

GigaXtend

SGP 1.2GHz Line Equalizer/Reverse Conditioner



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(front view)

1.2 GHz

GigaXtend SGP 1.2GHz Line Equalizer/Reverse Conditioner improves network performance on both the forward and reverse paths in a coaxial transmission system.

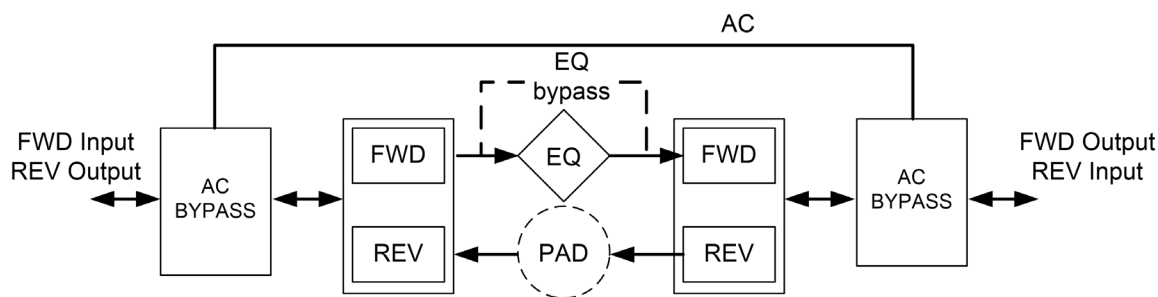
In the forward path, the fixed forward equalizer offsets undesirable down-tilt associated with cumulative cable and passive losses, allowing tap port RF levels to be maintained within desired design limits, even at taps located near the ends of lines.

In the reverse path, plug-in attenuation allows RF levels to be conditioned for optimal performance of critical reverse path services. By selectively adding reverse attenuation at GigaXtend SGP 1.2GHz Line Equalizer/Reverse Conditioner locations, the range of RF levels transmitted from closed-loop customer premises equipment in a given service area can be narrowed considerably.

With greater percentages of network devices transmitting in the upper end of their RF transmit ranges, improvements in carrier-to-ingress and carrier-to-noise performance can be realized.

Features

- Fixed 9 dB or 11 dB forward equalizers
- Plug-in attenuator location for reverse-path optimization
- Industry-leading insertion loss specifications reduce amplifier requirements
- Connection beam noninterruptible AC and RF bypass that optimizes network availability during maintenance periods
- Equalizer in and out bypass, which allows reverse conditioning deployment network locations where forward equalization is not desired
- 15A current passing capability, which allows placement in all portions of the network
- 6 kV surge protection
- Circuit contained in faceplate, compatible with existing Cisco line equalizer products
- Rugged, polymer-coated housing that provides reliable performance in the most challenging environments; additional labels provided in packaging mark the tap containing a DC/EQ module



Functional Schematic

Specifications

INSERTION LOSS 42/54 MHz						
FREQUENCY	BYPASS MODE		EQUALIZATION MODE			
			9dB		11dB	
	TYPICAL	MAXIMUM	TYPICAL	MAXIMUM	TYPICAL	MAXIMUM
5 MHz	-0.5	-1.0	-0.5	-1.0	-0.5	-1.0
10 MHz	-0.4	-1.2	-0.4	-1.2	-0.4	-1.2
42 MHz	-0.7	-1.3	-0.7	-1.5	-0.7	-1.5
54 MHz	-1.2	-1.5	-9.9	-10.1	-11.6	-11.7
100 MHz	-0.6	-1.5	-9.4	-9.5	-10.9	-11.0
550 MHz	-1.0	-1.6	-6.0	-6.1	-6.7	-6.8
750 MHz	-1.1	-1.8	-4.9	-5.0	-5.4	-5.5
870 MHz	-1.4	-2.0	-4.3	-4.4	-4.7	-4.8
1000 MHz	-1.9	-2.2	-3.6	-3.7	-3.9	-4.0
1218 MHz	-2.2	-2.4	-2.7	-2.8	-2.8	-2.9
1250 MHz	-2.3	-2.5	-2.6	-2.7	-2.6	-2.7

