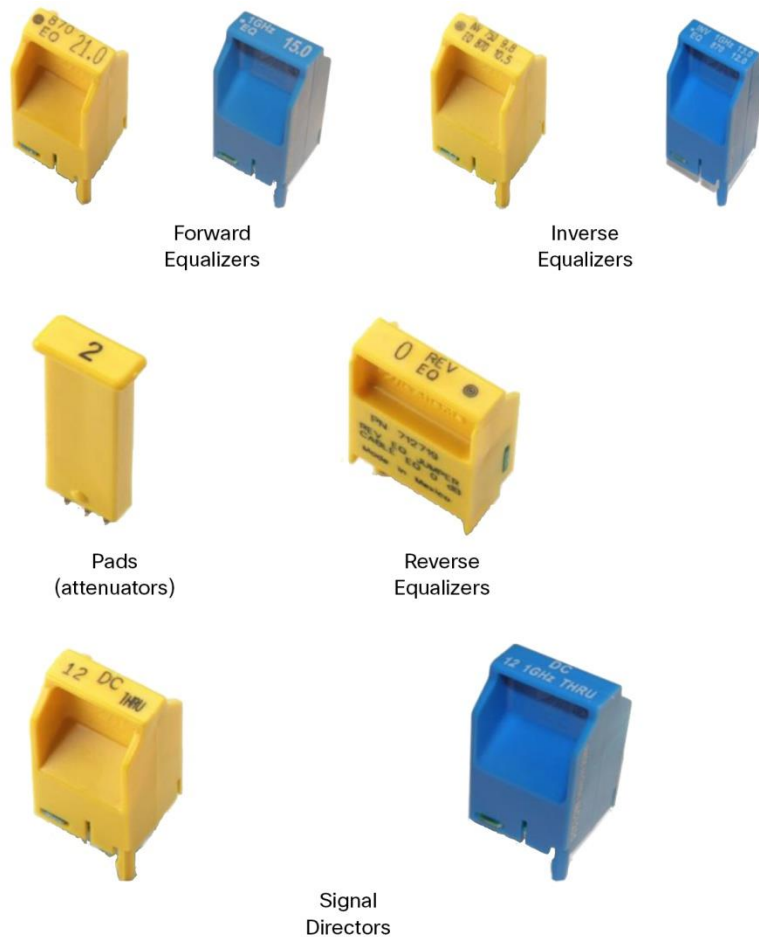


Cisco GainMaker Amplifier and GS7000 Node Accessories

The Cisco GainMaker amplifier accessories are plug-in devices common to all GainMaker System Amplifiers and Line Extenders. They are typically field-installed in accordance with system design. Also included in this document are the specifications for the linear equalizers used in GS7000 and GainMaker Nodes. This document includes the accessories used in products designed for 750, 870, 1002, and 1218 MHz systems.

Figure 1. GainMaker Amplifier Accessories



Forward Cable Equalizers

Forward cable equalizers produce a tilted frequency response opposite of that produced by coaxial cable. They are normally used during station balancing to counteract the tilt produced by coaxial cable, in order to achieve the desired output tilt. An equalizer's "dB value" indicates the equivalent length of cable (in dB, at rated high frequency) that the equalizer is designed to offset. The dB value and rated high frequency (750, 870, 1002, or 1218 MHz) are printed on the top of each equalizer. The amount of tilt (in dB) that the equalizer produces from low to high frequency is printed on the side of each equalizer.

Table 1. Forward Cable Equalizers - 1218 MHz (Green Cover)

