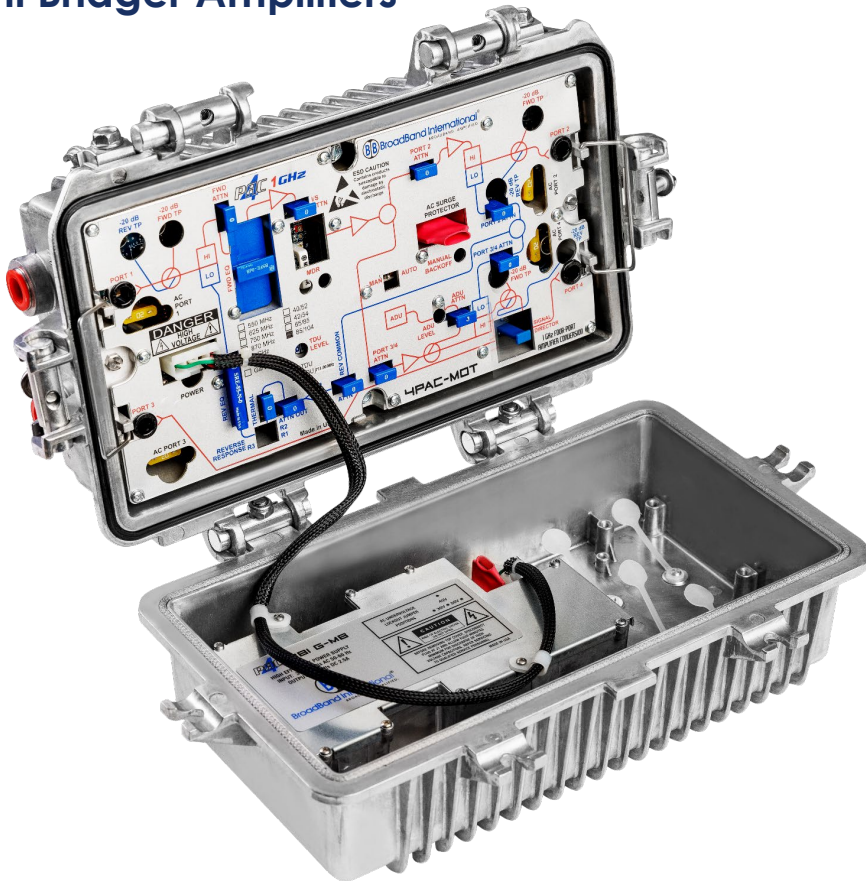


1 GHz System Amplifiers - 4PAC-MOT (2-Output)

Replaces/Upgrades ARRIS®/Motorola®/General Instruments® 750/870/1000 MHz Mini Bridger Amplifiers



The 4PAC-MOT enhanced system amplifier module from BroadBand International® is designed to drop into any OEM MB-750SH, MB86, MB87 or MB100 platform or can be purchased as a complete station with 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 the alignment of the interstage response network and by the frequency of cable equalizers utilized. Amplifiers can be ordered at a lower frequency and upgraded up to 1 GHz for future bandwidth expansions.

Utilizes ARRIS®/Motorola® ergonomic style plug-in equalizers and 1.4" pads. Multiple options for forward and return path bandwidths. Removable diplex filters with plug-in GaAs hybrid technology. Patented non-service-interrupting Selectable Jumper Equalizers available at 750, 870, and 1000 MHz.



