



MAXNET® II

Platinum Series



Patented
U.S.# 7,142,414

3RU Active Chassis
(front view)

D3.1/CCAP™
Compliant

1.2 GHz

Active Amplifiers & RF Switches Forward Path Amplifiers

Features

- 3RU rack mount high performance RF distribution amplifiers
- New: All digital series amplifiers for QAM only systems with 1 or 1.218 GHz options and up to 40 dB gain and GaN technology
- GaN technology typically supports 3 dB more RF output level than GaAs for same wattage (heat/power) and distortion performance
- Front access input and output RF test points (MCX)
- Front access to pad and EQ locations
- Front LED indications of power and alarm status
- Remote monitoring and control via HMS compliant SNMP v2c and/or web browser with email alarm notification support - no additional cost or custom software
- Amplifier modules take up two slots in MAXNET® II chassis (total of 24 slots)

Specifications

All Digital Forward Amplifier

PART NUMBER	GAIN			SLOPE CONTROL ⁽¹⁾⁽⁵⁾	GAIN CONTROL		TEST POINTS ⁽¹⁾⁽⁶⁾	RETURN LOSS	DIGITAL PERFORMANCE ⁽³⁾ (MOSTLY DIGITAL)		NOISE FIGURE	OPERATING CURRENT ⁽²⁾	TECHNOLOGY
	BW (MHz)	GAIN ± 1 (dB)	FLATNESS (dB)		PLUG-IN JXP	DIGITAL			REC. QAM OP (dBmV / 6 MHz) ⁽⁴⁾	MIN. QAM IP (dBmV / 6 MHz)			
QMP1000-35GPF	50-1002	35	< 1	IS	IP + IS	0-31.5 dB, 0.5 dB steps	20 +/- 1	15	39	- 2	< 5	540	GaAs
QMP1000-35PF	50-1002	35	< 1	IS	IP + IS	0-31.5 dB, 0.5 dB steps	20 +/- 1	15	42	- 2	< 5	570	GaN
QMP1000-40PF	50-1002	40	< 1	IS	IP + IS	0-31.5 dB, 0.5 dB steps	20 +/- 1	15	39	- 2	< 5	540	GaN
QMP1218-35GPF	50-1218	35	< 1	IS	IP + IS	0-31.5 dB, 0.5 dB steps	20 +/- 1	14.5	39	- 2	< 5	570	GaAs
QMP1218-35PF	50-1218	35	< 1	IS	IP + IS	0-31.5 dB, 0.5 dB steps	20 +/- 1	14.5	42	- 2	< 5	570	GaN
QMP1218-40PF	50-1218	40.5	< 1	IS	IP + IS	0-31.5 dB, 0.5 dB steps	20 +/- 1	14.5	42	- 2	< 5	540	GaN
QMP1218-44PF	50-1218	44	< 1.5	IS	IP + IS	0-31.5 dB, 0.5 dB steps	20 +/- 1.25	14.5	44	- 2	< 5	800	GaN

NOTES:

(1) See functional schematics.

(2) Load current at +24 VDC.

(3) Recommended per channel output level based on 150x 6 MHz QAMs with up to four analog channels at 6 dB above these levels. Maximum output levels in graph are stated as the point at which 40 dB MER is approached yet pre-FEC BER of 256 QAM <1E-9. ATX recommends operating 2 dB below these levels to account for even doubling of amplifiers in cascade and another 3 dB for margin for a total of 5 dB de-rating from maximum. If 43 dB headend MER is the target instead of 40 dB, derate amplifier output by a further 2 dB. Note that under same test conditions of all digital loading, the legacy QMP1000-34GPF series amplifier performs same as new QMP1000-35GPF.

(4) See chart for other maximum output ratings for the number of QAM channels.

(5) Linear or cable tilt values 2-20 dB (can be ordered separately), see page 4.