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)													
		52	70	86	105	204	258	550	600	650	750	870	1002	1100	1218
0.0	GM-EQC-1.2G-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5	GM-EQC-1.2G-1.5	2.23	2.19	2.15	2.11	1.95	1.87	1.55	1.50	1.45	1.37	1.27	1.16	1.09	1.00
3.0	GM-EQC-1.2G-3	3.5	3.4	3.3	3.2	2.9	2.7	2.1	2.0	1.9	1.7	1.5	1.3	1.2	1.0
4.5	GM-EQC-1.2G-4.5	4.7	4.6	4.4	4.3	3.8	3.6	2.6	2.5	2.4	2.1	1.8	1.5	1.3	1.0
6.0	GM-EQC-1.2G-6	5.9	5.7	5.6	5.4	4.8	4.5	3.2	3.0	2.8	2.5	2.1	1.6	1.3	1.0
7.5	GM-EQC-1.2G-7.5	7.2	6.9	6.7	6.6	5.7	5.4	3.7	3.5	3.2	2.8	2.3	1.8	1.4	1.0
9.0	GM-EQC-1.2G-9	8.4	8.1	7.9	7.7	6.7	6.2	4.3	4.0	3.7	3.2	2.6	2.0	1.5	1.0
10.5	GM-EQC-1.2G-10.5	9.6	9.3	9.0	8.8	7.6	7.1	4.8	4.5	4.2	3.6	2.9	2.1	1.6	1.0
12.0	GM-EQC-1.2G-12	10.8	10.5	10.2	9.9	8.6	8.0	5.4	5.0	4.6	3.9	3.1	2.3	1.7	1.0
13.5	GM-EQC-1.2G-13.5	12.1	11.7	11.3	11.0	9.5	8.9	5.9	5.5	5.1	4.3	3.4	2.4	1.8	1.0
15.0	GM-EQC-1.2G-15	13.3	12.9	12.5	12.1	10.5	9.7	6.5	6.0	5.5	4.6	3.6	2.6	1.9	1.0
16.5	GM-EQC-1.2G-16.5	14.5	14.0	13.7	13.2	11.4	10.6	7.0	6.5	6.0	5.0	3.9	2.8	1.9	1.0
18.0	GM-EQC-1.2G-18	15.8	15.2	14.8	14.3	12.4	11.5	7.6	7.0	6.4	5.4	4.2	2.9	2.0	1.0
19.5	GM-EQC-1.2G-19.5	17.0	16.4	16.0	15.4	13.3	12.3	8.1	7.5	6.9	5.7	4.4	3.1	2.1	1.0
21.0	GM-EQC-1.2G-21	18.2	17.6	17.1	16.6	14.3	13.2	8.7	8.0	7.3	6.1	4.7	3.2	2.2	1.0
22.5	GM-EQC-1.2G-22.5	20.0	19.3	18.8	18.2	15.2	14.1	9.7	9.0	8.3	7.0	5.5	3.9	2.8	1.5
24.0	GM-EQC-1.2G-24	21.2	20.5	19.9	19.3	16.2	15.0	10.3	9.5	8.8	7.3	5.7	4.1	2.9	1.5
25.5	GM-EQC-1.2G-25.5	22.4	21.7	21.1	20.4	17.1	15.8	10.8	10.0	9.2	7.7	6.0	4.2	3.0	1.5
27.0	GM-EQC-1.2G-27	23.6	22.8	22.2	21.5	18.1	16.7	11.3	10.5	9.7	8.1	6.3	4.4	3.0	1.5
28.5	GM-EQC-1.2G-28.5	24.9	24.0	23.4	22.6	19.0	17.6	11.9	11.0	10.1	8.4	6.5	4.5	3.1	1.5
30.0	GM-EQC-1.2G-30	26.1	25.2	24.5	23.7	20.0	18.4	12.5	11.5	10.6	8.8	6.8	4.7	3.2	1.5

Table 2. Forward Cable Equalizers - 1002 MHz (Blue Cover)

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)								
		52	70	86	550	600	650	750	870	1002
0	4007228	-	-	-	-	-	-	-	-	-
1.5	4007229	2.2	2.2	2.1	1.4	1.4	1.3	1.2	1.1	1.0
3.0	4007230	3.4	3.3	3.2	1.9	1.8	1.7	1.5	1.2	1.0
4.5	4007231	4.6	4.4	4.3	2.3	2.1	2	1.7	1.4	1.0
6.0	4007232	5.8	5.6	5.4	2.7	2.5	2.3	1.9	1.5	1.0
7.5	4007233	7.0	6.7	6.5	3.2	2.9	2.6	2.1	1.6	1.0
9.0	4007234	8.2	7.9	7.7	3.6	3.3	3.0	2.4	1.7	1.0
10.5	4007235	9.4	9.0	8.8	4.0	3.7	3.3	2.6	1.8	1.0
12.0	4007236	10.6	10.2	9.9	4.5	4.0	3.6	2.8	1.9	1.0
13.5	4007237	11.8	11.3	11.0	4.9	4.4	3.9	3.1	2.0	1.0
15.0	4007238	13.0	12.5	12.1	5.3	4.8	4.3	3.3	2.2	1.0
16.5	4007239	14.2	13.6	13.2	5.8	5.2	4.6	3.5	2.3	1.0
18.0	4007240	15.4	14.8	14.3	6.2	5.5	4.9	3.7	2.4	1.0
19.5	4007241	16.6	15.9	15.4	6.6	5.9	5.3	4.0	2.5	1.0
21.0	4007242	17.8	17.1	16.5	7.1	6.3	5.6	4.2	2.6	1.0
22.5	4007243	19.5	18.7	18.1	8.0	7.2	6.4	4.9	3.2	1.5
24.0	4007244	20.7	19.9	19.2	8.4	7.6	6.7	5.2	3.4	1.5
25.5	4007245	21.9	21.0	20.3	8.8	7.9	7.1	5.4	3.5	1.5
27.0	4007246	23.1	22.2	21.5	9.3	8.4	7.4	5.6	3.6	1.5
28.5	4007247	24.3	23.3	22.6	9.7	8.7	7.7	5.8	3.7	1.5
30.0	4007248	25.5	24.5	23.7	10.1	9.1	8.0	6.1	3.8	1.5

