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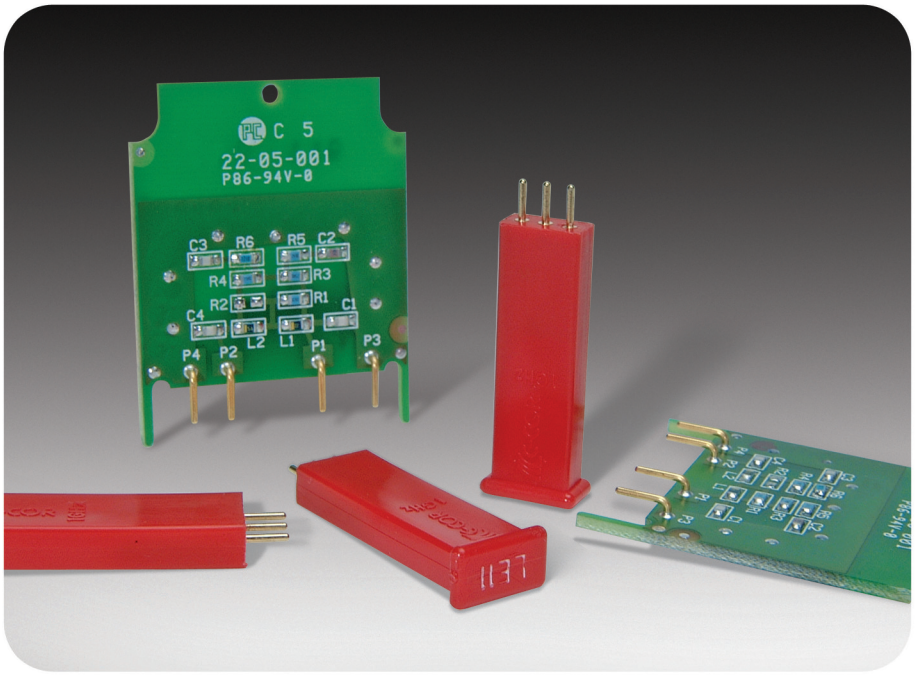

HFC Product Accessories Reference Guide

Revision K

Z1513173

11 2024

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Revision History

Revision	Date	Reason for Change
A	03/2019	Initial Agile release.
B	11/2019	Revised to correct insertion Loss for CBSM-1G-07 at 900 MHz to 6.37 dB.
C	10/2020	Revised to support BLE120 and MB120 1.2 GHz amplifiers and accessories.
D	08/2022	Revised to support FM332 and FM902 1.2 GHz amplifiers and accessories. Revised to support PA and HS series forward path signal correction plug-ins for 1.2 GHz Flex Max and STARLINE amplifiers. Added forward and return high-split plug-ins and accessories. Moved EOL products from active to legacy category.
E	09/2022	Revised to add JXP-TH*C Thermal Return Attenuator Pads.
F	10/2022	Restructured document using book format. Added Flex Max and STARLINE Carrier Boards.
G	11/2023	Updated photos of REQC equalizers on pp. 3-4, 5-31, and 5-32.
H	02/2024	Revised Table 5.36 on page 5-21 to remove 1 dB option. Revised Table 5.45 on page 5-25 to correct part numbers and add dB value column.
J	07/2024	Rebranded document using CommScope template. Added Table 1.1 on page 1-3. Added Table 5.10 on page 5-8 and Table 5.28 on page 5-17. Updated Table 2.5 on page 2-7 to include 1200MHZ-Enhancer. Updated Table 2.6 on page 2-11 to include ESD Diplex Filters and Forward Path Filters and Table 3.3 on page 3-5 to include ESD Diplex Filters and Return Path Filters. Updated Table 4.1 on page 4-2 to include 1.8 GHz Splitter and Coupler.
K	11/2024	Added Table 103 for FDX options.

Contacts

Help with your CommScope product is available online and by phone:

Severity Definitions

CommScope uses the following definitions to categorize and respond to problems customers may experience with in-warranty equipment, as noted below.

- Severity Level 1 (Critical) — Significant operational interruption or failure of the covered equipment resulting in a total system outage that affects the entire network or significant components of the network
- Severity Level 2 (Major) —A failure of the covered equipment resulting in (i) a serious degradation to the quality of services to the customer's subscribers, or (ii) a serious impact to customer's business operations
- Severity Level 3 (Minor) — A failure of the covered equipment resulting in other problems of lesser severity than Level 1 or Level 2, such as minor functions or features becoming inoperable, unsupported, or unreliable
- Severity Level 4 (Minor) — A failure of the covered equipment resulting minor problems of lesser severity than Level 3, with little or no impact to subscribers or operations

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- Contact us via the CommScope Support page (http://www.commscope.com/Support) to report non-critical Severity 4 issues. We will answer your service request within one business day. You can also use the Customer Care portal to update and close your support requests and add attachments, if required, to your open tickets.
- Find technical documentation at https://www.commscope.com/support/at-resource-center

Technical Support

Contact Technical Support when you need assistance with installed products.

The CommScope TAC Call Center provides Customer support 24/7/365. A TAC agent will create your case and escalate to the appropriate technical support team. Critical Severity 1 or 2 issues will be warm transferred for immediate assistance.

North America

Phone: 1-888-944-HELP (4357); + 1-215-323-2345 (worldwide)

Email: TAC.Helpdesk@commscope.com

Contact TAC via email to report non-critical Severity 3 or 4 issues. Contact the TAC by phone at 1-888-944-4357 for Critical Severity 1 or 2 issues.

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Phone: +1-215-323-2346

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Phone: No in region numbers

Email: TAC.Helpdesk@commscope.com

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Contact Technical Training for inquiries concerning product training. Please be prepared to provide a list of equipment you would like training on.

Email: #TrainingRequest@commscope.com

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Contact Repair Services if you need to return a product for repair. Please go to the CommScope website (http://www.commscope.com), click the ***Support*** link, click ***Access Network Solutions (formerly ARRIS)***, and then scroll down and click the ***Returns and Repairs*** button for more information.

Table of Contents

Chapter 1

ACCESSORIES BY PRODUCT LINE

This chapter provides an overview of current and legacy HFC accessories by product line.

ARRIS offers a full complement of plug-in accessories for our strand-mount, cabinet-mount, and rack-mount transmission and distribution equipment. In most cases, these plug-in accessories can be shared across similar product lines.

Features:

- Tested and designed specifically for ARRIS products by our ARRIS engineers
- ARRIS accessories are designed for full functionality over operating temperature
- ARRIS authorized accessories should be used for guaranteed performance
- Product warranties are applicable exclusively to ARRIS authorized accessories

Options include:

- forward and return attenuators (PADs)
- forward and return equalizers
- forward cable simulators
- input configuration modules
- output distribution accessories
- active and passive return channel modules
- diplexers
- automatic gain control modules
- control (signature correction) modules

How This Reference Guide Is Organized

This Reference Guide is organized to function in the following order:

Chapter 2, *Forward Path Accessories*

Chapter 3, *Return Path Accessories*

Chapter 4, *Miscellaneous Accessories*

Chapter 5, *HFC Accessories Specifications*

This Reference Guide also contains the following Appendix that provides important reference information:

Appendix A, *Warranty*

Ordering Information

To configure a product that meets your specific needs, or for any questions, please contact your ARRIS Sales Professional. You may visit http://www.commscope.com/Support for additional support options. If you do not have a user ID and password or have forgotten your password, please click the Create/Update Membership button.

Accessories by Product Line — Current ARRIS Products

Table 1: ARRIS STARLINE™ 1.8 GHz RF Amplifiers

Model	PN Prefix	Forward PADs	Forward EQs[1]	Forward Signal Correction Attenuators[2]	Cable Simulators	Return PADs	Return EQs	Output Dist.	Automatic Gain Control
MB180 MiniBridger™	MB180	JXP-*B NPB-*	1200MHZ-ENHANCER	HS1, PA1, PA2, PA3	N/A	JXP-*B NPB-*	N/A	MB180-SP MB180-DC-x	ADU, QADU
BLE180 Line Extender	BLE180	JXP-*B NPB-*	1200MHZ-ENHANCER	HS1, PA1, PA2, PA3	N/A	JXP-*B NPB-*	N/A	N/A	ADU, QADU

1. Increases the amount of available gain in the amplifier to support operation in legacy 1.2 GHz networks
2. 1 GHz and 1.2 GHz HS1 plug-ins are available; 1 GHz and 1.2 GHz PA1 and PA2 plug-ins are available; PA3 available in 1 GHz only.