INSERTION LOSS 85/102 MHz						
FREQUENCY	BYPASS MODE		EQUALIZATION MODE			
			9dB		11dB	
	TYPICAL	MAXIMUM	TYPICAL	MAXIMUM	TYPICAL	MAXIMUM
5 MHz	-0.5	-1.0	-0.5	-1.0	-0.5	-1.0
10 MHz	-0.4	-1.0	-0.4	-1.0	-0.4	-1.0
40 MHz	-0.7	-1.0	-0.7	-1.0	-0.7	-1.0
85 MHz	-1.0	-1.5	-1.3	-1.5	-1.3	-1.5
102 MHz	-1.1	-1.5	-9.3	-9.4	-10.8	-10.9
550 MHz	-1.0	-1.4	-6.0	-6.1	-6.7	-6.8
750 MHz	-1.1	-1.8	-4.9	-5.0	-5.4	-5.5
870 MHz	-1.4	-2.0	-4.3	-4.4	-4.7	-4.8
1000 MHz	-1.9	-2.2	-3.7	-3.8	-3.9	-4.0
1218 MHz	-2.2	-2.4	-2.7	-2.8	-2.8	-2.9
1250 MHz	-2.3	-2.5	-2.6	-2.7	-2.6	-2.7

Specifications Continued

INSERTION LOSS 204/258 MHz						
FREQUENCY	BYPASS MODE		EQUALIZATION MODE			
			9dB		11dB	
	TYPICAL	MAXIMUM	TYPICAL	MAXIMUM	TYPICAL	MAXIMUM
5 MHz	-0.5	-1.0	-0.5	-1.0	-0.5	-1.0
10 MHz	-0.4	-1.0	-0.4	-1.0	-0.4	-1.0
40 MHz	-0.7	-1.0	-0.7	-1.0	-0.7	-1.0
204 MHz	-1.0	-1.6	-1.0	-1.6	-1.0	-1.6
258 MHz	-1.1	-2.0	-7.9	-8.3	-9.1	-9.8
550 MHz	-1.0	-1.4	-6.0	-6.1	-6.7	-6.8
750 MHz	-1.1	-1.8	-4.9	-5.0	-5.4	-5.5
870 MHz	-1.4	-2.0	-4.3	-4.4	-4.7	-4.8
1000 MHz	-1.9	-2.2	-3.7	-3.8	-3.9	-4.0
1218 MHz	-2.2	-2.4	-2.7	-2.8	-2.8	-2.9
1250 MHz	-2.3	-2.5	-2.6	-2.7	-2.6	-2.7

RETURN LOSS						
FREQUENCY	BYPASS MODE		EQUALIZATION MODE			
			9dB		11dB	
	TYPICAL	MAXIMUM	TYPICAL	MAXIMUM	TYPICAL	MAXIMUM
5 - 10 MHz	-16 dB	-15.5	16 dB	-15.5	-16 dB	-15.5
11 - 1000 MHz	-17 dB	-16	17 dB	-16	-17 dB	-16
1001 - 1250 MHz	-17 dB	-16	17 dB	-16	-17 dB	-16

FLATNESS						
5 - 204 MHz	0.65 dB	0.65 dB	0.65 dB	0.65 dB	0.65 dB	0.65 dB
205 - 1250 MHz	0.75 dB	0.75 dB	0.75 dB	0.75 dB	0.75 dB	0.75 dB

GROUP DELAY 42/54 MHz		
FREQUENCY	TYPICAL	MAXIMUM
FORWARD		
91.25–94.83 MHz	3 ns	20 ns
97.25–100.83 MHz	3 ns	10 ns
REVERSE		
5.0–6.5 MHz	39 ns	40 ns
6.5–8.0 MHz	20 ns	30 ns
8.0–9.5 MHz	10 ns	15 ns
37.5–39.0 MHz	2 ns	15 ns
39.0–40.5 MHz	6 ns	20 ns
40.5–42.0 MHz	7 ns	30 ns

Specifications Continued

GROUP DELAY 85/102 MHz		
FREQUENCY	TYPICAL	MAXIMUM
FORWARD		
109.25 to 112.83 MHz	15 ns	20 ns
115.25 to 118.83 MHz	7 ns	10 ns
REVERSE		
5.0 - 6.5 MHz	40 ns	40 ns
6.5 - 8.0 MHz	20 ns	30 ns
8.0 - 9.5 MHz	9 ns	15 ns
80.5 - 82.0 MHz	9 ns	15 ns
82.0 - 83.5 MHz	8 ns	20 ns
83.5 - 85 MHz	17 ns	30 ns

GROUP DELAY 204/258 MHz		
FREQUENCY	TYPICAL	MAXIMUM
FORWARD		
259.2625–262.85 MHz	4 ns	20 ns
265.2625–268.85 MHz	2 ns	10 ns
271.2625–274.85 MHz	2 ns	10 ns
REVERSE		
201.0 - 202.5 MHz	1 ns	10 ns
202.5 - 204.0 MHz	2 ns	10 ns