Forward Cable Equalizers, continued**Table 3.** Forward Cable Equalizers - 870 MHz (Yellow Cover)

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)							
		52	70	86	550	600	650	750	870
0	589260	-	-	-	-	-	-	-	-
1.5	589261	2.2	2.1	2.1	1.3	1.3	1.2	1.1	1.0
3.0	589262	3.3	3.2	3.2	1.7	1.6	1.5	1.2	1.0
4.5	589263	4.5	4.4	4.2	2.0	1.9	1.7	1.4	1.0
6.0	589264	5.7	5.5	5.3	2.4	2.1	1.9	1.5	1.0
7.5	589265	6.9	6.6	6.4	2.7	2.4	2.1	1.6	1.0
9.0	589266	8.0	7.7	7.5	3.1	2.7	2.4	1.7	1.0
10.5	589267	9.2	8.8	8.5	3.4	3.0	2.6	1.9	1.0
12.0	589268	10.4	10.0	9.6	3.7	3.3	2.8	2.0	1.0
13.5	589269	11.6	11.1	10.7	4.1	3.6	3.1	2.1	1.0
15.0	589270	12.8	12.2	11.8	4.4	3.9	3.3	2.2	1.0
16.5	589271	13.9	13.3	12.8	4.8	4.1	3.5	2.3	1.0
18.0	589272	15.1	14.4	13.9	5.1	4.4	3.7	2.5	1.0
19.5	589273	16.3	15.5	15.0	5.5	4.7	4.0	2.6	1.0

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)							
		52	70	86	550	600	650	750	870
21.0	589274	17.4	16.7	16.1	5.8	5.0	4.2	2.7	1.0
22.5	589275	18.6	17.8	17.2	6.1	5.3	4.4	2.8	1.0
24.0	589276	19.8	18.9	18.2	6.5	5.6	4.7	2.9	1.0
25.5	589277	21.0	20.0	19.3	6.8	5.8	4.9	3.1	1.0
27.0	589278	22.1	21.1	20.4	7.2	6.1	5.1	3.2	1.0

Table 4. Forward Cable Equalizers - 750 MHz (Yellow Cover)

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)							
		52	70	86	550	600	650	750	
0	589260	-	-	-	-	-	-	-	
1.5	589306	2.1	2.1	2.0	1.2	1.2	1.1	1.0	
3.0	589307	3.3	3.2	3.1	1.5	1.4	1.2	1.0	
4.5	589308	4.4	4.3	4.2	1.7	1.5	1.4	1.0	
6.0	589309	5.6	5.3	5.2	2.0	1.7	1.5	1.0	
7.5	589310	6.7	6.4	6.2	2.2	1.9	1.6	1.0	
9.0	589311	7.9	7.5	7.2	2.4	2.1	1.7	1.0	
10.5	589312	9.0	8.6	8.3	2.7	2.2	1.8	1.0	
12.0	589313	10.2	9.7	9.3	2.9	2.4	1.9	1.0	
13.5	589314	11.3	10.8	10.3	3.2	2.6	2.1	1.0	
15.0	589315	12.4	11.9	11.4	3.4	2.8	2.2	1.0	
16.5	589316	13.6	12.9	12.4	3.6	3.0	2.3	1.0	
18.0	589317	14.7	14.0	13.5	3.9	3.1	2.4	1.0	
19.5	589318	15.9	15.1	14.5	4.1	3.3	2.5	1.0	
21.0	589319	17.0	16.2	15.5	4.4	3.5	2.6	1.0	
22.5	589320	18.2	17.3	16.6	4.6	3.7	2.8	1.0	
24.0	589321	19.3	18.4	17.6	4.9	3.8	2.9	1.0	
25.5	589322	20.5	19.4	18.6	5.1	4.0	3.0	1.0	
27.0	589323	21.6	20.5	19.7	5.3	4.2	3.1	1.0	

Note: Unless otherwise noted, all specifications reflect typical performance and are referenced to 68°F (20°C). Specifications are based upon measurements made in accordance with SCTE/ANSI standards (where applicable), using standard frequency assignments.

Forward Linear Equalizers

Forward linear equalizers produce linear tilt. A linear equalizer should be used in the plug-in input or interstage equalizer location if a node output tilt does not have the desired station output tilt. The EQ value is the amount of tilt from lowest to highest frequency (52 – 1002 or 1218 MHz).

