5.25	13.34	-	-	-	-	5.25	13.34	60	27
BHE1637-200		200	1.1	5.25	13.34	-	-	-	-	5.25	13.34	68	31
BHE1637-500		500	2.8	8.75	22.23	-	-	-	-	8.75	22.23	100	45
BHE1637-1500		1500	8.0	12.25	31.12	-	-	8.75	22.23	21	53.34	250	113
BHE2718-100	20 to 100	100	0.68	5.25	13.34	-	-	-	-	5.25	13.34	60	27
BHE2718-200		200	1.2	5.25	13.34	-	-	-	-	5.25	13.34	68	31
BHE2718-500		500	3.0	8.75	22.23	-	-	-	-	8.75	22.23	100	45
BHE2718-1500		1500	8.0	12.25	31.12	-	-	8.75	22.23	21	53.34	250	113
BHE2728-1000	20 to 200	1000	8.0	12.25	31.12	-	-	8.75	22.23	21	53.34	250	113
BHE3748-400	30 to 400	400	4.5	8.75	22.23	-	-	5.25	13.34	14	35.56	182	82
BHE3748-1000		1000	10.0	17.5	44.46	5.25	13.34	8.75	22.23	36.75	93.35	455	205
BHE2758-100	20 to 500	100	1.0	5.25	13.34	-	-	-	-	5.25	13.34	68	31
BHE2758-200		200	1.6	5.25	13.34	-	-	-	-	5.25	13.34	70	32
BHE2758-500		500	4.8	8.75	22.23	-	-	5.25	13.34	14	35.56	175	79
BHE2758-800		800	10.0	12.25	31.12	8.75	22.23	8.75	22.23	29.75	75.57	375	169
BHE1858-100	100 to 500	100	0.95	5.25	13.34	-	-	-	-	5.25	13.34	60	27
BHE1858-200		200	1.3	5.25	13.34	-	-	-	-	5.25	13.34	70	32
BHE1858-500		500	3.6	8.75	22.23	-	-	5.25	13.34	14	35.56	150	68
BHE1858-1000		1000	7.4	12.25	31.12	-	-	8.75	22.23	17.50	44.45	260	119
BHE2848-100	200 to 400	100	0.68	5.25	13.34	-	-	-	-	5.25	13.34	60	27
BHE2848-200		200	1.2	5.25	13.34	-	-	-	-	5.25	13.34	70	32
BHE2848-500		500	4.8	12.25	31.12	-	-	-	-	12.25	31.12	130	59
BHE2848-1000		1000	7.5	12.25	31.12	-	-	8.75	22.23	21	53.34	210	95
BHE22748-100	225 to 400	100	0.68	5.25	13.34	-	-	-	-	5.25	13.34	60	27
BHE22748-200		200	1.2	5.25	13.34	-	-	-	-	5.25	13.34	70	32
BHE22748-500		500	4.8	12.25	31.12	-	-	-	-	12.25	31.12	130	59
BHE22748-1000		1000	7.5	12.25	31.12	-	-	8.75	22.23	21	59.34	210	95
BHE4819-100	400 to 1000	100	1.2	5.25	13.34	-	-	-	-	5.25	13.34	50	23
BHE4819-200		200	2.0	5.25	13.34	-	-	-	-	5.25	13.34	70	32
BHE4819-500		500	4.6	8.75	22.23	-	-	5.25	13.34	14	35.56	165	75
BHE4819-1000		1000	8.5	12.25	31.12	-	-	8.75	22.23	21.0	53.34	-	-
BHE5819-100	500 to 1000	100	1.2	5.25	13.34	-	-	-	-	5.25	13.34	50	23
BHE5819-200		200	2.0	5.25	13.34	-	-	-	-	5.25	13.34	70	32
BHE5819-500		500	4.6	8.75	22.23	-	-	5.25	13.34	14	35.56	165	75

Specifications are subject to change without notice.