Table 2: ARRIS STARLINE™ 1.2 GHz RF Amplifiers

Model	PN Prefix	Forward PADs	Forward EQs[1]	Forward Signal Correction Attenuators[2]	Cable Simulators[1]	Return PADs	Return EQs	Output Dist.	Automatic Gain Control
MB120 MiniBridger™	MB120	JXP-*B NPB-*	CE-120-*	HS1, PA1, PA2, PA3	CS-120-*	JXP-*B JXP-TH*C-R NPB-*	SRE-*-*	SP120 DC120/*	ADU, QADU
BLE120 Line Extender	BLE120	JXP-*B NPB-*	CE-120-*	HS1, PA1, PA2, PA3	CS-120-*	JXP-*B JXP-TH*C-R NPB-*	SRE-*-*	N/A	ADU, QADU

1. Used in conjunction with SFE-120 Carrier Board; refer to Table 17 on page 17.
2. 1 GHz and 1.2 GHz HS1 plug-ins are available; 1 GHz and 1.2 GHz PA1 and PA2 plug-ins are available; PA3 available in 1 GHz only.

Table 3: ARRIS Flex Max® 1.2 GHz RF Amplifiers

Model	PN Prefix	Forward PADs	Forward EQs[1]	Forward Signal Correction Attenuators[2]	Cable Simulators[1]	Return PADs	Return EQs	Output Distribution Accessories	Automatic Gain Control
FM902 Bridger	FMB12	JXP-*B NPB-*	CE-120-*	HS1, PA1, PA1, PA3	CS-120-*	JXP-*B JXP-TH*C-R NPB-*	MEQ-42, 85, 204	SDC-1218-*, SS-1218-2	ADU, QADU
FM902 Trunk	FMT12	JXP-*B NPB-*	CE-120-*	HS1, PA1, PA2, PA3	CS-120-*	JXP-*B JXP-TH*C-R NPB-*	MEQ-42, 85, 204	SDC-1218-*, SS-1218-2	ADU, QADU
FM332 Line Extender	FML332	JXP-*B NPB-*	CE-120-*	HS1, PA1, PA2, PA3	CS-120-*	JXP-*B JXP-TH*C-R NPB-*	MEQ-42, 85, 204	N/A	ADU, QADU

1. Used in conjunction with FM GEQL-JXP Carrier Board; refer to Table 17 on page 17.
2. 1 GHz and 1.2 GHz HS1 plug-ins are available; 1 GHz and 1.2 GHz PA1 and PA2 plug-ins are available; PA3 available in 1 GHz only.

Table 4: ARRIS Flex Max® 1 GHz RF Amplifiers

Model	P/N Prefix	Forward PADs	Forward EQs	Forward Signal Correction Attenuators	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories
FM901e-T[1] Trunk	FMTEG	NPB	SEQ-1G SEQ-862 SEQ-750 GEQC-1G (O/P) GEQC-870 (O/P) GEQL-1G (O/P)	PA2-1GHZ-NPB PA3-1GHZ-NPB	SCS-1G	NPB[2] JXP-TH*C-R	MEQ-42, 55, 65, 85 MEQT-42, 85	S-Series
FM901e-B[1] Bridger	FMBEG	NPB	SEQ-1G SEQ862 SEQ750	PA2-1GHZ-NPB PA3-1GHZ-NPB	SCS-1G	NPB[2] JXP-TH*C-R	MEQ-42, 55, 65, 85 MEQT-42, 85	S-Series
FM601e-T Trunk[1]	FM6T	10-A-WC	PEQ-1G 7-2E862-WC 7-2E750-WC	PA2-1GHZ-NPB PA3-1GHZ-NPB	PCS-1G	10-A-WC	7-REF42/x-WC 7-REF55/x-WC 7-REF65/x-WC	7-DC-Series
FM601e-B Bridger[1]	FM6B	10-A-WC THRM	PEQ-1G 7-2E862-WC 7-2E750-WC	PA2-1GHZ-NPB PA3-1GHZ-NPB	PCS-1G	10-A-WC[2]	7-REF42/x-WC 7-REF55/x-WC 7-REF65/x-WC	7-DC-Series
FM601e-LE Line Extender[1]	FM6E	10-A-WC THRM	PEQ-1G 7-2E862-WC 7-2E750-WC	PA2-1GHZ-NPB PA3-1GHZ-NPB	PCS-1G	10-A-WC[2]	7-REF42/x-WC	N/A
FM331-LE Line Extender[1]	FML1G	NPB Amini (interstage)	SEQ-1G SEQ-862 W/O SEQ-750 W/O	PA2-1GHZ-NPB PA3-1GHZ-NPB	SCS-1G	NPB JXP-TH*C-R	MEQ-42, 55, 65, 85 MEQT-42, 85	N/A
FM321e-LE Line Extender[1]	FM321G	10-A-WC THRM	PEQ-1G 7-2E862-WC 7-2E750-WC	PA2-1GHZ-NPB PA3-1GHZ-NPB	PCS-1G	10-A-WC	9-A/*-WC 10-A/*-WC	N/A

Key
N/A: not applicable; W/O:without covers; WC:with covers

1. Signature Correction Modules are available for all ARRIS Flex Max 1 GHz RF amplifiers.
2. Noise Filter may be used in the Return PAD location. FM901e-T/B require a standard height noise filter be used in combination with an adaptor in the Return PAD location. For FM401, the taller (1.4 inch) noise filter is recommended for ease of installation and removal.

Table 5: ARRIS STARLINE™ 1 GHz RF Amplifiers

Model	PN Prefix	Forward PADs	Forward EQs	Forward Signal Correction Attenuators	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories	Automatic Gain Control
BT100 Amplifier	BT100	JXP-*B	SFE-100-*-R	HS2 PA2-1GHZ-NPB PA3-1GHZ-NPB	SCS-*	JXP-*B	SRE	N/A	TDU ADU QADU
MBV3 MiniBridger™	MBV3	JXP-*B	SFE-100-*-R	HS2 PA2-1GHZ-NPB PA3-1GHZ-NPB	SCS-*	JXP-*B	SRE	N/A	TDU/V ADU/V QADU/V
MB100 MiniBridger™	MB100	JXP-*B	SFE-100-*-R	HS2 PA2-1GHZ-NPB PA3-1GHZ-NPB	SCS-*	JXP-*B JXP-TH*C-R	SRE	SP120 DC120/*	TDU ADU QADU
BLE100 Line Extender	BLE100	JXP-*B	SFE-100-*-R	HS2 PA2-1GHZ-NPB PA3-1GHZ-NPB	SCS-*	JXP-*B JXP-TH*C-R	SRE	N/A	TDU ADU QADU

Table 6: ARRIS Optical Products

Model	P/N Prefix	Forward PADs	Forward EQs	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories	Freq. Split Accessories
CHP Dual TX	CHP	Amini Short	CHP Plug-in EQ	N/A	N/A	N/A	N/A	N/A
CHP Single TX	CCHP	CHP PAD	N/A	N/A	N/A	N/A	N/A	N/A
Opti Max™ OM4120™	OM412	NPB	EQL-1.2GHZ GEQL-1GHZ GEQL-870	N/A	NPB	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
Opti Max OM6000™	OM6	NPB	EQL-1.2GHZ GEQL-1GHZ GEQL-870	N/A	NPB	REQC-42-* REQC-65-* REQC-85-* REQC-204-*	N/A	RPLPF Roll-off Compensation Board Diplex Filter
Opti Max OM2741	OM27	NPB	GEQL-1GHZ GEQL-870 GEQC-1GHZ GEQC-870	N/A	NPB	N/A	S-Series	RPLPF Roll-off Compensation Board Diplex Filter
NC2000 1.2 GHz Series	NC2	AP-4100x-L	EQ21xxE-1.2GHZ EQ21xxG-1GHZ EQ21xx-870MHZ	N/A	AP-4100x-L	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
NC4000™ 1.2 GHz Series	NC4	AP-4100x-L	EQ21xxE-1.2GHZ EQ21xxG-1GHZ EQ21xx-870MHZ	N/A	AP-4100x-L	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter

Key
N/A: not applicable
W/O: without covers; WC:with covers

Table 7: ARRIS Taps and Equalizers

Model	Cable EQs	Cable Simulators	Return Attenuators	Plug-in Equalizer Board
BTTF*-*Q 1.2GHz Taps	T-EQ-*-Q	T-CS-*-Q	T-RPA/*-*-Q	N/A
FFE-*-120*/RP Equalizers	N/A	N/A	N/A	N/A
FFT*-*Q 1.2GHz Taps	T-EQ-*-Q	T-CS-*-Q	T-RPA/*-*-Q	N/A
RMT212* 1.2 GHz Taps	T-EQ-*-Q	T-CS-*-Q	T-RPA/*-*-Q	N/A

Accessories by Product Line—Discontinued Legacy ARRIS Products

Legacy products listed in the tables below have been discontinued by ARRIS. Please consult your authorized ARRIS sales representative for upgrade options.

The following tables list available accessories that support the installed legacy products.

