

## MAXNET® II *Platinum Series*

RF & Optical Signal Management

Patented  
U.S.# 7,142,414



### Active Products

3RU Active Chassis  
(front view)

#### Forward Path Optical Transmitters:

- ▶ Patented forward path optical transmitters (FPTs) with integrated RF 8-way narrowcast combining technology optimize rack space efficiency
- ▶ Install up to 12 transmitters into one MAXNET®II 3RU chassis (assuming remote powering)
- ▶ Optimized RF isolation in both the narrowcast-broadcast (>40 dB) & narrowcast-narrowcast (>30 dB) inputs eliminates network isolation concerns
- ▶ Ultra low narrowcast signal level input requirements eliminates the requirement for any amplification in the narrowcast lash up
- ▶ High performance MCX connector RF inputs
- ▶ Front access RF test point
- ▶ Front LEDs indicate transmitter module power & status
- ▶ AGC or MGC modes of operation (AGC mode utilizes continuous RF attenuation)
- ▶ Front access to AGC/MGC control, transmitter mute, NC attenuator, & RF attenuator (MGC mode)
- ▶ Voltage, current, temperature, fan status, RF power, optical power, RF and optical power threshold, RF attenuator level (MGC), transmitter mute, are easily monitored & controlled over the network (HMS compliant (SNMP v2c)) or through a web browser; e-mail alarm notification is also supported
- ▶ Transmitter module takes up 2 slots in MAXNET®II chassis (total of 24 slots)



## RF & Optical Signal Management

### Forward Path Optical Transmitters:

#### Forward Path Optical Transmitter Specifications

RF & OPTICAL		
WAVELENGTH	1310 +/- 20 nm	
OUTPUT POWER	3, 6, 8, 9, 10, 11, 12, 13, 14 and 15 dBm / Nominal -0.5 + 1.0 dB	
CONNECTOR TYPE	SC/APC (std.), Others on Special Order	
BANDWIDTH	50 - 1000 MHz	
FLATNESS	<b>50 - 550 MHz</b>	<b>50 - 1000 MHz</b>
	BROADCAST NARROWCAST	+/- 0.5 dB +/- 1.0 dB
BROADCAST PORT RF INPUT LEVEL	15-21 dBmV	
MIN. NARROWCAST PORT RF INPUT LEVEL (Note 2)	13 dBmV (Digital QAM)	
INPUT RETURN LOSS (Min, 50-1000 MHz)	Broadcast: 16 dB / Narrowcast: 18 dB	
TEST POINT	Front: -20 dB +/- 1.0 dB relative to broadcast input	
ISOLATION (Min, 50-1000 MHz)	Narrowcast - Broadcast: >40 dB / Narrowcast - Narrowcast >30 dB (50-1000 MHz)	
AUTOMATIC GAIN CONTROL (AGC)	<b>Range:</b> 6 dB (for Broadcast Input Levels of 15 to 21 dBmV)	
MANUAL GAIN CONTROL (MGC)	<b>Set and Control:</b> Front access pushbutton, HMS SNMP v2c, Web Browser, Proprietary Network Interface <b>Range:</b> 15.5 dB Digital Attenuator	
MUTE	Front access pushbutton, HMS SNMP v2c, Web Browser, Proprietary Network Interface	
CSO (Note 1)	> 64 dBc	
CTB (Note 1)	> 68 dBc	
C/N	See CNR Table pg.3	
OTHER		
TRANSMITTER STATUS INDICATION	Front LEDs, HMS SNMP v2c, Web Browser, Proprietary Network Interface	
CURRENT (Note 3)	300mA	
<b>NOTES:</b> 1. 80 NTSC modulated analog carriers, 50-550 MHz & 550-1000 MHz QAM at -6 dBc (AGC mode) 2. Adjust broadcast input levels and/or narrowcast input levels and/or narrowcast attenuator to optimize QAM levels relative to analog carriers 3. DC current required from 24 V chassis bus		