Table 5. Forward Linear Equalizers – 1218 MHz (Green Cover) (Used in Node Only)

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)												
		52	70	86	105	204	258	550	600	750	870	1000	1100	1218
0	GM-EQC-1.2G-0	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5	GM-EQL-1.2G-1.5	2.5	2.5	2.5	2.4	2.3	2.2	1.9	1.8	1.6	1.4	1.3	1.1	1.0
3.0	GM-EQL-1.2G-3	4.0	4.0	3.9	3.9	3.6	3.5	2.7	2.6	2.2	1.9	1.6	1.3	1.0
4.5	GM-EQL-1.2G-4.5	5.5	5.4	5.4	5.3	4.9	4.7	3.6	3.4	2.8	2.3	1.8	1.4	1.0
6.0	GM-EQL-1.2G-6	7.0	6.9	6.8	6.7	6.2	5.9	4.4	4.2	3.4	2.8	2.1	1.6	1.0
7.5	GM-EQL-1.2G-7.5	8.5	8.4	8.3	8.2	7.5	7.2	5.3	5.0	4.0	3.2	2.4	1.7	1.0
9.0	GM-EQL-1.2G-9	10.0	9.9	9.8	9.6	8.8	8.4	6.1	5.8	4.6	3.7	2.6	1.9	1.0
10.5	GM-EQL-1.2G-10.5	11.5	11.3	11.2	11.0	10.1	9.6	7.0	6.5	5.2	4.1	2.9	2.0	1.0
12.0	GM-EQL-1.2G-12	13.0	12.8	12.6	12.5	11.4	10.9	7.9	7.3	5.8	4.5	3.2	2.2	1.0
13.5	GM-EQL-1.2G-13.5	14.5	14.3	14.1	13.9	12.7	12.1	8.7	8.1	6.4	5.0	3.5	2.3	1.0
15.0	GM-EQL-1.2G-15	16.0	15.8	15.6	15.3	14.0	13.4	9.6	8.8	7.0	5.4	3.7	2.5	1.0
16.5	GM-EQL-1.2G-16.5	17.5	17.2	17.0	16.7	15.4	14.6	10.4	9.7	7.6	5.9	4.0	2.6	1.0
18.0	GM-EQL-1.2G-18	19.0	18.7	18.5	18.2	16.7	15.8	11.3	10.5	8.2	6.3	4.3	2.7	1.0
19.5	GM-EQL-1.2G-19.5	20.7	20.4	20.1	19.8	18.0	17.1	12.3	11.5	9.0	7.0	4.8	3.1	1.2
21.0	GM-EQL-1.2G-21	22.2	21.9	21.6	21.2	19.3	18.3	13.2	12.3	9.6	7.4	5.0	3.2	1.2
22.5	GM-EQL-1.2G-22.5	23.7	23.7	23.0	22.7	20.6	19.5	14.0	13.1	10.2	7.8	5.3	3.4	1.2
24.0	GM-EQL-1.2G-24	25.2	24.8	24.5	24.1	21.9	20.8	14.9	13.9	10.8	8.3	5.6	3.5	1.2

Table 6. Forward Linear Equalizers – 1002 MHz (Blue Cover) (Used in Node Only)

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)								
		52	70	86	550	600	650	750	870	1002
0	4007228	-	-	-	-	-	-	-	-	-
1.5	4008778	2.5	2.5	2.4	1.7	1.6	1.6	1.4	1.2	1.0
3.0	4008779	4.0	3.9	3.9	2.4	2.3	2.1	1.8	1.4	1.0
4.5	4008780	5.5	5.4	5.3	3.1	2.9	2.7	2.2	1.6	1.0
6.0	4008781	7.0	6.9	6.8	3.8	3.5	3.2	2.6	1.8	1.0
7.5	4008782	8.5	8.4	8.2	4.6	4.2	3.8	3.0	2.0	1.0
9.0	4008783	10.0	9.8	9.7	5.3	4.8	4.3	3.4	2.2	1.0
10.5	4008784	11.5	11.3	11.1	6.0	5.4	4.9	3.8	2.4	1.0
12.0	4008785	13.0	12.8	12.6	6.7	6.1	5.4	4.2	2.6	1.0
13.5	4008786	14.5	14.2	14.0	7.4	6.7	6.0	4.6	2.9	1.0
15.0	4008787	16.0	15.7	15.5	8.1	7.3	6.5	5.0	3.1	1.0