Features:

- Specified bandwidth performance from 550 MHz up to 1 GHz
- Utilizes ARRIS®/Motorola® style plug-in equalizers and pads
- Multiple reverse split available
- Plug-in GaAs hybrid technology
- Patented non-service-interrupting Selectable Jumper Equalizers available
- Housing available with Chromate Conversion
- Power supply can be replaced without removing the housing lid cover

**4PAC-MOT 2-Output - 1 GHz Mini Bridger Amplifier for Replacing/Upgrading
ARRIS®/Motorola®/General Instruments® 750/870/1000 MHz Systems**



Specification	Units	Forward	Reverse
Pass Band	MHz	54-1002	42
Frequency Response (Flatness)	dB	+/- 0.75	+/- 0.5
Return Loss	dB	16	16
Noise Figure – Port 2	dB	9	8
Full Gain	dB	46	20
Operating Gain	dB	42	20
Bode Control Range	dB	+/- 4	N/A
AC Hum Mod @ 12 Amperes	dBc	<-60	<-60
AC Hum Mod @ 15 Amperes	dBc	<-60	<-60
Reference Analog Output Level (1002/55 MHz)	dBmV	51/37	35-40
Output Slope (typical)	dB	14	0
Hybrid Technology	dB	GaAs	Si PP
Test Points	dB	20 +/-1 dB)	20 +/-1 dB)
Noise and Distortion Performance	Units	Forward	Reverse
Composite Triple Beat-(Analog 55-550/256 QAM 558-1002 MHz)	dB	80	82
Cross-Modulation	dB	75	71
Composite Second Order	dB	82	81
Carrier to Intermodulation Noise (CIN)	dB	65	N/A
NPR at 50 dB CNR at 42 MHz	dB	N/A	24
Amplifier Delay Characteristics for 42/54 MHz split			
Forward Chrominance to Luminance Delay ns/3.58 MHz		Reverse Group Delay 1.5 MHz	
Frequency (MHz)	Delay (ns)	Frequency (MHz)	Delay (ns)
55.25 to 58.83	30	5.0 to 6.5	53
61.25 to 64.83	13	6.5 to 8.0	15
67.25 to 70.83	7	39.0 to 40.5	26
77.25 to 80.83	3	40.5 to 42.0	31
Powering Data	Units	Voltage/Current	
DC Voltage	VDC	24	
DC Power Consumption- Manual	A	1.48	
DC Power Consumption- with ADU	A	1.55	
AC Input voltage range	VAC	38-90	

Notes

1. X-Mod measured with 100 percent synchronous modulation.
2. Reverse gain and reverse noise figure measured with 0 dB output pad and 0 dB equalizer.
3. QAM loading is 256 QAM Annex B 6 MHz channels.
4. Hum modulation is measured with 15 and 12 amperes of AC passing through the port under test.
5. Specifications are listed as typical performance at 75° F and are subject to change without notice.
6. Surge testing with Combination Wave surges – up to 6000 volts