POWER PASSING			
FREQUENCY	BYPASS MODE	EQUALIZATION MODE	
		9dB	11dB
5 -10 MHz	15A	15A	15A

HUM MODULATION			
FREQUENCY	BYPASS MODE	EQUALIZATION MODE	
		9dB	11dB
5 - 1250 MHz	-65 dBc @15A	-65 dBc @15A	-65 dBc @15A

SAFETY AND COMPLIANCE	
ITEMS	SPECS
EMC	EN50083-2, EN55022 Class A, EN55024 Class A, and FCC Part 76/Part 15
Safety Standards	EN/IEC 60065, UL 497, 1459, and 1950

NOTES:

- (1) Chrominance and luminance at 3.58 MHz above the video carrier.
- (2) Propagation delay in 2 MHz bandwidth.
- (3) Unless otherwise noted, all the specifications reflect typical station performance at stated reference levels in the recommended operating configurations. Specifications are based on measurements made in accordance with SCTE/ANSI standards (where applicable), using standard frequency assignments.

Ordering Information

Part Number	Description
In Line EQ Passive Module	
GTSG-LEQ-RC-0458-09	SG Comp. In-Line EQ/RC, 1.25GHz, 204/258MHz, 9dB (Mult=10)
GTSG-LEQ-RC-0458-11	SG Comp. In-Line EQ/RC, 1.25GHz, 204/258MHz, 11dB (Mult=10)
GTSG-LEQ-RC-4254-09	SG Comp. In-Line EQ/RC, 1.25GHz, 42/54MHz,9dB (Mult=10)
GTSG-LEQ-RC-4254-11	SG Comp. In-Line EQ/RC, 1.25GHz, 42/54MHz, 11dB (Mult=10)
GTSG-LEQ-RC-8502-09	SG Comp. In-Line EQ/RC, 1.25GHz, 85/102MHz, 9dB (Mult=10)
GTSG-LEQ-RC-8502-11	SG Comp. In-Line EQ/RC, 1.25GHz, 85/102MHz, 11dB (Mult=10)
GTSG-LEQ-RC-045809FP	SG Comp. In-Line EQ/RC Faceplate, 1.25G, 204/258M, 9dB(Mult10)
GTSG-LEQ-RC-045811FP	SG Comp. In-Line EQ/RC Faceplate, 1.25G, 204/258M, 11dB(Mult10)
GTSG-LEQ-RC-425409FP	SG Comp. In-Line EQ/RC Faceplate, 1.25G,42/54M, 9dB(Mult=10)
GTSG-LEQ-RC-425411FP	SG Comp. In-Line EQ/RC Faceplate, 1.25G, 42/54M, 11dB(Mult=10)
GTSG-LEQ-RC-850209FP	SG Comp. In-Line EQ/RC Faceplate, 1.25G, 85/102M, 9dB(Mult=10)
GTSG-LEQ-RC-850211FP	SG Comp. In-Line EQ/RC Faceplate, 1.25G, 85/102M, 11dB(Mult10)
Plug-In Attenuators	
JXP-A-00	Pad, 1.2GHz JXP 0.45", 0dB
JXP-A-01	Pad, 1.2GHz JXP 0.45", 1dB
JXP-A-02	Pad, 1.2GHz JXP 0.45", 2dB
JXP-A-03	Pad, 1.2GHz JXP 0.45", 3dB
JXP-A-04	Pad, 1.2GHz JXP 0.45", 4dB
JXP-A-05	Pad, 1.2GHz JXP 0.45", 5dB
JXP-A-06	Pad, 1.2GHz JXP 0.45", 6dB
JXP-A-07	Pad, 1.2GHz JXP 0.45", 7dB"
JXP-A-08	Pad, 1.2GHz JXP 0.45", 8dB
JXP-A-09	Pad, 1.2GHz JXP 0.45", 9dB
JXP-A-10	Pad, 1.2GHz JXP 0.45", 10dB
JXP-A-11	Pad, 1.2GHz JXP 0.45", 11dB
JXP-A-12	Pad, 1.2GHz JXP 0.45", 12dB
JXP-A-13	Pad, 1.2GHz JXP 0.45", 13dB
JXP-A-14	Pad, 1.2GHz JXP 0.45", 14dB
JXP-A-15	Pad, 1.2GHz JXP 0.45", 15dB
JXP-A-TERM	75 Ohm Terminator, 1.2GHz JXP 0.45"

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ATX Networks

Tel: 289.204.7800 | Toll-Free: 866.YOUR.ATX | support@atx.com