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)								
		52	70	86	550	600	650	750	870	1002
16.5	4019258	17.5	17.2	16.9	8.9	8.0	7.1	5.4	3.3	1.0
18.0	4019259	19.5	19.2	18.9	10.1	9.1	8.2	6.3	4.0	1.5
19.5	4019260	21.0	20.6	20.3	10.8	9.7	8.7	6.7	4.2	1.5
21.0	4019261	22.5	22.1	21.8	11.5	10.2	9.2	7.1	4.4	1.5

Inverse Equalizers

Forward inverse equalizers produce cable equivalent tilt. An inverse equalizer is normally used in place of a forward input equalizer during station balancing when an amplifier is short spaced to achieve the desired output tilt. An inverse equalizer's "dB value" indicates the amount of tilt (in dB) that would produce similar tilt (loss differential from low to high frequency). As with other equalizers, the 750, 870, 1002, and 1218 MHz inverse equalizer values are printed on the top of each inverse equalizer.

Table 7. Inverse Equalizers - 1218 MHz (Green Cover)

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)												
		52	70	86	105	204	258	550	600	650	750	870	1002	1218
1.5	GM-EQIN-1.2G-1.5	1.0	1.1	1.1	1.1	1.3	1.4	1.7	1.7	1.8	1.9	2.0	2.1	2.2
3.0	GM-EQIN-1.2G-3	1.0	1.1	1.2	1.2	1.6	1.7	2.4	2.5	2.6	2.7	2.9	3.1	3.5
4.5	GM-EQIN-1.2G-4.5	1.0	1.1	1.2	1.4	1.9	2.1	3.1	3.2	3.3	3.6	3.9	4.2	4.7
6.0	GM-EQIN-1.2G-6	1.0	1.2	1.3	1.5	2.1	2.4	3.7	3.9	4.1	4.5	4.9	5.3	5.9
7.5	GM-EQIN-1.2G-7.5	1.0	1.2	1.4	1.6	2.4	2.8	4.4	4.7	4.9	5.3	5.8	6.4	7.2
9.0	GM-EQIN-1.2G-9	1.0	1.3	1.5	1.7	2.7	3.2	5.1	5.4	5.7	6.2	6.8	7.4	8.4
10.5	GM-EQIN-1.2G-10.5	1.0	1.3	1.6	1.8	3.0	3.5	5.8	6.1	6.4	7.1	7.8	8.5	9.6
12.0	GM-EQIN-1.2G-12	1.0	1.4	1.7	2.0	3.3	3.9	6.5	6.9	7.2	7.9	8.7	9.6	10.9
13.5	GM-EQIN-1.2G-13.5	1.0	1.4	1.7	2.1	3.6	4.2	7.2	7.6	8.0	8.8	9.7	10.6	12.1
15.0	GM-EQIN-1.2G-15	1.0	1.5	1.8	2.2	3.8	4.6	7.8	8.3	8.8	9.7	10.7	11.7	13.3
16.5	GM-EQIN-1.2G-16.5	1.0	1.5	1.9	2.3	4.1	5.0	8.5	9.1	9.6	10.5	11.6	12.8	14.6
18.0	GM-EQIN-1.2G-18	1.0	1.5	2.0	2.4	4.4	5.3	9.2	9.8	10.3	11.4	12.6	13.8	15.8
19.5	GM-EQIN-1.2G-19.5	1.0	1.6	2.1	2.6	4.7	5.7	9.9	10.5	11.1	12.3	13.6	14.9	17.0
21.0	GM-EQIN-1.2G-21	1.0	1.6	2.1	2.7	5.0	6.0	10.6	11.2	11.9	13.1	14.5	16.0	18.2

Table 8. Inverse Equalizers - 1002 MHz (Blue Cover)

EQ Value (dB)	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)								
		52	70	86	550	600	650	750	870	1002
1.6	4007486	1.0	1.1	1.1	1.8	1.9	1.9	2.1	2.2	2.3
3.3	4007487	1.0	1.1	1.2	2.7	2.8	2.9	3.1	3.3	3.6
4.9	4007488	1.0	1.2	1.3	3.5	3.7	3.8	4.2	4.5	4.9
6.5	4007489	1.0	1.2	1.4	4.3	4.6	4.8	5.2	5.7	6.2
8.1	4007490	1.0	1.3	1.5	5.2	5.4	5.7	6.3	6.9	7.5
9.8	4007491	1.0	1.3	1.6	6.0	6.3	6.7	7.3	8.0	8.8
11.4	4007492	1.0	1.4	1.7	6.8	7.2	7.6	8.4	9.2	10.1
13.0	4007493	1.0	1.4	1.8	7.6	8.1	8.6	9.4	10.4	11.4
14.6	4007494	1.0	1.5	1.9	8.5	9.0	9.5	10.5	11.6	12.7
16.2	4007495	1.0	1.5	2.0	9.3	9.9	10.4	11.5	12.7	14.0

