Features and Benefits

CSH E-Option Plug-In Conditioners

Cable Simulators-Conditioning at the Tap

Milenium NXT Series 2.0 GHz Plug-ins

Antronix's E-Option conditioning 2 GHz MHT series multitaps accommodate a variety of plug-in modules that provide signal conditioning in either the downstream or upstream for optimum system performance. E-Option allows each tap location to be conditioned individually affecting only the tap ports without impacting the through insertion loss. E-Option solves design challenges such as high/low passive return loss, negative/positive tilt compensation and return path ingress and noise reduction.

- **Compact Size**
  One plug-in affects all tap ports equally while not affecting the through path.
- **Compatible with Antronix 2 GHz MHT Milenium NXT 2.0 series Multi-taps**
- **Does not affect the through path of the Multi-Taps**
- **Cable Simulator (CSH) 5-2000 MHz**
  Simulates a fixed amount of cable to overcome large positive tilts usually found immediately following amplifiers.

- **Advantages:**

  It simulates a fixed amount of cable in both the legacy and extended frequency bands.

  It provides lower path return attenuation in high value MHT series multitaps so modems can overcome the large positive loss associated with high value taps.

  It conditions the tap ports for correct signal levels for proper set-top operation and to meet FCC Technical Specifications.

  It is available in a variety of values to meet your design criteria.

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Electrical Specifications
2 GHz Cable Simulator Filter Plug In (CSH)

		CSH-02	CSH-03	CSH-04	CSH-06	CSH-08	CSH-09	CSH-10	CSH-12	CSH-15	CSH-18	CSH-21
Bandwidth (MHz)		5-2000										
Cable Simulator (dB)		2.0	3.0	4.0	6.0	8.0	9.0	10.0	12.0	15.0	18.0	21.0
Insertion Loss (dB Typ)	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	50	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2
	85	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4
	102	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.5
	204	0.1	0.1	0.2	0.3	0.4	0.4	0.6	0.7	0.8	1.1	1.6
	258	0.1	0.2	0.3	0.4	0.6	0.6	0.8	1.0	1.2	1.6	2.3
	300	0.1	0.3	0.4	0.6	0.8	0.8	1.1	1.2	1.6	2.0	2.9
	396	0.2	0.4	0.7	0.9	1.3	1.3	1.7	2.0	2.5	3.1	4.3
	450	0.3	0.5	0.8	1.1	1.5	1.6	2.1	2.4	3.0	3.7	5.1
	550	0.4	0.6	1.1	1.5	2.1	2.2	2.8	3.2	4.0	4.9	6.5
	684	0.5	0.9	1.5	2.1	2.8	3.0	3.8	4.4	5.4	6.5	8.4
	750	0.6	1.0	1.7	2.4	3.2	3.5	4.3	4.9	6.0	7.2	9.2
	870	0.8	1.2	2.0	2.8	3.8	4.2	5.2	5.9	7.2	8.5	10.8
	1002	0.9	1.5	2.5	3.5	4.5	5.1	6.1	7.1	8.5	10.0	12.6
	1218	1.2	1.9	2.9	4.2	5.4	6.4	7.5	8.8	10.5	12.3	15.3
	1600	1.7	2.4	3.6	5.3	6.8	8.3	9.4	11.2	13.4	16.2	19.2
	1794	1.9	2.7	3.9	5.7	7.4	9.0	10.1	11.9	14.3	17.5	19.4
	2000	2.1	2.9	4.1	6.1	7.8	9.4	10.6	12.3	14.6	18.0	18.3

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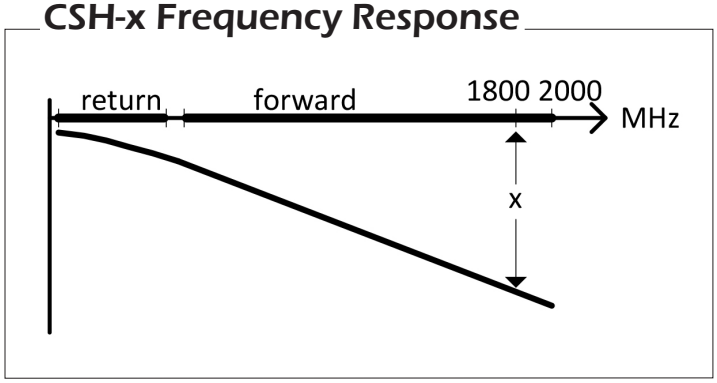
CSH-x Frequency Response



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Bandwidth (MHz)		5-2000										
Cable Simulator (dB)		2.0	3.0	4.0	6.0	8.0	9.0	10.0	12.0	15.0	18.0	21.0
Insertion Loss (dB Max)	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	50	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3
	85	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.6	0.7
	102	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	1.0
	204	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.0	1.3	1.6	2.3
	258	0.3	0.4	0.6	0.7	0.9	1.0	1.2	1.3	1.7	2.0	3.0
	300	0.4	0.5	0.7	0.9	1.2	1.3	1.5	1.6	2.1	2.5	3.6
	396	0.5	0.7	1.0	1.3	1.7	1.8	2.3	2.4	3.1	3.5	5.0
	450	0.6	0.8	1.2	1.5	2.1	2.2	2.7	2.9	3.6	4.1	5.7
	550	0.7	1.0	1.5	1.9	2.6	2.7	3.4	3.7	4.6	5.3	7.1
	684	0.8	1.4	2.0	2.4	3.3	3.5	4.4	4.7	6.0	6.9	9.1
	750	0.9	1.5	2.2	2.7	3.6	3.8	4.8	5.2	6.7	7.6	10.0
	870	1.1	1.7	2.6	3.3	4.3	4.6	5.6	6.3	8.0	9.0	11.5
	1002	1.3	2.0	3.0	3.8	5.0	5.4	6.6	7.4	9.4	10.5	13.6
	1218	1.6	2.4	3.5	4.6	6.1	6.8	8.1	9.2	11.6	13.0	16.0
	1600	2.1	3.0	4.1	5.7	7.7	8.8	10.0	11.7	14.7	17.1	20.5
	1794	2.3	3.3	4.5	6.2	8.4	9.5	10.5	12.5	15.6	18.6	21.0
	2000	2.4	3.5	4.8	6.6	8.9	10.2	11.0	12.9	15.8	18.9	21.2
Return Loss (dB Min)	5-10	18	18	18	18	18	18	18	18	18	18	18
	10-800	17	17	17	17	17	17	17	17	17	17	17
	800-1002	17	17	17	17	17	17	17	17	17	17	17
	1002-1218	16	16	16	16	16	16	16	16	16	16	16
	1218-1794	16	16	16	16	16	16	16	16	16	16	16
	1794-2000	16	16	16	16	16	16	16	16	16	16	16

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