Table 8: Legacy Flex Max® RF Amplifiers

Model	P/N Prefix	Forward PADs	Forward EQs	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories
Flex Max901 Trunk/Bridger	FMT1G FMB1G	NPB	SEQ-1G SEQ-862 W/O SEQ-750 W/O	SCS-1G	NPB	MEQ-42 MEQT-42	S-Series
Flex Max900 Trunk/Bridger	FNT9 FNB9	SPB	SEQ-862 SEQ-750 SEQPB	SCS-862	SPB	MEQ-42, 55, 65, 85 MEQT-42, 85	S-Series
Flex Max601 Bridger	FM6B	10-A-WC	PEQ-1G 7-2E862-WC 7-2E750-WC	PCS-1G	10-A-WC[1]	7-REF42/x-WC	7-DC-Series
Flex Max601 Line Extender	FM6L	10-A-WC	PEQ-1G 7-2E862-WC 7-2E750-WC	PCS-1G	10-A-WC[1]	7-REF42/x-WC	N/A
FM401[1,2]	FM401	NPB	FEQC-1G FEQC-870 FEQC-750	CBSM-1G	NPB[2]	REQC-42 REQC-65 REQC-85	7-DC-Series[3]
Flex Max340	NL1x NL2x	SPB	SEQ-862 SEQ-750	SCS-862	SPB	MEQ-42, 55, 65, 85 MEQT-42, 85	N/A
Flex Max330	FM330	NPB	SEQ-862 W/O SEQ-750 W/O	SCS-862 W/O	NPB	MEQ-42 MEQT-42	N/A
Flex Max321	FM321G	10-A-WC	PEQ-1G 7-2E862-WC 7-2E750-WC	PCS-1G	10-A-WC	7-REF42/x-WC	N/A
Flex Max320	AMP008x	10-A-WC THRM	7-2E862-WC 7-2E750-WC	PCS-1G	10-A-WC	7-REF42/x-WC 7-REF55/x-WC 7-REF65/x-WC	N/A
Flex Max222	FM222	NPB Amini	Amini	N/A	Amini[1]	Amini	7-DC-Series
Flex Max220P	FM220-P	NPB Amini	E862/xx E606/xx	CE862/x	Amini[1]	Amini	N/A
Flex Max220B	FM220-B	NPB Amini	Amini	N/A	Amini[1]	Amini	N/A
Key	N/A: not applicable; WO: without covers; WC: with covers						

1. Noise Filter may be used in the Return PAD location.
2. D30/47, D42/54, and D55/70 plug-in diplex filters are available. The original diplex filters were qualified for use in 870 MHz systems. The new diplex filters are qualified for use in 1 GHz systems. The new diplex filters have the same model numbers as the original diplex filters.
3. 7-DC-Series accessories may also be used in the Input Splitter location.

Table 9: Legacy Motorola STARLINE™ RF Amplifiers

Model	PN Prefix	Forward PADs	Forward EQs	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories	Automatic Gain Control
SLE100 Line Extender	SLE100	JXP-*B	SFE-100-*-R	SCS-*	JXP-*B	SRE	SP100 DC100	SLE-ADU

Table 10: Legacy C-COR & Philips RF Amplifiers

Model	P/N Prefix	Forward PADs	Forward EQs	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories
FlexNet800	FNT8 FNB8 E8	SPB	SEQ-862 SEQ-750 SEQPB	SCS-862	SPB RPB	MEQ-42, 55, 65, 85 MEQT-42, 85	S-Series
FlexNet700	FNT7 FNB7	SPB	SEQ-750 SEQPB	SCS-862	SPB RPB	MEQ-42, 55, 65, 85 MEQT-42, 85	S-Series

Table 10: Legacy C-COR & Philips RF Amplifiers

Model	P/N Prefix	Forward PADs	Forward EQs	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories
E900	E9	SPB	SEQ-862 SEQ-750	SCS-862	SPB RPB	MEQ-42, 55, 65, 85 MEQT-42, 85	N/A
E700	E7	SPB	SEQ-862 SEQ-750 SEQPB	SCS-862	SPB RPB	MEQ-42, 55, 65, 85 MEQT-42, 85	N/A
Diamond Line I & II	T3A	10-A-WC	7-2E862-WC 7-2E750-WC	7-2E862C-WC	10-A-WC	7-REF42/x-WC 7-REF55/x-WC 7-REF65/x-WC	7-DC-Series
Diamond Line III	G3A	10-A-WC	7-2E862-WC 7-2E750-WC	7-2E862C-WC	10-A-WC	7-REF42/x-WC 7-REF55/x-WC 7-REF65/x-WC	N/A
GNA/TNA		10-A-L	7-2E750 W/O	7-2E862C-W/O	10-A-L	7-REF42/x-WC 7-REF55/x-WC 7-REF65/x-WC	7-DC-Series
Key	N/A: not applicable		W/O: without covers		WC:with covers		

Table 11: Legacy Optical Products

Model	P/N Prefix	Forward PADs	Forward EQs	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories	Freq. Split Accesories
Opti Max OM3101	OM31C	10-A-WC[1]	GEQL-1GHZ-xxx-1 GEQL-870-xxx-1	N/A	10-A-WC	7-DC-Series	N/A	RPLPF Roll-off Compensation Board Diplex Filter
Opti Max OM3100	OM31G	10-A-WC 9-A-S (RX only)	GEQL-1GHZ-xxx-1 GEQL-870-xxx-1	N/A	10-A-WC	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
Opti Max OM2100	OM21G	NPB Amini	GEQL-1GHZ GEQL-870	N/A	NPB Amini	NPB/Amini 7-DC-Series	N/A	RPLPF Roll-off Compensation Board Diplex Filter
Opti Max OM2700	OM27	NPB SPB	GEQC-1GHZ GEQC-870-080 GEQL-1GHZ GEQL-870 SEQ-750 SEQ-862 SEQ-1G	SCS-1G SCS-750 SCS-862	NPB SPB	N/A	S-Series	N/A
Opti Max OM4000	OM41G	NPB	NEQL-870	N/A	NPB[2]	N/A	N/A	N/A
Opti Max OM4100™	OM41	NPB	GEQL-1GHZ GEQL-870	N/A	NPB	N/A	N/A	N/A
Opti Max OM3000	OM3	10-A-WC 9-A-S (RX only)	7-TG862-WC	N/A	10-A-WC[1]	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
Opti Max OM2000[3]	OM2	Amini	Amini	N/A	Amini	Amini	N/A	RPLPF Roll-off Compensation Board Diplex Filter

Table 11: Legacy Optical Products (cont'd)

Model	P/N Prefix	Forward PADs	Forward EQs	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories	Freq. Split Accesories
Opti Max OM1220	OM12	Amini	N/A	N/A	Amini	N/A	7-DC-Series	RPLPF Roll-off Compensation Board Diplex Filter
Opti Max OM1000	OM1	10-A-WC	7-2E862/x-WC	7-2E862C-WC	10-A-WC[1]	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
Opti Max OM1111	OM11G	10-A-WC[1]	GEQL-1GHZ-xxx-1 GEQL-870-xxx-1	N/A	10-A-WC	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
Trans Max® TM4100	TM41	N/A	N/A	N/A	NPB (analog only)	N/A	N/A	N/A
Optiworx ISX3040 Optiworx ISX3025	N/A	IPADxxx	ISX750EQyy ISX870EQyy IX7EQyy IX8EQyy	N/A	IPADxxx	ISX750EQyy ISX870EQyy IX7EQyy IX8EQyy	N/A	N/A
Optiworx ISX3030	N/A	TPADxxx	ISX750EQyy	N/A	TPADxxx	ISX750EQyy	N/A	N/A
LN-SM3x	N/A	IPB	N/A	N/A	N/A	N/A	S-Series	N/A
LN-SM7x	N/A	SPB	SEQ-750	SCS-862	SPB	SM-MEQF42 MEQ-42 MEQT-42	S-Series	N/A
BTN2000	N/A	JXP-B*	LME-100-*	N/A	JXP-B*	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
MBN100	N/A							RPLPF Roll-off Compensation Board Diplex Filter
MPN100	N/A							N/A
VSN200	N/A							N/A
SG1000	SG1							N/A
SG2000	SG2	JXP-*A	SG2-FE-*/750 SG2-FE-*/870	N/A	JXP-*A	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
SG4000	SG4	JXP-B*	LME-87-* LME-100-*	N/A	JXP-B*	N/A	N/A	RPLPF Roll-off Compensation Board Diplex Filter
VTN244	VTN	JXP-B*	FLEQ	N/A	JXP-B*	N/A	N/A	N/A

Table 11: Legacy Optical Products (cont'd)

Model	P/N Prefix	Forward PADs	Forward EQs	Cable Simulators	Return PADs	Return EQs	Output Distribution Accessories	Freq. Split Accesories
Harmonic HLN3142E	HLN	NPD38xx	NLE31xx	N/A	NPD38xx	NLE31xx	N/A	N/A
Harmonic HLN3142 PWRBlazer II	HLN							N/A
Harmonic PWRBlazer HLN 3144	HLN							N/A
NC2000 1GHz Series	NC2	AP40xx	EQ21xx (RF module) EQ41xx (analog receivers)	N/A	AP40xx	N/A	N/A	N/A
Key	N/A: not applicable							
	W/O: without covers; WC:with covers							

1. D30/47, D42/54, and D55/70 plug-in diplex filters are available. The original diplex filters were qualified for use in 870 MHz systems. The new diplex filters are qualified for use in 1 GHz systems. The new diplex filters have the same model numbers as the original diplex filters.
2. Noise Filter may be used in the Return PAD location.
3. Legacy D30/47, D42/54, and D55/70 plug-in diplex filters are available.