Table 9. Inverse Equalizers 750 & 870 MHz (Yellow Cover)

Inverse EQ Value (dB) 870	Inverse EQ Value (dB) 750	Part Number	Typical Insertion Loss (dB) at Various Frequencies (MHz)							
			52	70	86	550	600	650	750	870
1.5	1.4	589325	1.0	1.1	1.1	1.8	1.9	1.9	2.1	2.2
3.0	2.9	589326	1.0	1.1	1.2	2.7	2.8	2.9	3.1	3.3
4.5	4.2	589327	1.0	1.2	1.3	3.5	3.7	3.8	4.2	4.5
6.0	5.5	589328	1.0	1.2	1.4	4.3	4.6	4.8	5.2	5.7
7.5	6.9	589329	1.0	1.3	1.5	5.2	5.4	5.7	6.3	6.9
9.0	8.4	589330	1.0	1.3	1.6	6.0	6.3	6.7	7.3	8.0
10.5	9.8	589331	1.0	1.4	1.7	6.8	7.2	7.6	8.4	9.2
12.0	11.1	589332	1.0	1.4	1.8	7.6	8.1	8.6	9.4	10.4
13.5	12.6	589333	1.0	1.5	1.9	8.5	9.0	9.5	10.5	11.6
15.0	13.8	589334	1.0	1.5	2.0	9.3	9.9	10.4	11.5	12.7

Reverse Equalizers

Reverse equalizers produce a tilted frequency response opposite of that produced by coaxial cables. They are normally used during station balancing to counteract the tilt produced by coaxial cables, in order to achieve desired tilt. An equalizer's "dB value" indicates the amount of tilt (in dB at rated high frequency) the equalizer is designed to offset. The dB value and rated high frequency (40, 42, 55, 65 or 204MHz) are printed on the top of each equalizer. The amount of tilt (in dB) that the equalizer produces from low to high frequency is printed on the side of each equalizer.

Table 10. Reverse Equalizers - 42 MHz EQs are Used in GainMaker Amplifiers with Either a 40/52 or 42/54 MHz Reverse/Forward Bandsplit. Both the 42 MHz and the 40 MHz EQ Values are Printed on the Top of Each 42 MHz Reverse Equalizer

EQ Value (dB) 40 MHz	EQ Value (dB) 42 MHz	Part Number	Typical Insertion Loss (dB)		
			5 MHz	40 MHz	42 MHz
0	0	712719	-	-	-
1	1	589628	1.7	1.0	1.0
2	2	589629	2.3	1.0	1.0
3	3.1	589630	3.0	1.0	0.9
4	4.1	589631	3.6	1.0	0.9
5	5.1	589632	4.3	1.0	0.9
6	6.1	589633	4.9	1.0	0.9
7	7.2	589634	5.6	1.0	0.8
8	8.2	589635	6.2	1.0	0.8
9	9.2	589636	6.9	1.0	0.8
10	10.2	589637	7.5	1.0	0.8
11	11.3	589638	8.2	1.0	0.7
12	12.3	589639	8.9	1.0	0.7

Table 11. Reverse Equalizers - 55 MHz EQs are Used in GainMaker Amplifiers with a 55/70 MHz Reverse/Forward Bandsplit

EQ Value (dB)	Part Number	Typical Insertion Loss (dB)	
		5 MHz	55 MHz
0	712719	-	-
1	712679	1.7	1.0
2	712680	2.4	1.0
3	712681	3.1	1.0
4	712682	3.8	1.0
5	712683	4.5	1.0
6	712684	5.2	1.0
7	712685	5.9	1.0
8	712686	6.7	1.0
9	712687	7.4	1.0
10	712688	8.1	1.0
11	712689	8.8	1.0
12	712690	9.5	1.0

Table 12. Reverse Equalizers - 65 MHz EQs are Used in GainMaker Amplifiers with a 65/86 MHz Reverse/Forward Bandsplit

EQ Value (dB)	Part Number	Typical Insertion Loss (dB)	
		5 MHz	65 MHz
0	712719	-	-
1	589736	1.7	1.0
2	589737	2.5	1.0
3	589738	3.2	1.0
4	589739	3.9	1.0
5	589740	4.7	1.0

EQ Value (dB)	Part Number	Typical Insertion Loss (dB)	
		5 MHz	65 MHz
6	589741	5.4	1.0
7	589742	6.1	1.0
8	589743	6.9	1.0
9	589744	7.6	1.0
10	589745	8.3	1.0
11	589746	9.0	1.0
12	589747	9.8	1.0

Table 13. Reverse Equalizers - 85 MHz EQs Are Used in GainMaker Amplifiers with a 85/102 MHz Reverse/Forward Bandsplit

