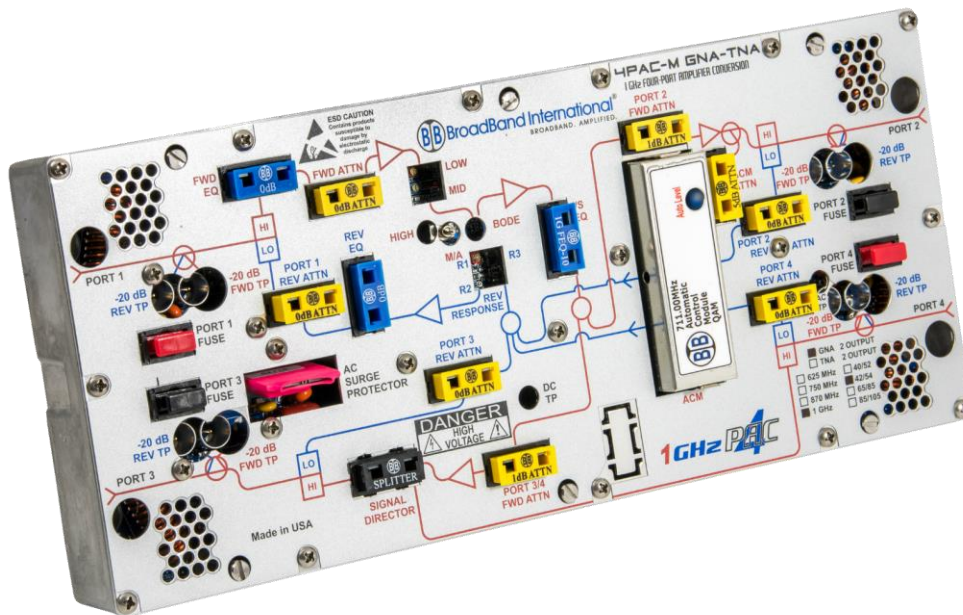


# 1 GHz System Amplifiers 4PAC-M GNA (2-Output)

Replaces/Upgrades ARRIS®/Philips®/Magnavox®  
GNA 550/625/750/870 MHz Systems



The 4PAC-M GNA 2-output enhanced system amplifier module from BroadBand International® is designed to drop into any existing ARRIS®/Philips®/Magnavox® GNA 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 GaAs hybrids to achieve different operating gains.

Dual RF test ports are provided for every cable port. The forward RF test ports may also be used as the reverse sweep input ports with suitable RF sweep test equipment. All the test ports have directional couplers with a resistive pad to provide an accurate -20 dB reference level. Each port is a 75-ohm source and therefore does not require a special test probe.

## Features:

- Specified bandwidth performance from 550 MHz up to 1 GHz
- Utilizes FAST-PAC™ style plug-in equalizers and pads
- Multiple options for return path bandwidth
- Gallium Arsenide (GaAs) plug-in hybrid technology
- Built-in high-efficiency power pack
- Excellent distortion and noise performance
- Removable diplex filters for future reverse upgrades

**4PAC-M GNA 2-Output – 1 GHz System Amplifiers for Replacing/Upgrading  
ARRIS®/Philips®/Magnavox® GNA 550/625/750/870 MHz Systems**



The FAST-PAC™ plug-in equalizers are a Broadband International® patented no-tune design. The attenuator pads have three ground pins to optimize RF impedance matching, as opposed to a single ground pin as used on other types of “normal” attenuator pads. Interstage pads for each forward output are supplied to optimize the signal levels at each state for optimum performance up to 1 GHz. Each return path can be padded before the input of the reverse gain block to ensure unity gain in the reverse path alignment.

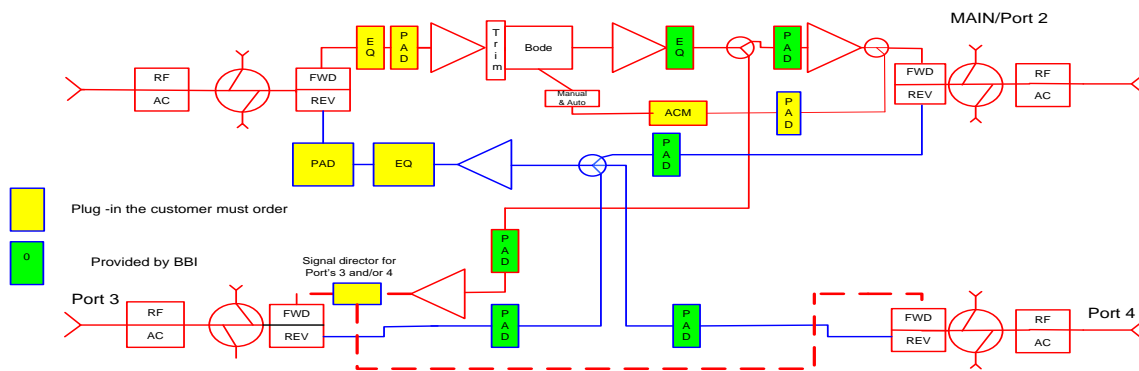
<b>4PAC-M GNA 2-Output – FAST-PAC™ Amplifier Conversion Performance to 1 GHz</b>				
<b>Analog Channels</b>	<b>77</b>	<b>93</b>	<b>108</b>	<b>Return</b>
<b>***4PAC-M GNA Network Amplifier ***</b>				
<b>Frequency Response (dB)</b>	+/- 0.75	+/- 0.75	+/- 0.75	+/- 0.5
<b>Return Loss (-dB)</b>	16	16	16	16
<b>Noise Figure (-dB)</b>	8	8	8	12
<b>Full Gain (dB)</b>	41.5	41.5	41.5	19
<b>Operating Gain (dB) (Main Port and AUX Port with Jumper)</b>	38.5	38.5	38.5	19
<b>Auto Gain Control Range (dB)</b>	Auto +/-0.25 dB for +/-5 input variance			PAD
<b>Bode Slope Range (dB)</b>	6 (+EQ)	6(+EQ)	6(+EQ)	EQ
<b>AC Hum Mod @ 10A (-dB)[15A max]</b>	-65	-65	-65	N/A
<b>Output Level (1003 MHz/55 MHz)</b>	48.5/34	48.5/34	48.5/34	35-40
<b>Output Slope (typical)</b>	14.5	14.5	14.5	N/A
<b>Output Hybrid Technology</b>	GaAs PD	GaAs PD	GaAs PD	Si PP
<b>Composite Triple Beat</b>	82	70	66	90
<b>Cross-Modulation</b>	78	66	64	82
<b>Composite Second Order</b>	80	78	75	80

4PAC-M GNA 2-output	Regular Gain with BBI PS		AC Voltage										
	IDC		90	85	80	75	70	65	60	55	50	45	40
<b>Manual</b>	1.49	AC current draw	0.74	0.76	0.79	0.83	0.87	0.92	0.98	1.06	1.12	1.25	1.39
<b>AGC</b>	1.56	AC current draw	0.76	0.78	0.81	0.85	0.89	0.95	1.01	1.09	1.15	1.29	1.43

## 4PAC-M GNA 2-Output Diagram and Ordering Information

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

### BROADBAND INTERNATIONAL 4 PAC GNA



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