LASER LINK®

MODULAR 1550 nm EXTERNALLY MODULATED TRANSMITTERS

APPLICATION

Converts an RF input signal, 45-870 MHz, to an optical output at 1550 nm. Normally utilized in conjunction with ARRIS optical amplifiers to extend the fiber reach of the system.

Applications include supertrunking, hub interconnects, broadcast transmission portion of DWDM architecture and 1310/1550 nm overlays.

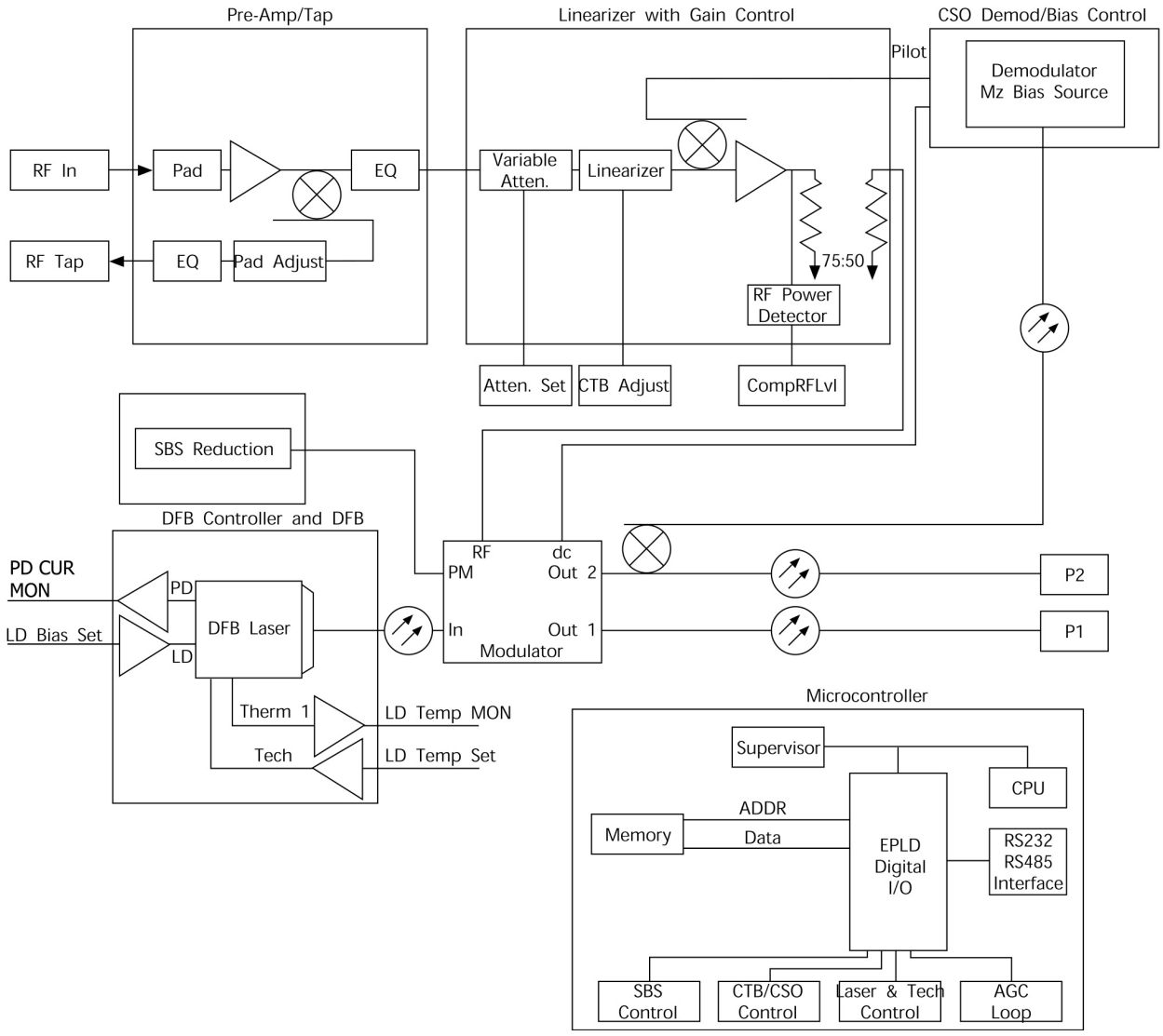
BENEFITS

- Drives optical signal further into the network
- Reduces capital and operating expenses
- Requires minimal rack space
- Allows for simple optimization and configuration
- Provides high performance
- Provides interface for remote monitoring

FEATURES

- Dual outputs, equal performance
- Full-width module; seven transmitters
- in a 5 RU chassis
- User adjustable RF input drive power and RF input test point
- Low RIN source laser
- Automatic gain control (AGC) available
- 870 MHz input bandwidth
- Multiple primary/redundant powering options
- Network management (status monitoring) ready
- Transmits within a low loss optical wavelength window