EQ Value (dB)	Part Number	Typical Insertion Loss (dB)	
		5 MHz	65 MHz
0	712719	-	-
1	4036769	1.8	1.0
2	4036770	2.5	1.0
3	4036771	3.3	1.0
4	4036772	4.1	1.0
5	4036773	4.8	1.0
6	4036774	5.6	1.0
7	4036775	6.4	1.0
8	4036776	7.1	1.0
9	4036777	7.9	1.0
10	4036778	8.7	1.0
11	4036789	9.4	1.0
12	4036780	10.2	1.0

Table 14. Reverse Equalizers - 204 MHz EQs Are Used in GainMaker Amplifiers with a 204/258 MHz Reverse/Forward

EQ Value (dB)	Part Number	Typical Insertion Loss (dB)	
		5 MHz	204 MHz
0	712719	-	-
1	GM-EQREV-204M-1=	1.9	1.0
2	GM-EQREV-204M-2=	2.7	1.0
3	GM-EQREV-204M-3=	3.6	1.0
4	GM-EQREV-204M-4=	4.4	1.0
5	GM-EQREV-204M-5=	5.3	1.0
6	GM-EQREV-204M-6=	6.1	1.0
7	GM-EQREV-204M-7=	7.0	1.0
8	GM-EQREV-204M-8=	7.8	1.0
9	GM-EQREV-204M-9=	8.7	1.0
10	GM-EQREV-204M-10=	9.5	1.0
11	GM-EQREV-204M-11=	10.4	1.0
12	GM-EQREV-204M-12=	11.2	1.0

Table 15. Reverse Thermal Equalizers Can be Used in GainMaker Amplifiers with Either a 40/52 or 42/54 MHz Reverse/Forward Bandsplit. Reverse Thermal Equalizers Compensate for Variations in Cable Loss Due to Changes in Temperature

EQ Value (dB)	Inverse EQ Value (dB) 750	Part Number	Typical Insertion Loss (dB)*		
			5 MHz	40 MHz	42 MHz
1	1	748376	2.3	1.8	1.6
2	2	748377	3.0	1.8	1.7
3	3.1	748378	3.9	1.8	1.8
4	4.1	748379	4.6	1.8	1.9
5	5.1	748380	5.2	1.8	1.8
6	6.1	748381	5.8	1.8	1.8
7	7.2	748382	6.5	1.8	1.7
8	8.2	748383	7.2	1.8	1.8

* Reverse Thermal Equalizer specifications reflect typical performance and are referenced to 77° F (25°C).

Signal Directors

Signal directors are used in the High Gain Dual and Low Gain Dual system amplifiers only. One signal director is required per amplifier to route and/or split forward RF signal to the Auxiliary output port(s). The signal director is available in splitter, DC-8, or DC-12 configurations for splitting the Auxiliary path signal to feed both Auxiliary ports, or as a jumper for routing all signals to a selected port.

Table 16. Signal Directors – 1218 MHz (Green Cover)

Type	Part Number	Tap/Thru Leg	Typical Insertion Loss (dB) at Various Frequencies (MHz)									
			52	70	86	550	600	650	750	870	1002	1218
Jumper	GM-SD-1.2G-JMP=	Aux 2	0.1	0.1	0.1	0.2	0.25	0.3	0.3	0.3	0.3	0.4
		Aux 1	0.1	0.1	0.1	0.3	0.3	0.4	0.4	0.4	0.45	0.6
2-way splitter	GM-SD-1.2G-SPLT=	Aux 2	3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8
		Aux 1	3.7	3.7	3.7	4.0	4.0	4.0	4.0	4.1	4.1	4.1
DC-8	GM-SD-1.2G-DC8=	Thru	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1
		Tap	8.3	8.3	8.3	8.3	8.3	8.3	8.1	8.1	8.5	8.5
DC-12	GM-SD-1.2G-DC12=	Thru	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.5	1.9
		Tap	11.8	11.8	11.8	11.8	11.8	11.7	11.7	11.7	11.8	12.1

Table 17. Signal Directors – 1002 MHz (Blue Cover)

Type	Part Number	Tap/Thru Leg	Typical Insertion Loss (dB) at Various Frequencies (MHz)								
			52	70	86	550	600	650	750	870	1002
Jumper	4008208	Aux 2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3
		Aux 1	0.1	0.1	0.1	0.4	0.4	0.5	0.5	0.6	0.7
2-way splitter	4008364	-	3.4	3.4	3.4	3.8	3.9	3.0	4.0	4.1	4.2
DC-8	4008365	Thru	1.7	1.8	1.8	2.1	2.1	2.1	2.1	2.2	2.3
		Tap	8.3	8.3	8.3	8.2	8.3	8.2	8.1	8.0	8.0
DC-12	4008366	Thru	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.5
		Tap	12.4	12.4	12.4	11.8	11.8	11.7	11.7	11.7	11.8