Table 12: Legacy Taps

Model	Cable Equalizers	Cable Simulators	Return Attenuators	Plug-in Equalizer Board
12000-L-PBT 1.2GHz Taps	T-EQ-*-Q	T-CS-*-Q	T-RPA/*-*-Q	N/A
BTTF*-*P 1GHz Taps	T-EQ-*	T-CS-*	T-RPA/S-*	N/A
FFT*-*P 1GHz Taps	T-EQ-*	T-CS-*	T-RPA/S-*	N/A

Table 13: Legacy Accessories

The following accessories are no longer available from ARRIS:	
9A	9-A-S series attenuators have replaced the 9-A series attenuators.
9-A-WC	10-A-WC series attenuators have replaced the 9-A-WC series attenuators.
6-2E862 6-2E750	7-2E862 forward equalizers may be used in place of 6-2E862 and 6-2E750 forward equalizers. The plastic cover must be removed from 7-series accessories to enable them to fit into equalizer locations designed for the 6-series accessories.
7-2E750C	PCS-1G and 7-2E862C forward cable simulators may be used in place of the 7-2E750C forward cable simulators.
A862	Fixed attenuator for legacy FM220 Plus/FM500. No replacement.
CE862	Cable simulator/equivalent for FM220 Plus/FM400/FM500. No replacement.
CM862	Control module/system equalizer for FM400/FM500/OM2000. No replacement.
D65/85	65/85MHz Diplex filter for FM220Plus/FM400/FM500/ OM1220/OM2000. No replacement.
E606	Plug-in equalizer for FM400/FM500. No replacement.
E862	Plug-in equalizer for FM220Plus/FM400/FM500. No replacement.
IPB	Amini PADs replace IPB style PADs (AT0xxx).
SCS-750	SCS-862 forward cable simulators may be used in place of the SCS-750 forward cable simulators.

Chapter 2

FORWARD PATH ACCESSORIES

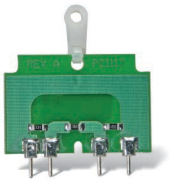
This chapter provides an overview of current and legacy forward path accessories for ARRIS HFC products.

Forward Path Attenuator Pads

Table 14: Forward Path Attenuator Pads

9-A-S Forward/Return Attenuators
Product Usage: CHP Max5000 Single TX
Legacy Product Usage: Opti Max3000 (RX only), Opti Max OM3100 (RX only)
Notes: 1. Height is 0.6”, pin spacing is 0.125" 2. Molded blue plastic 3. Same footprint as Amini Short PADs but may be limited by height constraints Zero value is possible exception due to performance
10-A-L and 10-A-WC Forward/Return Attenuators
Legacy Product Usage: 10-A-L: GNA/TNA; 10-A-WC: Diamond Line I, II, & III, Flex Max320, Flex Max321, Flex Max FM321e-LE, Flex Max601 Bridger & Line Extender, Flex Max FM601e T/B/LE, Opti Max1000, OptiMax OM1111, Opti Max3000, OptiMax OM3100, OptiMax OM3101
Notes: 1. Height is 1.15", pin spacing is 0.125" 2. 10-A-L: molded blue plastic without guide pins; 10-A-WC: molded blue plastic with guide pins 3. 10-A-WC cannot be plugged into products using NPB or Amini PADs because of guide pins 4. Same footprint as NPB and Amini PADs but may be limited by height constraints Zero value is possible exception due to performance
Amini Attenuators
Legacy Product Usage: Flex Max220 Basic, Flex Max220 Plus, Flex Max222, Flex Max FM331-LE (interstage), Flex Max400, Flex Max500, Opti Max1220, Opti Max2000, Opti Max OM2100
Notes: 1. Height is 1.0", pin spacing is 0.125". 2. Molded orange plastic 3. Can be plugged into Legacy Philips products using 10-A-WC attenuators, but no guiding mechanism 4. Same footprint as NPB and 10-A attenuators but may be limited by height constraints
Amini Short Attenuators
Product Usage: CHP Dual Transmitter
Notes: 1. Height is 0.5", pin spacing is 0.125" 2. Molded orange plastic 3. Same footprint as 9-A-S attenuators but may be limited by height constraints and lip around top of accessory
AP-40xx-L Series Forward/Return Path Attenuators
Product Usage: NC2000, NC4000
Notes: 1. Height is 1.0" 2. Molded orange plastic; orange color denotes 1200 MHz rating
JXP Forward/Return Path Attenuators
Product Usage: BLE120, Flex Max FM332, Flex Max FM902, MB120
Legacy Product Usage: BLE100, BT100, MB100, MBV3, SLE100, SG4000, VSN
Note: 1. Height is 1.375", pin spacing is 0.125" 2. Molded blue plastic

Table 14: Forward Path Attenuator Pads (cont'd)

NPB Forward/Return Path Attenuators	
Product Usage: BLE120, Flex Max FM332, Flex Max FM902, MB120, Opti Max OM2471, Opti Max OM4120, Opti Max OM6000	
Legacy Product Usage: BLE100, Flex Max220 Basic, Flex Max220 Plus, Flex Max222, Flex Max330, Flex Max FM331-LE, Flex Max FM401, Flex Max901, Flex Max FM901e-T/B, MB100, Opti Max OM2100, Opti Max OM2700, Opti Max4000, Opti Max OM4100, Trans Max TM4100	
Notes: 1. Height is 1.4", pin spacing is 0.125" 2. Molded green plastic 3. Same footprint as 10-A and Amini PADs but may be limited by height constraints	
NPD38xx Forward/Return Path Attenuators	
Legacy Product Usage: HLN3142, HLN3142E, HLN3144	
Note: 1. 0.75 in. long 2. Molded yellow plastic.	
SEQPB-xx EQ Form Factor Attenuators	
Legacy Product Usage: E700, Flex Max900, FlexNet 800, FlexNet 700	
Note: 1. Plugs into the equalizer location to add flat attenuation across the passband 2. End of Life (EOL); contact your CommScope sales representative for equivalent replacement products	
SPB-xxx Forward/Return Attenuators	
Legacy Product Usage: E700, E900, Flex Max340, Flex Max900, FlexNet 800, FlexNet 700, LN-SM7x	
Notes: 1. Height is 1.10", pin spacing is 0.20" 2. Molded green plastic 3. SPB-0 can be used as a jumper in the distribution accessory location for a single output	
THRM Thermal Attenuators	
Legacy Product Usage: Flex Max320, Flex Max FM321e-LE, FM601e-B	
Notes: 1. Blue plastic cover to protect components	
THRM Thermal Attenuators	
Legacy Product Usage: Flex Max FM601e-LE	
Notes: 1. No blue plastic cover	

Forward Path Signal Correction Attenuators

Table 15: Forward Path Signal Correction Attenuators

HS1 1.2 GHz Haystack Attenuator

Product Usage: BLE120, MB120, Flex Max FM332, Flex Max FM902 Trunk, FM902 Bridger

Notes:
1. Height is 1.4”; pin spacing is 0.125”
2. NPB form factor
3. Brown plastic cover to protect components
4. Corrects low-end and high-end roll-off in 1.2 GHz network cascades

HS1 1 GHz Haystack Attenuator

Product Usage: BLE120, MB120, Flex Max FM332, Flex Max FM902 Trunk, FM902 Bridger

Notes:
1. Height is 1.4”; pin spacing is 0.125”
2. NPB form factor
3. Black plastic cover to protect components
4. Corrects low-end and high-end roll-off in 1 GHz network cascades

PA1 1.2 GHz Peaking Attenuator

Product Usage: BLE120, MB120, Flex Max FM332, Flex Max FM902 Trunk, FM902 Bridger

Notes:
1. Height is 1.4”; pin spacing is 0.125”
2. NPB form factor
3. Lime green cover to protect components
4. Corrects high-end roll-off in 1.2 GHz network cascades

PA2 1 GHz Peaking Attenuator

Product Usage: BLE120, MB120, Flex Max FM332, Flex Max FM902 Trunk, FM902 Bridger

Notes:
1. Height is 1.4”; pin spacing is 0.125”
2. NPB form factor
3. Black cover to protect components
4. Corrects high-end roll-off in 1 GHz network cascades