BLOCK DIAGRAM



SPECIFICATIONS

Model #	Premium NTSC/PAL	Standard NTSC/PAL	Industrial NTSC/PAL	
Optical				
Wavelength (nm)	1544-1546	1544-1546	1544-1546	
Optical Power (dBm)	>9.5	>9.5	>9.5	
Link Performance (Min.)	79 NTSC[1]/60 PAL[2]	79 NTSC[1]/60 PAL[2]	40 NTSC[1]	79 NTSC[1]/60 PAL[2]
Composite Second Order[3] (dBc)	-67	-65	-70	-65
Composite Triple Beat (dBc)	-67	-65	-70	-65
XMOD	-67	-65	-70	-65
Carrier-to-Noise Ratio[4,5] (dB)	54.5	53.5	56.5	51.5
Carrier-to-Noise Ratio[4,6] (dB)	53[7]	52[8]	55[8]	50[8]
Carrier-to-Noise Ratio[4,6] (dB)	51[10]	50[9]	53[9]	48[9]
SBS Suppression Capability (dBm)	18	16	16	16
RF				
Impedance (ohms)	75	75	75	
RF Input Return Loss (45-870 MHz) (Min.) (dB)	16	16	16	
RF Input Power Per Channel Manual Mode				
40 Channel NTSC (dBmV/ch)	20 ±1	20 ±1	20 ±1	
79 Channel NTSC (dBmV/ch)	17 ±1	17 ±1	17 ±1	
110 Channel NTSC (dBmV/ch)	15 ±1	15 ±1	15 ±1	
60 Channel PAL (dBmV/ch)	18 ±1	18 ±1	18 ±1	
99 Channel PAL (dBmV/ch)	16 ±1	16 ±1	16 ±1	
AGC				
40 Channel NTSC (dBmV/ch)		25 ±5		
79 Channel NTSC (dBmV/ch)		22 ±5		
110 Channel NTSC (dBmV/ch)		20 ±5		
60 Channel PAL (dBmV/ch)		23 ±5		
99 Channel PAL (dBmV/ch)		21 ±5		
Flatness[11] (45-870 MHz) (dB)	±0.75	±0.75	±0.75	
Test Port Level[12] (dBmV/ch)	10 ±1	10 ±1	10 ±1	
Test Port Flatness (dB)	±0.75	±0.75	±0.75	

Note 1: NBW = 4 MHz for NTSC Channel Plans
Note 2: NBW = 5 MHz for PAL and CENELEC Channel Plans
Note 3: CSO at optical output 2 can degrade up to 3 dB relative to output; SPM generated effects in 100+ km fiber links may further degrade output 2 for CSO
Note 4: Optical receiver equivalent input noise density is 8 pA/Hz 0.5
Note 5: Transmitter followed by an optical attenuator followed by an optical receiver; attenuator is adjusted for 0 dBm received optical power
Note 6: Erbium Doped Fiber Amplifier (EDFA) noise figure 5.0 dB Maximum
Note 7: Transmitter followed by EDFA (17.0 dBm output power nominal – 17.3 dBm maximum) followed by a single-mode fiber, followed by an optical attenuator and optical receiver; attenuator is adjusted for input of 2 dBm received optical power
Note 8: Transmitter followed by an EDFA (16.0 dBm output power nominal – 16.3 dBm maximum) followed by a single-mode fiber, followed by an optical attenuator and optical receiver; attenuator is adjusted for input of 0 dBm received optical power
Note 9: Transmitter followed by an EDFA (15.0 dBm output power nominal – 15.3 dBm maximum) followed by a single-mode fiber, followed by an EDFA (15.0 dBm output power nominal – 15.3 dBm maximum) by a single-mode fiber, followed followed by an optical attenuator and optical receiver; attenuator is adjusted for 2 dBm received optical power
Note 10: Transmitter followed by an EDFA (16.0 dBm output power nominal – 16.3 dBm maximum) followed by a single-mode fiber, followed by an EDFA (16.0 dBm output power nominal – 16.3 dBm maximum) by a single-mode fiber, followed followed by an optical attenuator and optical receiver; attenuator is adjusted for 2 dBm received optical power
Note 11: Maximum deviation from a straight line slope, 1 dB maximum uptilt
Note 12: 45-870 MHz, 100 channels, fixed

Specifications are subject to change without notice.

SPECIFICATIONS (cont.)

RF			
Model #	**Premium NTSC/PAL**	**Standard NTSC/PAL**	**Industrial NTSC/PAL**
RF Test Point Return Loss (Min.) (dB)	16	16	16
OMI Adjustment Range (dB)	8	8	8

Power	
Supply Voltage (V dc)	24 ±1%
Supply Current (amp)	1.67
Power Consumption W (Max.)	40

Physical	
Operating Temperature °F (°C)	32-122 (0-50)
Optical Connector[1]	SC/APC
Mounting in. (cm)	Laser Link Mainframe
Dimensions (H x W x D) in. (cm)	5.25 x 2.17 x 13.5 (13.34 x 5.51 x 34.29)
Weight lbs. (kg)	5 (2.27)
Relative Humidity (Non Condensing)	95%

ORDERING INFORMATION

Description	**Model #**	**Part #**
Transmitter, Modular, 870 MHz, 1550 nm, Premium Performance NTSC Channel Loading, Dual Output Units, SC/APC	LEMT-P-10	253877
Transmitter, Modular, 870 MHz, 1550 nm, Standard Performance NTSC Channel Loading, Dual Output Units, SC/APC	LEMT-S-10	253878
Transmitter, Modular, 870 MHz, 1550 nm, Industrial Performance NTSC Channel Loading, Dual Output Units, SC/APC	LEMT-I-10	253879
Transmitter, Modular, 870 MHz, 1550 nm, Premium Performance PAL Channel Loading, Dual Output Units, SC/APC	LEMT-P-10	254178
Transmitter, Modular, 870 MHz, 1550 nm, Standard Performance PAL Channel Loading, Dual Output Units, SC/APC	LEMT-S-10	254179
Transmitter, Modular, 870 MHz, 1550 nm, Industrial Performance PAL Channel Loading, Dual Output Units, SC/APC	LEMT-I-10	254180
Transmitter, Modular, 870 MHz, 1550 nm, Premium Performance 40 High NTSC Channel Loading, Dual Output Units, SC/APC	LEMT-S-10	254347
Transmitter, Modular, 870 MHz, 1550 nm, Standard Performance 40 Low NTSC Channel Loading, Dual Output Units, SC/APC	LEMT-S-10	254348

Note 1: Additional connector options are available; please contact a sales representative for more information