Table 18. Signal Directors – 870 MHz (Blue Cover)

Type	Part Number	Tap/Thru Leg	Typical Insertion Loss (dB) at Various Frequencies (MHz)							
			52	70	86	550	600	650	750	870
Jumper	589281	-	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3
2-way splitter	589357	-	3.7	3.7	3.7	3.7	3.7	3.7	3.8	4.0
DC-8	589363	Thru	1.7	1.7	1.7	1.8	1.9	1.9	1.9	2.0
		Tap	8.3	8.3	8.3	8.3	8.2	8.2	8.1	8.1
DC-12	589367	Thru	1.0	1.0	1.0	1.2	1.2	1.3	1.4	1.6
		Tap	12.1	12.1	12.1	11.7	11.6	11.6	11.6	11.6

Note: The GainMaker plug-in signal director produces loss in the forward signal path only. The signal director is physically located inboard of the forward/reverse diplex filters in the forward path of the amplifier. Therefore, there are no reverse path losses associated. Auxiliary port reverse input pad values must be selected accordingly during system design when using the splitter, DC-8, or DC-12 signal director in a station.

System Trim

A plug-in system trim may be used to counter the frequency response effects of some passive devices in the coaxial plant. A mid frequency, single dip trim (Model MSD-1NGF) is available for all 870 MHz GainMaker amplifiers. The System Trim part number is 714446.

Table 19. Fuse Kits/Surge Protectors

System Amplifier	Part Number
Slow Blow Fuse Kit, 4 amp (contains 4 fuses)	735628
Slow Blow Fuse Kit, 8 amp (contains 4 fuses)	735630
Slow Blow Fuse Kit, 15 amp (contains 4 fuses)	735632
Crowbar Surge Protector	715973

Line Extender	Part Number
Slow Blow Fuse Kit, 4 amp contains 2 fuses)	735629
Slow Blow Fuse Kit, 8 amp (contains 2 fuses)	735631
Slow Blow Fuse Kit, 15 amp (contains 2 fuses)	735633
Crowbar Surge Protector	715973

Table 20. Test Point Adapter

Description	Part Number
Long Reach Test Point Adapter	562580

Pads (attenuators)

Plug-in pads produce flat (even) loss across the forward and reverse frequency spectrums. Pads are used during station balancing to adjust signal levels as needed. The (dB) loss produced is equal to the pad value printed on the top of the pad. The Pad with “75 Ω” printed on the top will work as a 75 Ohm terminator.

Table 21. 1218 MHz Pads (Attenuators)

Pad Value (dB)	Part Number	Pad Value (dB)	Part Number
0	GM-PAD-1.2G-00=	10	GM-PAD-1.2G-10.0
1	GM-PAD-1.2G-1.0=	11	GM-PAD-1.2G-11.0
2	GM-PAD-1.2G-2.0=	12	GM-PAD-1.2G-12.0
3	GM-PAD-1.2G-3.0=	13	GM-PAD-1.2G-13.0
4	GM-PAD-1.2G-4.0=	14	GM-PAD-1.2G-14.0
5	GM-PAD-1.2G-5.0=	15	GM-PAD-1.2G-15.0
6	GM-PAD-1.2G-6.0=	16	GM-PAD-1.2G-16.0
7	GM-PAD-1.2G-7.0=	17	GM-PAD-1.2G-17.0
8	GM-PAD-1.2G-8.0=	18	GM-PAD-1.2G-18.0
9	GM-PAD-1.2G-9.0=	19	GM-PAD-1.2G-19.0
10	GM-PAD-1.2G-10.0=	20	GM-PAD-1.2G-20.0
75 ohm terminator	GM-PAD-1.2G-75=		

Table 22. 1002 MHz Pads (Attenuators)

Pad Value (dB)	Part Number	Pad Value (dB)	Part Number
0	589693	0.5	589694
1	589695	1.5	589696
2	589697	2.5	589698
3	589699	3.5	589700
4	589701	4.5	589702
5	589703	5.5	589704
6	589705	6.5	589706
7	589707	7.5	589708
8	589709	8.5	589710
9	589711	9.5	589712
10	589713	10.5	589714
11	589715	11.5	589716
12	589717	12.5	589718
13	589719	13.5	589720
14	589721	14.5	589722
15	589723	15.5	589724
16	589725	16.5	589726
17	589727	17.5	589728
18	589729	18.5	589730
19	589731	19.5	589732
20	589733	20.5	589734
		75 ohm terminator	589735




Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

 Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)