PA2 1.2 GHz Peaking Attenuator

Product Usage: BLE120, MB120, Flex Max FM332, Flex Max FM902 Trunk, FM902 Bridger

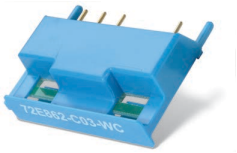
Notes:
1. Height is 1.4”; pin spacing is 0.125”
2. NPB form factor
3. Lime green cover to protect components
4. Corrects high-end roll-off in 1.2 GHz network cascades

Table 15: Forward Path Signal Correction Attenuators (cont'd)

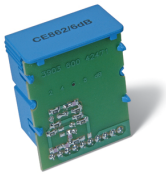
PA3 1 GHz Peaking Attenuator	
Product Usage: BLE120, MB120, Flex Max FM332, Flex Max FM902 Trunk, FM902 Bridger	
Notes: 1. Height is 1.4"; pin spacing is 0.125" 2. NPB form factor 3. Black cover to protect components 4. Corrects high-end roll-off in 1 GHz network cascades	

Forward Path Cable Simulators

Table 16: Cable Simulators

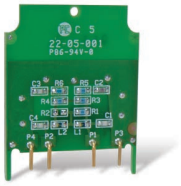
7-2E862/Cx-WC Forward Path Cable Simulators	
Legacy Product Usage: Opti Max1000, Diamond Line I, II & III, GNA/TNA	
Notes: 1. Legacy Philips 2. Blue plastic cover to protect components 3. Can be used in GNA/TNA products with the cover removed.	

CBSM-1G Series Cable Simulators	
Legacy Product Usage: Flex Max FM401	
Notes: 1. Height is 1.4" 2. Molded white plastic	

CE862/xx Cable Simulators (Equivalents)	
Legacy Product Usage: Flex Max FM220 Plus	
Note: 1. Blue plastic cover to protect components	

CS-120-* Cable Simulators	
Product Usage: BLE120, MB120, Flex Max FM332, Flex Max FM902	
Notes: 1. Blue plastic cover to protect components 2. 1218 MHz upper bandwidth 3. Height is 1.2"	

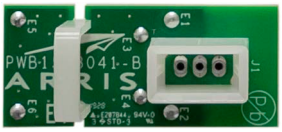
Table 16: Cable Simulators (cont'd)

PCS-1G-xx Cable Simulators	
Legacy Product Usage: Flex Max FM320, Flex Max FM321, Flex Max FM321e-LE, Flex Max FM601 Bridger & Line Extender, Flex Max FM601e-T/B/LE	
Note: 1. Blue plastic cover to protect components	
SCS Forward Cable Simulator	
Legacy Product Usage: BLE100, MB100, MBV3, BT100, SLE100	
Notes: 1. STARLINE amplifiers 2. Blue plastic cover to protect components	
SCS-1G-xx Cable Simulators	
Legacy Product Usage: Flex Max FM331-LE, Flex Max FM901, Flex Max FM901e-T/B, Opti Max OM2700	
Note: 1. Cannot be plugged into FM330 or Legacy C-COR Amps due to guide pins	
SCS862-xx Cable Simulators	
Legacy Product Usage: E700, E900, Flex Max FM330, Flex Max FM340, Flex Max FM900, FlexNet 700, FlexNet 800	
Notes: 1. Legacy C-COR, produced with and without a white plastic cover to protect components 2. Fits in the Flex Max330 with the cover removed	
T-CS-*-Q Series Forward Cable Simulator	
Product Usage: RMT212*, BTTF-*-*Q, FFT*-*Q	
Legacy Product Usage: 12000-L-PBT	
Notes: 1. 1.2 GHz Taps 2. Blue plastic cover to protect components	

Forward Path Carrier Boards

Carrier boards are used in 1.2 GHz Flex Max and STARLINE Amplifiers. They accept NPB-style CE-120-* Cable Equalizers and CS-120-* Cable Simulators. Carrier boards can be removed if the amplifiers are used for 1 GHz operation to accept previous generation cable equalizers or cable simulators that use the 1 GHz form factor.

Table 17: Carrier Boards and Accessories

CB-120-SL-JXP Carrier Board Cover	
Product Usage: BLE120, MB120	
Notes: 1. Green plastic cover 2. Guide pins fit into RF motherboard 3. Slots to secure and stabilize Carrier Board	
FM GEQL-JXP Carrier Board	
Product Usage: Flex Max FM332, Flex Max FM902	
Notes: 1. Black Molded Plastic 2. Four Ground Pins 3. Accepts CE-120-* and CS-120-* plug-ins for 1.2 GHz Flex Max operation	
SFE-120 Carrier Board	
Product Usage: BLE120, MB120	
Notes: 1. Six Ground Pins 2. Accepts CE-120-* and CS-120-* plug-ins for 1.2 GHz STARLINE operation	

Forward Path Equalizers

Table 18: Forward Path Equalizers

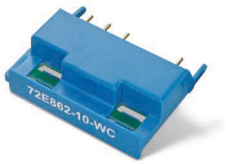
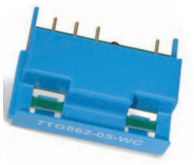
1200MHZ-ENHANCER Product Usage: BLE180, MB180 Notes: 1. Increases the amount of available gain in the amplifier to support operation in legacy 1.2 GHz networks 2. Six Ground Pins 3. Molded blue plastic	
7-2E862/x-WC, 7-2E750/x-WC Forward Path Cable Equalizers **Legacy Product Usage:** Diamond Line I & II, Flex Max FM320, Flex Max FM321, Flex Max FM321e-LE, Flex Max FM601 Bridger & Line Extender, Flex Max FM601e-T/B/LE, Opti Max OM1000 Notes: 1. Legacy Philips 2. Blue plastic cover to protect components	
7-REF65/x-WC, 7-REF55/x-WC, 7-REF42/x-WC Cable Equalizers **Legacy Product Usage:** Diamond Line I, II, & III, Flex Max FM320, Flex Max FM321, Flex Max FM321e-LE, Flex Max FM601 Bridger & Line Extender, Flex Max FM601e-T/B/LE, GNA/TNA, Opti Max OM1000 Notes: 1. Legacy Philips 2. Blue plastic cover to protect components	
7-TG862-WC Linear Equalizers **Legacy Product Usage:** Opti Max OM3000 Notes: 1. Legacy Philips 2. Blue plastic cover to protect components	
CE-120-* Forward Cable Equalizers **Product Usage:** BLE120, MB120, Flex Max FM332, Flex Max FM902 T/B Notes: 1. Grey plastic cover to protect components 2. 1218 MHz upper bandwidth 3. Height is 1.2”	
CHP Plug-In Equalizers **Product Usage:** CHP Dual TX Notes: 1. Height is 0.6” 2. Molded white plastic	
E606/xx Series Equalizers **Legacy Product Usage:** Flex Max FM400, Flex Max FM500 Notes: 1. Height is 1.4”	Picture N/A
E862xx Series Equalizers **Legacy Product Usage:** Flex Max FM220Plus, Flex Max FM400, Flex Max FM500 Notes: 1. Height is 1.4”	Picture N/A

Table 18: Forward Path Equalizers (cont'd)

EQ21xx Series 870 MHz Linear Equalizers **Product Usage:** NC2000, NC4000 Notes: 1. Height is 1.0" 2. Molded purple plastic	
EQ21xxE Series 1.2 GHz Linear Equalizers **Product Usage:** NC2000, NC4000 Notes: 1. Height is 1.0" 2. Molded pink plastic	
EQ21xxG Series 1 GHz Linear Equalizers **Product Usage:** NC2000, NC4000 Notes: 1. Height is 1.0" 2. Molded red plastic.	
EQ41xx Series Equalizers **Legacy Product Usage:** NC2000 1 GHz Series Notes: 1. 0.834" x 0.703" 2. 45 to 870 MHz passband	
EQ41xxG Series Equalizers **Legacy Product Usage:** NC2000 1 GHz Series Notes: 1. 0.834" x 0.703" 2. 45 to 1002 MHz passband	
EQL-1220MHz-xx Series 1.2 GHz Linear Equalizers **Product Usage:** OM4120, OM6000 Notes: 1. Height is 1.4" 2. Molded gray plastic	
FEQC-750-xx Series Cable Equalizers **Legacy Product Usage:** Flex Max FM401 Notes: 1. Height is 1.4" 2. Molded seagull green plastic	
FEQC-870-xx Series Cable Equalizers **Legacy Product Usage:** Flex Max FM401 Notes: 1. Height is 1.4" 2. Molded banana yellow plastic	
FEQC-1G-xx Series Cable Equalizers **Legacy Product Usage:** Flex Max FM401 Notes: 1. Height is 1.4" 2. Molded royal blue plastic	

Table 18: Forward Path Equalizers (cont'd)

FLEQ Equalizers
Legacy Product Usage: VTN244
Notes: 1. Height is 1.3" 2. Molded navy blue plastic