(6) Output TP is relative to RF Out. Input TP is relative to true input to first stage of amplifier, not to RF Input of module. There will be a negative slope if measured relative to RF Input because the input circuitry before amplifier stage (see schematic) has this slope.

OTHER NOTES:

IS = Interstage; IP = Input; OP = Output

All testing specified with 0 dB attenuators & EQ unless otherwise noted.

All digital amplifiers are offered in F connector I/O only, with MCX front test points.

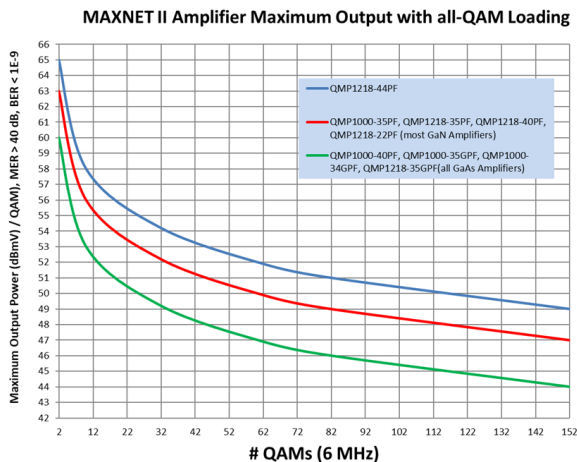
Minimum/maximum composite RF detection level is 20.5/80 dBmV.

Operating temperature: 0°C to +50°C (+32°F to +122°F)

Humidity: 5-95% (without condensation)

Dimensions: 4.9"H x 1.4"W x 10.5"D (12.45H x 3.56W x 26.67D cm)

Weight: 2.43 lbs (1.1 kg)



Ordering Information

Part Number	Description
Digital Amplifier	
QMP1000-35GPF	1002 MHz, 35 dB, GaAs PD, F Connectors
QMP1000-35PF	1002 MHz, 35 dB, GaN PD, F Connectors
QMP1000-40PF	1002 MHz, 40 dB, GaN PD, F Connectors
QMP1218-35GPF	1218 MHz, 35 dB, GaAs PD, F Connectors
QMP1218-35PF	1218 MHz, 35 dB, GaN PD, F Connectors
QMP1218-40PF	1218 MHz, 41 dB, GaN PD, F Connectors
QMP1218-44PF	1218 MHz, 44 dB, GaN PD, F Connectors

Specifications

Forward RF Amplifier (GaAs)

PART NUMBER ⁽⁶⁾	GAIN		GAIN & SLOPE CONTROL ⁽¹⁾	TEST POINTS	RETURN LOSS ⁽⁵⁾	DISTORTION PERFORMANCE ^(3,4)			NOISE FIGURE ⁽⁴⁾	OPERATING CURRENT ⁽²⁾
	BW (MHz)	GAIN ± 1 (dB)	PLUG-IN MP*PAD/EQ	I/O (dB)	I/O (dB)	OUTPUT LEVEL (dBmV)	CTB (-dB)	CSO (-dB)	(dB)	(mA)
QMP1000-17GP	50-1002	17	IP + OP	20 +/- 1	16/15	43	74	72	6	470
QMP1000-21GP	50-1002	21	IP + OP	20 +/- 1	16/15	43	74	72	6	470
QMP1000-17GPF	50-1002	17	IP + OP	20 +/- 1	16/15	43	74	72	6	470
QMP1000-21GPF	50-1002	21	IP + OP	20 +/- 1	16/15	43	74	72	6	470
QMP1000-28GP	50-1002	28	IP + IS	20 +/- 1	16/15	43	74	72	6.5	540
QMP1000-31GP	50-1002	31	IP + IS	20 +/- 1	16/15	43	74	72	6.5	540
QMP1000-34GP	50-1002	34	IP + IS	20 +/- 1	16/15	43	74	72	6.5	540
QMP1000-28GPF	50-1002	28	IP + IS	20 +/- 1	16/15	43	74	72	6.5	540
QMP1000-31GPF	50-1002	31	IP + IS	20 +/- 1	16/15	43	74	72	6.5	540
QMP1000-34GPF	50-1002	34	IP + IS	20 +/- 1	16/15	43	74	72	6.5	540