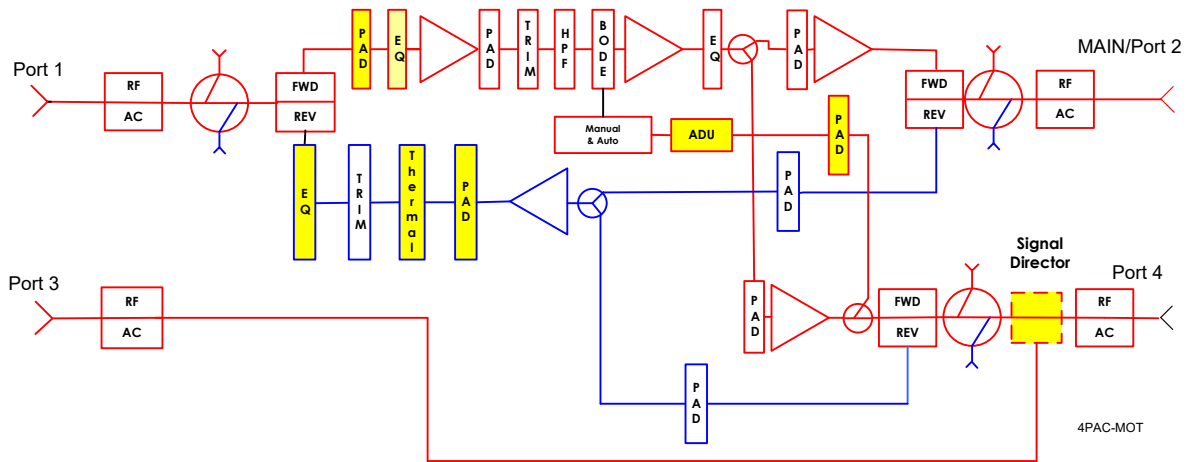


4PAC-MOT 2-Output	With OEM MPPS 2 PS		AC Voltage										
	I DC		90	85	80	75	70	65	60	55	50	45	40
Manual	1.48	AC current draw	0.50	0.52	0.55	0.59	0.61	0.65	0.75	0.80	0.90	1.00	1.20
AGC	1.55	AC current draw	0.55	0.57	0.6	0.64	0.66	0.70	0.8	0.85	0.95	1.05	1.25

Physical Specifications	
Operating temperature range (degrees)	-40 to +140 F (-40 to +60 C)
Amplifier dimensions (inches)	11.7 in. L x 6 in. H x 2 in. D
Weight (lbs.) Module only	3 lb., 8 oz.
Weight (lbs.) Housing with power supply	11 lbs. 12 oz.
Weight (lbs.) Housing, module and power supply	15 lb., 4 oz.

4PAC-MOT - 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® 4PAC-MOT amplifier can be configured in many different frequencies. The following is a basic list of plug-in accessories required to activate the module. Please consult your account representative for assistance.



Required Accessories

Plug-In Pads (Attenuators) – available in 1 dB steps from 0 to 25 dB	Part Number
1 Pad required for forward input	5640XXSN (breakaway style pads not recommended)
1 Pad required for reverse input and output	
1 Pad required for AGC, if applicable*	
Forward Equalizers for Forward Input	
1 Forward Cable Equalizer – available in 1 dB steps from 0 to 22 dB (1 GHz)	3751XXE
Reverse Cable Equalizers for Reverse Output	Part Number
1 Reverse Equalizer - available in 1 dB steps from 0 to 12 dB (42 MHz)	1424XXEK
Signal Director for Ports 3 and 4	Part Number
Jumper- Activates either Port 3 or 4 (one supplied with new amplifiers)	700-309
2-Way Splitter- Activates both Ports 3 and 4	317104
DC-8 Directional Coupler - Activates both Ports 3 and 4	319108
DC-10 Directional Coupler Activates both Ports 3 and 4	319110
DC-12 Directional Coupler Activates both Ports 3 and 4	319112
DC-16 Directional Coupler Activates both Ports 3 and 4	319116

*To determine AGC pad value, subtract 37 dB from the design value main port RF output level at the AGC Pilot Frequency

Optional Accessories

Optional – Automatic Drive Unit (ADU)	Part Number
427.25 MHz – Analog	327427
445.25 MHz – Analog	327445
499.25 MHz – Analog	327499
547.25 MHz – Analog	327547
609.00 MHz – QAM	328609
711.00 MHz – QAM	328711
Optional – Thermal Accessories	Part Number
Thermal Drive Unit (TDU)	361100
JXP-TH*T	564TH03

Optional – Housing Options	Part Number
Housing for Mini Bridger Style Amplifiers- Housing with 15 amp seizure assemblies - no power supply or umbilical cord	36-3000
Housing for Mini Bridger Style Amplifiers- Housing with 15 amp seizure assemblies, power supply and umbilical cord	36-1200
Housing Lid Cover Kit, for Mini Bridger Style Amplifier - Lid Cover Kit includes, housing lid cover, 2.5 Amp power supply, and umbilical cord	361200PSLD
BBI Umbilical cord to connect the BBI Power Supply Module to either the BBI or OEM Mini Bridger amplifier	361200
1 GHz and 1.2 GHz Mini Bridger red seizure assemblies kit (set of 4)	MB-12-005-K



Ordering Matrix