GEQC-870-xxx Cable Equalizers
Product Usage: Opti Max OM2741
Legacy Product Usage: Flex Max FM901e-T (trunk only), Opti Max OM2700
Notes: 1. Needed to configure for an 870MHz system in the Flex Max FM901e-T trunk amplifier 2. Height is 1.4" 3. Molded blue plastic

GEQC-1GHZ-xxx Cable Equalizers
Product Usage: Opti Max OM2741
Legacy Product Usage: Flex Max FM901e-T (trunk only), Opti Max OM2700
Notes: 1. Needed to configure for a 1 GHz system in the Flex Max FM901e-T trunk amplifier 2. Height is 1.4" 3. Molded brown plastic

GEQL-870-xxx Linear Equalizers
Product Usage: Opti Max OM2741, Opti Max OM4120, Opti Max OM6000
Legacy Product Usage: Opti Max2100, Opti Max OM2700, Opti Max OM4100
Notes: 1. Height is 1.4", symmetrical pin spacing 2. Molded purple plastic 3. Can be plugged into NPB or 10-A style sockets

GEQL-870-xxx-1 Linear Equalizers
Legacy Product Usage: Opti Max OM1111, Opti Max OM3100, Opti Max OM3101
Notes: 1. Height is 1.0", symmetrical pin spacing 2. Molded purple plastic 3. Can be plugged into NPB or 10-A style sockets

GEQL-1GHZ-xxx Linear Equalizers
Product Usage: Opti Max OM2741, Opti Max OM4120, Opti Max OM6000
Legacy Product Usage: Flex Max FM901e -T Trunk (O/P only), Opti Max OM1111, Opti Max2100, Opti Max OM2700, Opti Max OM3100, Opti Max OM3101, Opti Max OM4100
Notes: 1. Height is 1.4", symmetrical pin spacing 2. Molded red plastic 3. Can be plugged into NPB or 10-A style sockets 4. 1 GHz "red" EQs can be used for 870 MHz bandwidth if the losses are acceptable

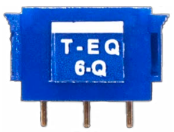
GEQL-1GHZ-xxx-1 Linear Equalizers
Legacy Product Usage: Opti Max OM1111, Opti Max OM3100, Opti Max OM3101
Notes: 1. Height is 1.0", symmetrical pin spacing 2. Molded red plastic 3. Can be plugged into NPB or 10-A style sockets 4. 1 GHz "red" EQs can be used for 870 MHz bandwidth if the losses are acceptable

Table 18: Forward Path Equalizers (cont'd)

Ix7EQxx, Ix8EQxx Equalizers **Legacy Product Usage:** Optiworx ISX3025, ISX3040 Notes: 1. N/A	Picture N/A
LME-87-* Linear Equalizers **Legacy Product Usage:** BTN2000, MBN100, MPN100, SG1000, SG4000, VSN200 Notes: 1. N/A	Picture N/A
LME-100-* Linear Equalizers **Legacy Product Usage:** BTN2000, MBN100, MPN100, VSN200, SG1000, SG4000 Notes: 1. N/A	
NEQL-870-xx Linear Equalizers **Legacy Product Usage:** Opti Max OM4000 Notes: 1. Height is 1.4", non-symmetrical pin spacing 2. Molded yellow plastic	
NLE31xx Equalizers **Legacy Product Usage:** HLN3142, HLN3142E, HLN3144 Notes: 1. 0.9" x 0.8" x 0.9"	Picture N/A
PEQ-1G-xx Cable Equalizers **Legacy Product Usage:** Flex Max601 B/LE, Flex Max FM601e-T/B/LE, Flex Max321, Flex Max FM321e-LE Note: 1. Blue plastic cover to protect components	
SEQ750-xx Cable Equalizers **Legacy Product Usage:** E700, E900, Flex Max900, Flex Max330, Flex Max FM331-LE, Flex Max340, Flex Max901, Flex Max FM901e-T/B, Flex Net700, Flex Net800, LNSM7x, OM2700 Notes: 1. Legacy C-COR, produced with and without a white plastic cover to protect components 2. Fits in the Flex Max FM331-LE, Flex Max901, and Flex Max330 with the cover removed	
SEQ862-xx Cable Equalizers **Legacy Product Usage:** E700, E900, Flex Max900, Flex Max901, Flex Max FM901e-T/B, Flex Max330, Flex Max FM331-LE, Flex Max340, Flex Net800, OM2700 Notes: 1. Legacy C-COR, produced with and without a white plastic cover to protect components 2. Fits in the Flex Max FM331-LE, Flex Max901, and Flex Max330 with the cover removed	
SEQ-1GHz-xx Cable Equalizers **Legacy Product Usage:** Flex Max FM331-LE, Flex Max901, Flex Max FM901e-T/B, OM2700 Note: 1. Cannot be plugged into Flex Max 900, Flex Max340, FlexMax330 or Legacy C-COR amps due to guide pins	

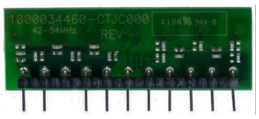
Table 18: Forward Path Equalizers (cont'd)

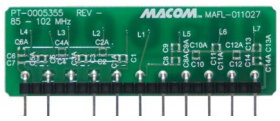
SFE-100 Forward Cable Equalizers	
Legacy Product Usage: BLE100, BT100, MB100, MBV3, SLE100 Note: 1. STARLINE amplifiers and FFE Series Equalizers 2. Blue plastic cover to protect components	

T-EQ-*-Q Series Forward Cable Equalizer	
Product Usage: BTTF*-*Q, FFT*-*Q **Legacy Product Usage:** 12000-L-PBT Note: 1. 1.2 GHz Taps 2. Blue plastic cover to protect components	

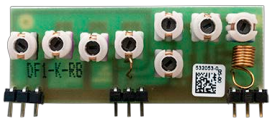
Forward Path Frequency Split Upgrade Plug-ins

Table 19: Forward Path Frequency Split Upgrade Plug-ins

42/54 MHz Diplex Filter (p/n 1504997)	
Legacy Product Usage: Opti Max OM2700 **Product Usage:** Opti Max OM2741	

85/102 MHz Diplex Filter (p/n 1508618)	
Product Usage: Opti Max OM2741 **Legacy Product Usage:** Opti Max OM2700 Notes: 1. Included in OM27-85/102-DF-UPG-KIT upgrade kit (p/n 1510549-001)	

1508883 Series Diplex Filters	
Product Usage: Opti Max OM4120, OptiMax OM6000, STARLINE BLE120, STARLINE MB120 Notes: 1. Available for 42/54, 65/85, 85/102, and 204/258 MHz splits 2. Included in 1510253 series (for OM4120/OM6000 nodes), 1513727 series (for BLE120 amps), and 1513728 series (for MB120 amps) frequency split upgrade kits	

531355 Series Diplex Filters	
Legacy Product Usage: SG4000, BT100, BLE100, SLE100, MB100, MBV3 Notes: 1. Available for 42/54, 65/85, and 85/102 MHz splits 2. SG4000 only: order with 555690-001, 555692-001, or 555694-001Return Path Low-Pass Filters	

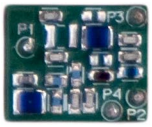
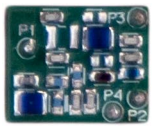
54 MHz Forward Path Roll-Off Compensation Board (p/n 1508229-001)	
Product Usage: Opti Max OM2741 **Legacy Product Usage:** Opti Max OM2700 Notes: 1. Included in OM27-85/102-DF-UPG-KIT upgrade kit (p/n 1510549-001)	

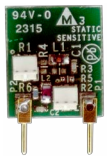
Table 19: Forward Path Frequency Split Upgrade Plug-ins (cont'd)

102 MHz Forward Path Roll-Off Compensation Board (p/n 1508229-003)
Product Usage: Opti Max OM2741
Legacy Product Usage: Opti Max OM2700
Notes: 1. Included in OM27-85/102-DF-UPG-KIT upgrade kit (p/n 1510549-001)



530653 Series FSB Roll Off Compensation Board
Legacy Product Usage: SG4000
Notes: 1. For aligning the forward band when updating frequency splits

597696 Series Roll Off Compensation Board
Product Usage: Opti Max OM4120, Opti Max OM6000
Notes: 1. For aligning the forward band when updating frequency splits 2. Included in 1510253 series frequency split upgrade kits



DP-D4 Series Roll Diplex Filters
Product Usage: BLE180, MB180, NC4180, Opti Max OM4180
1. Available for 85/102, 204/258, 396/492, 492/606, and 684/834 MHz splits 2. Included in BLE180-DF series (for BLE180 amps), MB180-DF series (for MB180 amps), NC4180, and OM4180 frequency split upgrade kits. Part numbers for NC4180 and OM4180 will be available at a later date.

