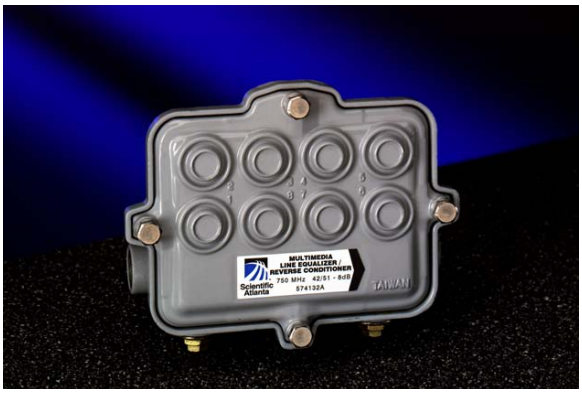
Taps and Passives

Multimedia Line Equalizer/Reverse Conditioner 750 MHz – 42/51 MHz Split

Description

The Multimedia Line Equalizer/Reverse Conditioner (LEQ/RC) is a by-product of the extensive reverse path studies that Scientific-Atlanta has been conducting. This analysis has conclusively determined that, by strategically attenuating the reverse path signals, systems are able to better support transmission in this challenging portion of the spectrum.



This reverse path attenuation has several key benefits. First, it raises the output levels of communicating devices (e.g., home communication terminals, cable modems, and cable telephone NIU's) to the upper ends of their dynamic ranges, thereby increasing overall signal-to-noise performance. Second, by lowering the dynamic range variance, deployment of new services is simplified. Third, the additional reverse attenuation minimizes concerns about overdriving optical return transmitter lasers.

True to its name, the unique LEQ/RC performs two important system design functions:

1. It includes a forward equalizer whose value was chosen to best complement network reverse conditioning.
2. It enables the addition of plug-in attenuators providing appropriate reverse path conditioning.

Features

- Fixed 8 dB forward equalizer
- Socket for standard Scientific-Atlanta 1 GHz plug-in attenuators
- Connection Beam non-interruptible AC/RF bypass maximizes network availability during maintenance periods
- Equalizer in/out bypass enables reverse conditioning deployment in network locations where forward equalization is not desired
- Twelve ampere current passing capability enables placement in all portions of the network
- Faceplate contained circuit, compatible with existing Scientific–Atlanta line equalizer products
- Rugged, polymer coated housing provides reliable performance in the most challenging environments

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Performance Specifications

Parameter	Frequency (MHz)	Equalization Mode		Equalization Bypass Mode	
		Typical	Maximum	Typical	Maximum
Bandwidth Split (MHz)	---	42/51		42/51	
Cable Equalization (dB)	5-42	0		0	
	51-750	8		0	
Insertion Loss (dB)	5	0.4	0.6	0.6	0.7
	10	0.3	0.6	0.4	0.6
	40	0.8	0.9	0.8	0.9
	42	1.0	1.3	1.0	1.2
	51	7.8	8.0	1.2	1.4
	54	7.4	7.6	0.9	1.2
	100	6.6	6.8	0.8	1.3
	450	3.2	3.5	0.9	1.3
	550	2.5	2.9	1.0	1.4
	750	1.6	2.1	1.4	1.9
Return Loss (dB)	5-7	16.0	15.5	16.0	15.5
	7-42	17.0	16.0	17.0	16.0
	51-750	17.0	16.0	17.0	16.0
Flatness (dB)	5-42	+/-0.5	+/-0.65	+/-0.5	+/-0.65
	51-750	+/-0.5	+/-0.65	+/-0.5	+/-0.65
Power Passing (amps)	---	12		12	
Hum Modulation (-dBc)	5-750	70 @ 10 amps		70 @ 10 amps	

Forward (51 to 750 MHz)		Reverse (5 to 42 MHz)	
Freq. (MHz)	Delay (ns)[1]	Freq. (MHz)	Delay (ns)[2]
5.25	11.7	5 to 7	50.3
61.25	5.4	7 to 9	17.9
67.25	3.0	9 to 11	7.6
77.25	1.5	34 to 36	4.3
-	-	36 to 38	7.2
-	-	38 to 40	17.3
-	-	40 to 42	15.0

Notes:
1. Chrominance/Luminance at 3.58 MHz above the video carrier
2. Propagation delay in 2 MHz bandwidth

Ordering Information
- Multimedia LEQ/RC (750 MHz – 42/51 MHz split) – part number 574132
- Plug-in attenuators – (attenuators above 15 dB are not recommended)

Value	Part No.	Value	Part No.	Value	Part No.
0 dB	574475	6 dB	574481	12 dB	574487
1 dB	574476	7 dB	574482	13 dB	574488
2 dB	574477	8 dB	574483	14 dB	574489
3 dB	574478	9 dB	574484	15 dB	574490
4 dB	574479	10 dB	574485	75 ohm	574496
5 dB	574480	11 dB	574486		

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