NOTES:

- (1) See functional schematics.
- (2) DC load current at +24 VDC.
- (3) 79 CW NTSC analog channels from 54-550 MHz with 320 MHz QAM loading 6 dB below analog carrier levels.
- (4) All testing specified with 0 dB pads & EQs unless otherwise noted.
- (5) Return loss is 15 dB (min) from 870-1000 MHz.
- (6) GP = MCX connectors; GPF = F connectors.

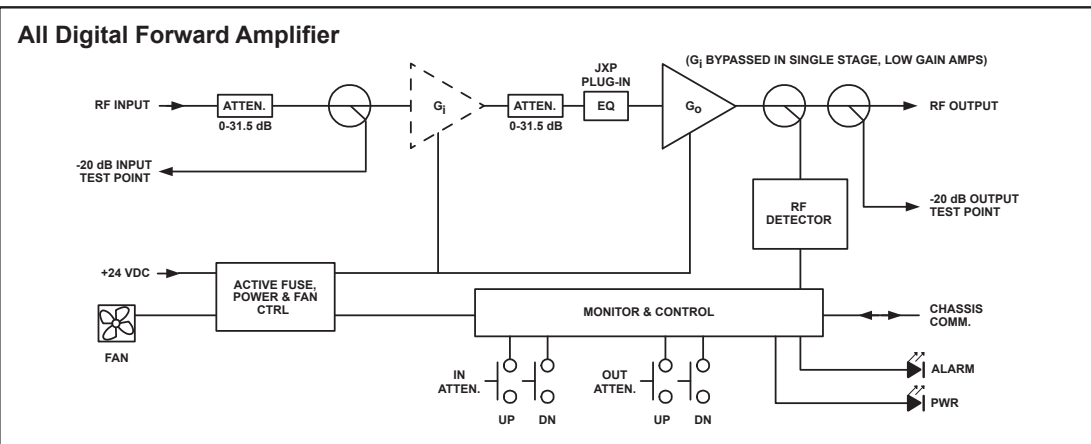
OTHER NOTES:

IS = Interstage; IP = Input; OP = Output
 Minimum/maximum composite RF detection level is 20.5/80 dBmV.
 Operating temperature: 0°C to +50°C (+32°F to +122°F)
 Humidity: 5-95% (without condensation)
 Dimensions: 4.9"H x 1.4"W x 10.5"D (12.45H x 3.56W x 26.67D cm)
 Weight: 2.43 lbs (1.1 kg)