FPF Series Forward Path Filters
Product Usage: BLE180, MB180, NC4180, Opti Max OM4180
1. Available for 85/102, 204/258, 396/492, 492/606, and 684/834 MHz splits 1. Included in BLE180-DF series (for BLE180 amps), MB180-DF series (for MB180 amps), NC4180, and OM4180 frequency split upgrade kits. Part numbers for NC4180 and OM4180 will be available at a later date.

Chapter 3

RETURN PATH ACCESSORIES

This chapter provides an overview of current and legacy return path accessories for ARRIS HFC products.

Return Path Attenuator Pads

Table 20: Return Path Attenuator Pads

10-A-L and 10-A-WC Forward/Return Attenuators
Legacy Product Usage: 10-A-L: GNA/TNA; 10-A-WC: Diamond Line I, II, & III, Flex Max FM320, Flex Max FM321, Flex Max FM601 Bridger & Line Extender, Opti Max OM1000, Opti Max OM3000, OptiMax OM3100, OptiMax OM3101; 10-A-WC: Flex Max FM321e-LE, Flex Max FM601e T/B/LE, OptiMax OM1111
Notes: 1. Height is 1.15", pin spacing is 0.125" 2. 10-A-L: molded blue plastic without guide pins; 10-A-WC: molded blue plastic with guide pins 3. 10-A-WC cannot be plugged into products using NPB or Amini PADs because of guide pins 4. Same footprint as NPB and Amini PADs but may be limited by height constraints Zero value is possible exception due to performance

9-A-S Forward/Return Attenuators
Product Usage: CHP Max5000 Single TX
Legacy Product Usage: Opti Max3000 (RX only), Opti Max OM3100 (RX only)
Notes: 1. Height is 0.6", pin spacing is 0.125" 2. Molded blue plastic 3. Same footprint as Amini Short PADs but may be limited by height constraints Zero value is possible exception due to performance

Amini Attenuators
Legacy Product Usage: Flex Max FM220 Basic, Flex Max FM220 Plus, Flex Max FM222, Flex Max FM331-LE (interstage), Flex Max FM400, Flex Max FM500, Opti Max OM1220, Opti Max OM2000, Opti Max OM2100
Notes: 1. Height is 1.0", pin spacing is 0.125". 2. Molded orange plastic 3. Can be plugged into Legacy Philips products using 10-A-WC attenuators, but no guiding mechanism 4. Same footprint as NPB and 10-A attenuators but may be limited by height constraints

AP-40xx-L Series Forward/Return Path Attenuators
Product Usage: NC2000, NC4000
Notes: 1. Height is 1.0" 2. Molded orange plastic

Table 20: Return Path Attenuator Pads (cont'd)

JXP Forward/Return Path Attenuators	
Product Usage: BLE120, Flex Max FM332, Flex Max FM902, MB120	
Legacy Product Usage: BLE100, BT100, MB100, MBV3, SG4000, SLE100, VSN	
Note: 1. Height is 1.375", pin spacing is 0.125" 2. Molded blue plastic	

JXP-TH*C-R Return Path Thermal Attenuators	
Product Usage: BLE120, Flex Max FM332, Flex Max FM902, MB120	
Legacy Product Usage: BLE100, Flex Max FM331, Flex Max FM901, MB100	
Note: 1. Height is 1.375", pin spacing is 0.125" 2. Molded red/white plastic 3. 2 dB and 3 dB Pads available	

NPB Forward/Return Path Attenuators	
Product Usage: BLE120, Flex Max FM332, Flex Max FM902, Opti Max OM2741, Opti Max OM4120, Opti Max OM6000	
Legacy Product Usage: BLE100, Flex Max FM901, Flex Max FM330, Flex Max FM331-LE, Flex Max FM222, Flex Max FM401, Flex Max FM901e-T/B, Flex Max FM220 Plus, Flex Max FM220 Basic, Opti Max OM2700, Opti Max OM2100, Opti Max OM4000, Opti Max OM4100, Trans Max TM4100	
Notes: 1. Height is 1.4", pin spacing is 0.125" 2. Molded green plastic 3. Same footprint as 10-A and Amini PADs but may be limited by height constraints	

NPD38xx Forward/Return Path Attenuators	
Legacy Product Usage: HLN3142, HLN3142E, HLN3144	
Note: 1. 0.75 in. long 2. Molded yellow plastic.	

RPB-xxx Return Attenuators	
Legacy Product Usage: FlexNet 800, FlexNet 700, E900, E700	
Notes: 1. Height is 1.10", pin spacing is 0.20" 2. Molded red plastic	

Table 20: Return Path Attenuator Pads (cont'd)

SPB-xxx Forward/Return Attenuators
Product Usage: Opti Max OM2741
Legacy Product Usage: E700, E900, Flex Max340, Flex Max900, FlexNet 700, FlexNet 800, LN-SM7x
Notes: 1. Height is 1.10", pin spacing is 0.20" 2. Molded green plastic 3. SPB-0 can be used as a jumper in the distribution accessory location for a single output

T-RPA/*-* Series Return Path Attenuator Plug-in Modules
Product Usage: RMT212*, BTTF*-*Q, FFT*-*Q
Legacy Product Usage: 12000-L-PBT
Notes: 1. 1.2 GHz Taps 2. Blue plastic cover to protect components

Return Path Equalizers

Table 21: Return Path Equalizers

7-REF65/x-WC, 7-REF55/x-WC, 7-REF42/x-WC Cable Equalizers
Legacy Product Usage: Diamond Line I, II, & III, Flex Max320, Flex Max321, Flex Max FM321e-LE, Flex Max601 Bridger & Line Extender, Flex Max FM601e-T/B/LE, GNA/TNA, Opti Max1000
Notes: 1. Legacy Philips 2. Blue plastic cover to protect components

MEQ-42/MEQT-42, MEQ-55, MEQ-65, MEQ-85/MEQT-85 Cable Equalizers
Product Usage: Flex Max FM332, Flex Max FM902-T/B
Legacy Product Usage: E700, E900, Flex Max331, Flex Max340, Flex Max900, Flex Max901-T/B, Flex Max FM901e-T/B, Flex Net700, Flex Net800
Note: 1. White plastic cover to protect components

Table 21: Return Path Equalizers (cont'd)

MEQ-204 Cable Equalizer
Product Usage: Flex Max FM332, Flex Max FM902-T/B
Note: 1. White plastic cover to protect components 2. Supports 5–204 MHz return path splits

REQC-42, REQC-65, REQC-85, REQC-204 Return Cable Equalizers
Product Usage: OM6000
Legacy Product Usage: Flex Max FM401
Notes: 1. Height is 1.4" 2. Molded light grey plastic (REQC-42 and REQC-65) 3. Molded seagull green plastic (REQC-85 and REQC-204)

REQC-42/REQC-65

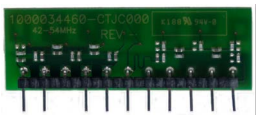
REQC-85/REQC-204

SRE Return Cable Equalizers
Product Usage: BLE120, MB120
Legacy Product Usage: BLE100, BT100, MB100, MBV3, SLE100
Notes: 1. STARLINE amplifiers 2. Blue plastic cover to protect components 3. Legacy SRE covers have two plastic guide pins (not shown in this image) for insertion in plug-in slot; plastic guide pins are not required for current BLE120 and MB120 amplifiers

Return Path Frequency Split Upgrade Plug-ins

Table 22: Return Path Frequency Split Upgrade Plug-ins

42/54 MHz Diplex Filter (p/n 1504997)
Product Usage: Opti Max OM2741
Legacy Product Usage: Opti Max OM2700
Notes: 1. Included in OM27-42/54-DF-UPG-KIT upgrade kit (p/n 1510549-002)



85/102 MHz Diplex Filter (p/n 1508618)
Product Usage: Opti Max OM2741
Legacy Product Usage: Opti Max OM2700
Notes: 1. Included in OM27-85/102-DF-UPG-KIT upgrade kit (p/n 1510549-001)

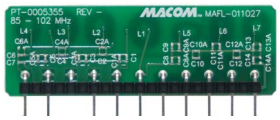
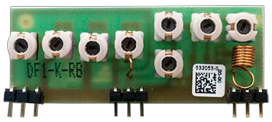
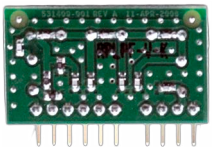


Table 22: Return Path Frequency Split Upgrade Plug-ins (cont'd)

