

## 1.2 GHz E-Option Plug-In Conditioner Cable Equalizer Conditioning at the Tap

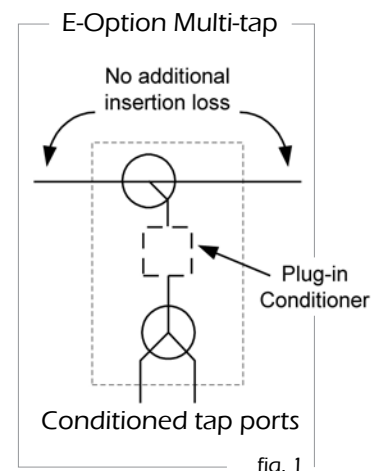
Antronix's patented E-Option conditioning multi-taps accommodate a variety of plug-in modules that provide signal conditioning in either the downstream or upstream for optimum system performance. E-Option allows each tap location to be conditioned individually, affecting only the tap ports without impacting 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 multi-taps with E-Option Conditioning**  
Supported in all Antronix MGT and RRT series multi-taps with E-Option indicated by an "E" in the model number.
- **Does not Affect the Through Path of the Multi-Tap**
- **Available in Five Types;**  
Cable simulator, cable equalizer, return path attenuator and high tap value filter.
- **Cable Equalizer (CEG)**  
Equalizes the full bandwidth to compensate for excessive negative tilt usually occurring at the end of the transmission line.
- **Cable Simulator (CSG)**  
Simulates a fixed amount of cable to overcome large positive tilts usually found immediately following amplifiers.
- **Return Path Attenuator (RAG)**  
Provides attenuation in high value taps so cable modems can run at high outputs, resulting in increase carrier to noise ratio.
- **High Tap Value (HTG)**  
Provide attenuation from 54-1218 MHz and passes the return band to overcome the large passive loss associate with high value taps.



## Ordering Guide

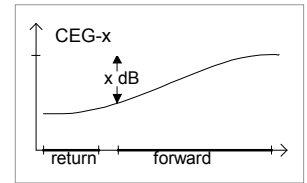
Plug-in	Available Values
<b>CEG</b>	02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22



## 1.2 GHz Cable Equalizer Filter Plug In (CEG)

The cable equalizer is used to equalized the entire bandwidth from 5 to 1218 MHz. The cable equalizer is normally used on taps toward the end of the lines. The advantages of this equalizer are:

- It equalizes the full bandwidth to overcome excessive negative tilt associated with long coaxial lines
- allowing the distribution line to be extended.
- It adds attenuation on the return path allowing cable modems to operate at a higher output and lowers the noise/ingress coming from the customer's premise, thus achieving a greater signal to noise/ingress ratio in the return path.
- It conditions the tap ports for the 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.



### Electrical Specifications

Freq. (MHz)		CEG-02	CEG-04	CEG-06	CEG-08	CEG-10	CEG-12	CEG-14	CEG-16	CEG-18	CEG-20	CEG-22
<b>Freq. Range</b> (MHz)	5-1218											
<b>Equalizer Value</b> @ 1000 MHz		2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0
<b>Insertion Loss</b> (dB typ)	5	2.7	3.9	5.6	7.3	8.7	10.7	12.3	14.0	17.8	19.6	21.7
	50	2.7	3.9	5.6	7.3	8.6	10.6	12.1	13.8	17.4	19.0	20.6
	85	2.6	3.9	5.5	7.2	8.6	10.4	12.0	13.5	16.6	18.0	19.0
	104	2.6	3.9	5.5	7.1	8.4	10.2	11.7	13.4	16.4	17.4	18.3
	300	2.2	3.3	4.4	5.6	6.4	7.9	8.8	10.3	11.9	12.2	12.1
	450	1.9	2.8	3.5	4.3	4.8	6.0	6.5	7.8	8.5	8.4	8.3
	550	1.7	2.3	2.8	3.5	3.8	4.8	5.3	6.5	6.9	6.8	6.5
	750	1.2	1.3	1.6	1.9	2.0	2.5	2.7	3.6	3.7	3.7	3.5
	870	0.9	0.9	1.0	1.2	1.2	1.5	1.6	2.4	2.4	2.2	2.0
	1000	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.2	1.2	1.2	1.2
1218	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	
<b>Insertion Loss</b> (dB max)	5	2.9	4.1	6.2	7.8	9.2	11.1	12.9	14.8	18.1	20.0	22.0
	50	2.9	4.1	6.1	7.6	9.1	11.0	12.5	14.5	18.1	20.0	22.0
	85	2.9	4.1	6.0	7.6	8.9	10.8	12.5	14.0	17.6	18.6	20.0
	104	2.8	4.1	5.9	7.6	8.9	10.8	12.3	14.0	17.0	18.0	19.2
	300	2.4	3.6	4.7	5.9	7.2	8.6	9.4	10.9	12.1	12.4	12.4
	450	2.1	3.0	3.7	4.6	5.6	6.6	7.0	8.3	8.9	8.9	8.9
	550	1.9	2.5	3.1	3.8	4.5	5.4	5.6	6.8	7.1	7.1	7.1
	750	1.5	1.5	2.1	2.2	2.4	3.1	3.2	4.2	4.2	4.2	4.2
	870	1.2	1.2	1.5	1.5	1.6	2.1	2.2	2.9	2.9	2.9	2.9
	1000	1.0	1.0	0.9	1.1	1.1	1.2	1.2	1.5	1.5	1.5	1.5
1218	1.0	1.0	0.9	1.1	1.1	1.1	1.1	1.1	1.3	1.3	1.3	
<b>Return Loss</b> <b>IN/OUT</b> (dB min)	5-30	16	16	16	16	16	16	16	16	16	16	16
	31-600	18	18	18	18	18	18	18	18	18	18	18
	601-1000	18	18	18	18	18	18	18	18	18	18	18
	1001-1218	17	17	17	17	17	17	17	17	17	17	17
<b>Forward Response Flatness</b> (dB)	5-1003	±0.5	±0.5	±0.5	±0.5	±0.5	±0.6	±0.7	±0.8	±1.2	±1.5	±2.0

Specifications subject to change without notice