

1 GHz System Amplifiers 4PAC-S2 HGBT (High Gain Balanced Triple)



Replaces/Upgrades Cisco®/Scientific Atlanta® 550/625/750/870 MHz Systems

The 4PAC-S2 HGBT enhanced system amplifier module from Broadband International® is designed to drop into any existing SA II, III or GainMaker® system amplifier housing. The forward bandwidth is up to 1 GHz and may be optimized for any bandwidth from 550 to 1 GHz. This is accomplished by alignment of the interstage response network and by the type of cable equalizers utilized. Performance may be optimized by the choice of hybrids to achieve different operating gains.

The amplifier accepts standard Scientific Atlanta® style equalizers and long SXP style pads. The reverse equalizer can be either Scientific Atlanta® or GainMaker® style. Each forward and reverse port can be padded individually.

The use of plug-in hybrids makes this system amplifier easier to service than the OEM models now offered utilizing surface-mounted gain blocks. The internal losses of our design have been minimized to provide the lowest possible RF distortions. The interstage EQ and Pad set the output gain and slope for maximum performance. RF test points are provided at both input and output ports. The forward output RF test port may also be utilized as a reverse sweep input port with suitable RF sweep test equipment. All the test ports are directional couplers with a resistive pad to provide an accurate -20 dB reference level.

Features:

- **Specified bandwidth performance from 550 MHz up to 1 GHz**
- **Utilizes Scientific Atlanta® style plug-in equalizers and SXP pads**
- **Utilizes Scientific Atlanta® or GainMaker® reverse equalizers**
- **Multiple options for return path bandwidth**
- **Plug-in hybrid technology**
- **Removable duplex filters for future bandwidth upgrades**

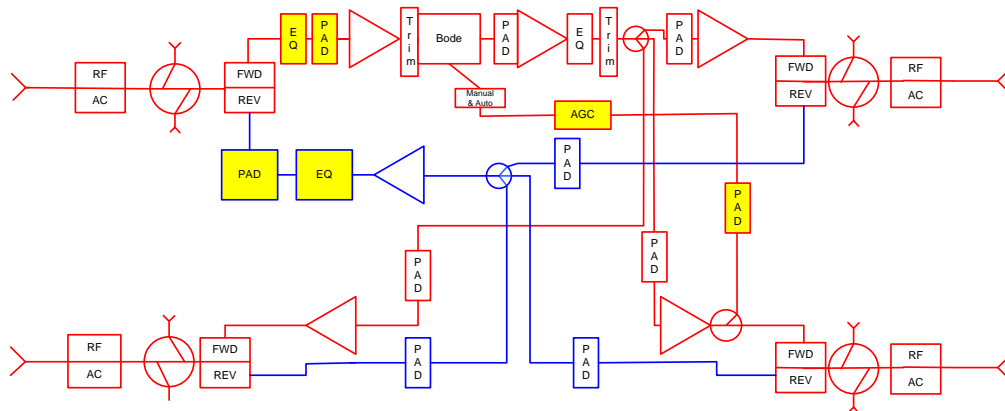


4PAC-S2 HGBT – FAST-PAC™ Amplifier Conversion Performance to 1 GHz				
Analog Channels	79	95	110	Return
***HGBT Network Amplifier ***				
Frequency Response (dB)	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5
Return Loss (-dB)	16	16	16	16
Noise Figure (-dB)	8	8	8	12
Full Gain (dB)	45	45	45	19
Operating Gain (dB)	41	41	41	19
Auto Gain Control Range (dB)	Auto +/-0.25 dB for +/-3/-5 input variance			PAD
AC Hum Mod @ 10A (-dB)[15A max]	-65	-65	-65	N/A
Recommended Output Level	49/35	49/35	49/35	35-40
Output Slope (typical)	14	14	14	N/A
Output Hybrid Technology	GaAs PD	GaAs PD	GaAs PD	Si PP
Composite Triple Beat	79	74	66	90
Cross-Modulation	74	69	64	82
Composite Second Order	80	76	71	80

4PAC-S2 HGBT	With BBI PS		AC Voltage										
	I DC		90	85	80	75	70	65	60	55	50	45	40
Thermal	1.97	AC current draw	0.9	0.92	0.96	1.01	1.07	1.13	1.21	1.31	1.43	1.57	1.75
AGC	2.03	AC current draw	0.92	0.94	0.98	1.03	1.09	1.16	1.24	1.34	1.46	1.61	1.79

4PAC-S2 HGBT Diagram and Ordering Information

The following Required Accessories highlighted in yellow must be ordered separately (all other pads and equalizers are provided)



The Broadband International® 4 PAC-S2 amplifier can be configured in many different frequencies and options. Please consult your account representative for assistance with specific plug-in options.