### Forward Path Optical Transmitters:

### Forward Path Optical Transmitter Specifications (cont'd)

ATX MODEL NUMBER	OUTPUT POWER	LINK LOSS (dB)	LOW CHANNEL LOAD (79 NTSC, No QAM)			HIGH CHANNEL LOAD (79 NTSC, with QAM) <sup>5</sup>		
			ALL FIBER LOSS CNR	FIBER +3 dB PASSIVE LOSS CNR	FIBER +6 dB PASSIVE LOSS CNR	ALL FIBER LOSS CNR	FIBER +3 dB PASSIVE LOSS CNR	FIBER +6 dB PASSIVE LOSS CNR
MPTX8-03	+3 dBm	1	52.0	N/A	N/A	51.5	N/A	N/A
		2	51.8	N/A	N/A	51.3	N/A	N/A
		3	51.5	52.0	N/A	51.0	51.5	N/A
		4	51.1	51.6	N/A	50.6	51.1	N/A
		5	50.6	51.1	N/A	50.1	50.6	N/A
MPTX8-06	+6 dBm	4	52.0	52.5	N/A	51.5	52.0	N/A
		5	51.8	52.3	N/A	51.3	51.8	N/A
		6	51.5	52.0	52.5	51.0	51.5	52.0
		7	51.1	51.6	52.1	50.6	51.1	51.6
		8	50.6	51.1	51.6	50.1	50.6	51.1
MPTX8-08	+8 dBm	6	51.5	52.0	52.5	51.0	51.5	52.0
		7	51.3	51.8	52.3	50.8	51.3	51.8
		8	51.0	51.5	52.0	50.5	51.0	51.5
		9	50.6	51.1	51.6	50.1	50.6	51.1
		10	50.1	50.6	51.1	49.6	50.1	50.6
MPTX8-09	+9 dBm	7	51.5	52.0	52.5	51.0	51.5	52.0
		8	51.3	51.8	52.3	50.8	51.3	51.8
		9	51.0	51.5	52.0	50.5	51.0	51.5
		10	50.6	51.1	51.6	50.1	50.6	51.1
		11	50.1	50.6	51.1	49.6	50.1	50.6
MPTX8-10	+10 dBm	8	51.5	52.0	52.5	51.0	51.5	52.0
		9	51.3	51.8	52.3	50.8	51.3	51.8
		10	51.0	51.5	52.0	50.5	51.0	51.5
		11	50.6	51.1	51.6	50.1	50.6	51.1
		12	50.1	50.6	51.1	49.6	50.1	50.6
MPTX8-11	+11 dBm	9	51.5	52.0	52.5	51.0	51.5	52.0
		10	51.3	51.8	52.3	50.8	51.3	51.8
		11	51.0	51.5	52.0	50.5	51.0	51.5
		12	50.6	51.1	51.6	50.1	50.6	51.1
		13	50.1	50.6	51.1	49.6	50.1	50.6
MPTX8-12	+12 dBm	10	51.0	51.5	52.0	50.5	51.0	51.5
		11	50.8	51.3	51.8	50.3	50.8	51.3
		12	50.5	51.0	51.5	50.0	50.5	51.0
		13	50.1	50.6	51.1	49.6	50.1	50.6
		14	49.6	50.1	50.6	49.1	49.6	50.1
MPTX8-13	+13 dBm	11	51.0	51.5	52.0	50.5	51.0	51.5
		12	50.8	51.3	51.8	50.3	50.8	51.3
		13	50.5	51.0	51.5	50.0	50.5	51.0
		14	50.1	50.6	51.1	49.6	50.1	50.6
		15	49.6	50.1	50.6	49.1	49.6	50.1
MPTX8-14	+14 dBm	12	51.0	51.5	52.0	50.5	51.0	51.5
		13	50.8	51.3	51.8	50.3	50.8	51.3
		14	50.5	51.0	51.5	50.0	50.5	51.0
		15	50.1	50.6	51.1	49.6	50.1	50.6
		16	49.6	50.1	50.6	49.1	49.6	50.1
MPTX8-15	+15 dBm	13	51.0	51.5	52.0	50.5	51.0	51.5
		14	50.8	51.3	51.8	50.3	50.8	51.3
		15	50.5	51.0	51.5	50.0	50.5	51.0
		16	50.1	50.6	51.1	49.6	50.1	50.6
		17	49.6	50.1	50.6	49.1	49.6	50.1

**NOTES:**

- "Load" refers to 79.6 MHz NTSC modulated analog channels from 50 to 550 MHz
- QAM refers to 30.6 MHz wide QAM channels from 550 to 1000 MHz
- Measured at RF input level range of 15 to 21 dBmV (operating in AGC mode)
- Rx optical input is (Transmit Power - Link Loss)
- Minimum equalized MER of 39.5 across the link  
Pre FEC BER of 0 across the link