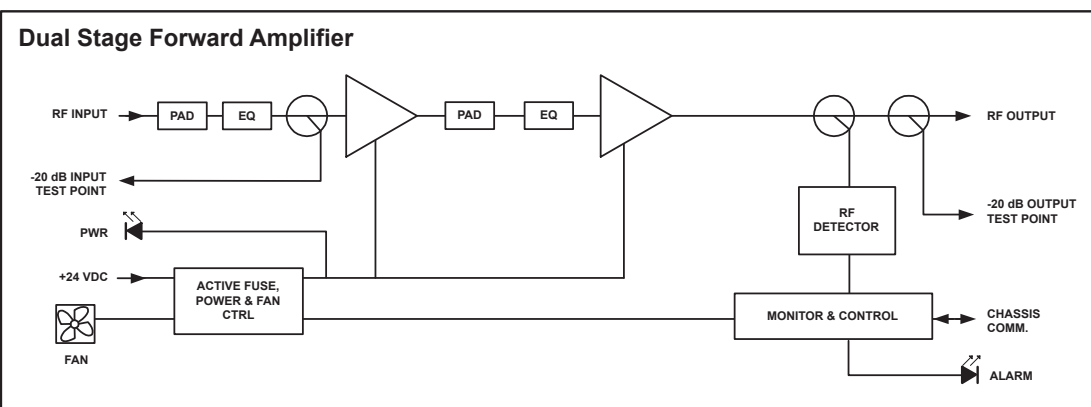
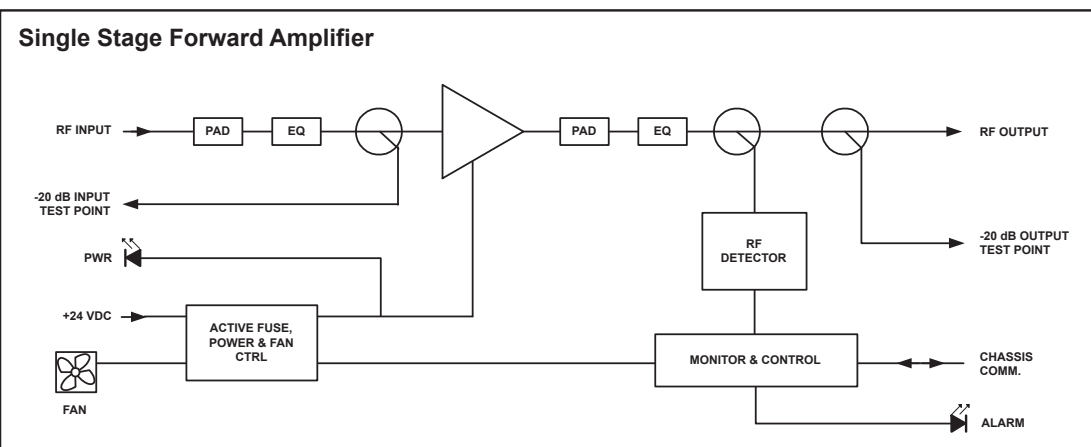
Ordering Information

Part Number	Description
Single Stage Forward Amplifier	
QMP1000-17GP	1002 MHz, 17 dB GaAs Single Stage, MCX Connectors
QMP1000-21GP	1002 MHz, 21 dB GaAs Single Stage, MCX Connectors
QMP1000-17GPF	1002 MHz, 17 dB GaAs Single Stage, F Connectors
QMP1000-21GPF	1002 MHz, 21 dB GaAs Single Stage, F Connectors
Dual Stage Forward Amplifier	
QMP1000-28GP	1002 MHz, 28 dB GaAs Dual Stage, MCX Connectors

Part Number	Description
Dual Stage Forward Amplifier (cont'd)	
QMP1000-31GP	1002 MHz, 31 dB GaAs Dual Stage, MCX Connectors
QMP1000-34GP	1002 MHz, 34 dB GaAs Dual Stage, MCX Connectors
QMP1000-28GPF	1002 MHz, 28 dB GaAs Dual Stage, F Connectors
QMP1000-31GPF	1002 MHz, 31 dB GaAs Dual Stage, F Connectors
QMP1000-34GPF	1002 MHz, 34 dB GaAs Dual Stage, F Connectors



Functional Schematic - All Digital Amplifier



Functional Schematics - GaAs Amplifiers

Plug-in Pads/EQs

For use in Legacy GaAs Amplifiers

MP*PAD

Attenuator Pads

MP*EQ

1 GHz Linear EQs

For use in new All Digital Amplifiers

JXPEQLH-*

1.218 GHz Linear EQs

JXPEQL-*

1 GHz Linear EQs

MN*EQ

1 GHz Cable EQs

* = Pad/EQ value

Other values may be available. For all Pad/EQ specifications and ordering information, see MAXNET II MCX to F & BNC Adapters data sheet (#ANW0618)

Replacement Fan

- Front access replacement fan



Ordering Information

Part Number	Description
MPFANA	Replacement Fan for MAXNET II Receivers, Power Supplies & Amplifiers

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