1508883 Series Diplex Filters **Product Usage:** Opti Max OM4120, OptiMax OM6000 Notes: 1. Available for 42/54, 65/85, 85/102, and 204/258 MHz splits 2. Included in 1510253 series frequency split upgrade kits	
531355 Series Diplex Filters **Legacy Product Usage:** BLE100, BT100, MB100, MBV3, SG4000, SLE100 Notes: 1. Available for 42/54, 65/85, and 85/102 MHz splits 2. SG4000 only: order with 555690-001, 555692-001, or 555694-001Return Path Low-Pass Filters	
54 MHz Return Path Roll-Off Compensation Board (p/n 1506569-002) **Product Usage:** Opti Max OM2741 **Legacy Product Usage:** Opti Max OM2700 Notes: 1. Included in OM27-42/54-DF-UPG-KIT upgrade kit (p/n 1510549-001)	
102 MHz Return Path Roll-Off Compensation Board (p/n 1506569-004) **Product Usage:** Opti Max OM2741 **Legacy Product Usage:** Opti Max OM2700 Notes: 1. Included in OM27-85/102-DF-UPG-KIT upgrade kit (p/n 1510549-001)	
555690-001, 555692-001, 555694-001 Series Return Path Low Pass Filter **Legacy Product Usage:** SG4000 Notes: 1. Available for 42/54, 65/85, and 85/102 MHz splits 2. Order with 531355 Series Diplex Filters	
596605 Series Return Path Low Pass Filter (RPLPF) **Product Usage:** Opti Max OM4120, Opti Max OM6000 Notes: 1. Included in 1510253 series frequency split upgrade kits	
DP-D4 Series Roll Diplex Filters **Product Usage:** BLE180, MB180, NC4180, Opti Max OM4180 1. Available for 85/102, 204/258, 396/492, 492/606, and 684/834 MHz splits 2. Included in BLE180-DF series (for BLE180 amps), MB180-DF series (for MB180 amps), NC4180, and OM4180 frequency split upgrade kits. Part numbers for NC4180 and OM4180 will be available at a later date.	
RPF Series Forward Path Filters **Product Usage:** BLE180, MB180, NC4180, Opti Max OM4180 1. Available for 85/102, 204/258, 396/492, 492/606, and 684/834 MHz splits 2. Included in BLE180-DF series (for BLE180 amps), MB180-DF series (for MB180 amps), NC4180, and OM4180 frequency split upgrade kits. Part numbers for NC4180 and OM4180 will be available at a later date.	

Chapter 4

MISCELLANEOUS ACCESSORIES

This chapter provides an overview of current and legacy path accessories for ARRIS HFC products that fall outside of forward and/or return path parameters.

7-DC-x-5-1000-WC Splitters and Directional Couplers (TAPs)

Legacy Product Usage: Diamond Line I & II, Flex Max FM222, Flex Max FM401, Flex Max FM601 Bridger, Flex Max FM601e-T/B, GNA/TNA, Opti Max OM1220, Opti Max OM2100, Opti Max OM3101

Note:
1. Blue cover to protect components and insertion guides

CM862/xx System Equalizer

Legacy Product Usage: Opti Max2000

Note:
1. Blue cover to protect components and insertion guides

D30/47, D42/54, D55/70, D65/85 Diplex Filters

Legacy Product Usage: Flex Max FM220 Plus, Flex Max FM400, Flex Max FM500, Opti Max OM1220, Opti Max OM2000, Opti Max OM2100

Note:
1. Blue plastic cover to protect components

Ingress Noise Filter

Legacy Product Usage: Flex Max220 Basic, Flex Max220 Plus, Flex Max222, Flex Max400, Flex Max500, Flex Max601 B/LE, Flex Max FM601e-T/B/LE, Flex Max900, Flex Max901, Flex Max FM901e-T/B, FlexNet 700, FlexNet 800, Opti Max1000, Opti Max3000, Opti Max4000

Notes:
1. Height is 1.182", pin spacing is 0.125"
2. Accessory for return attenuator (PAD) plug-in locations
3. In some cases, the ingress filter may have to be inserted or removed with needlenose pliers

SP-120, DC-120/* Distribution Accessories

Product Usage: MB120

Legacy Product Usage: MB100

Notes:
1. Splitter and Directional Coupler 1 GHz and 1.2 GHz operation
2. Directional Coupler available in 8 dB, 10 dB, and 12 dB increments
3. Blue plastic cover to protect components

MB180-SP, MB180-DC-* Distribution Accessories

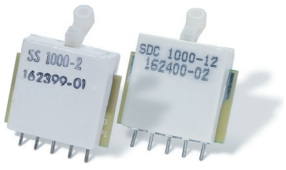
Product Usage: MB180

Notes:
1. Splitter and Directional Coupler supports 1.8 GHz operation
2. Directional Coupler available in 8 dB, 10 dB, and 12 dB increments
3. Blue plastic cover to protect components

SS/SDC-1000-xx Distribution Accessories

Legacy Product Usage: Flex Max 900, Flex Max901, Flex Max FM901e-T/B, FlexNet 700, FlexNet800, LN-SM3x, LN-SM7x, Opti Max OM2700, OM2741

Notes:
1. Supports 1 GHz operation
2. Legacy C-COR and ARRIS amplifiers
3. White plastic cover to protect components



SS/SDC-1218-xx Distribution Accessories

Product Usage: Flex Max FM902-Trunk/Bridger

Notes:
1. Supports 1.2 GHz operation
2. White plastic cover to protect components

Chapter 5

HFC ACCESSORIES SPECIFICATIONS

This chapter provides specifications, where available, for the HFC accessories described earlier in this Reference Guide.

The individual specification tables in this chapter are arranged in numeric and alphabetic order according to the name of the accessory.

PADS (ATTENUATORS) SPECIFICATIONS

PADs provide flat loss attenuation of RF signal across the entire passband. They are used in conjunction with equalizers to achieve proper amplifier forward output levels and return input levels. These PADs also have a fixed insertion loss regardless of frequency. SEQPB series PADs are PADs on an equalizer footprint and only work in the forward path. Amini series attenuators can be used in cabinet-mount equipment as both an attenuator and an equalizer depending upon the plug-in location.

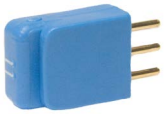


Table 24: 9-A-S Series Forward/Return PAD Attenuators Specifications

Model	P/N	5–1002 MHz Flat Loss (dB)	Passband Flatness (dB)	Model	P/N	5–1002 MHz Flat Loss (dB)	Passband Flatness (dB)
9-A0-S	752501	0.0	±0.5	9-A11-S	752548	11.0	±0.2
9-A1-S	752509	1.0	±0.2	9-A12-S	752550	12.0	±0.2
9-A2-S	752515	2.0	±0.2	9-A13-S	752554	13.0	±0.2
9-A3-S	752520	3.0	±0.2	9-A14-S	752558	14.0	±0.2
9-A4-S	752523	4.0	±0.2	9-A15-S	752561	15.0	±0.2
9-A5-S	752526	5.0	±0.2	9-A16-S	752564	16.0	±0.2
9-A6-S	752529	6.0	±0.2	9-A17-S	752566	17.0	±0.2
9-A7-S	752533	7.0	±0.2	9-A18-S	752568	18.0	±0.2
9-A8-S	752537	8.0	±0.2	9-A19-S	752571	19.0	±0.2
9-A9-S	752541	9.0	±0.2	9-A-TERM-S	752587	terminator	—
9-A10-S	752545	10.0	±0.2				
Return Loss I/O @ 1000 MHz: 20/20 dB min.				*Specification Document Number 871371*			

Table 25: 10-A-L/10-A-WC Series Forward/Return PAD Attenuators Specifications

Model	P/N	5–1002 MHz Flat Loss (dB)	Passband Flatness (dB)	Model	P/N	5–1002 MHz Flat Loss (dB)	Passband Flatness (dB)
10-A0.0-L	725816	0.0	±0.5	10-A0.0-WC	725464	0.0	±0.5
10-A1.0-L	726034	1.0	±0.1	10-A1.0-WC	725467	1.0	±0.1
10-A2.0-L	725852	2.0	±0.2	10-A2.0-WC	725463	2.0	±0.2
10-A3.0-L	725897	3.0	±0.2	10-A3.0-WC	725465	3.0	±0.2
10-A4.0-L	725832	4.0	±0.2	10-A4.0-WC	725468	4.0	±0.2
10-A5.0-L	725864	5.0	±0.2	10-A5.0-WC	725469	5.0	±0.2
10-A6.0-L	725964	6.0	±0.2	10-A6.0-WC	725466	6.0	±0.2
10-A7.0-L	725975	7.0	±0.2	10-A7.0-WC	725470	7.0	±0.2
10-A8.0-L	725880	8.0	±0.2	10-A8.0-WC	725667	8.0	±0.2
10-A9.0-L	725939	9.0	±0.2	10-A9.0-WC	725657	9.0	±0.2
10-A10.0-L	725901	10.0	±0.2	10-A10.0-WC	726033	10.0	±0.2
10-A11.0-L	725900	11.0	±0.2	10-A11.0-WC	725658	11.0	±0.2
10-A12.0-L	725881	12.0	±0.2	10-A12.0-WC	725659	12.0	±0.2
10-A13.0-L	725881	13.0	±0.2	10-A13.0-WC	725660	13.0	±0.2
10-A14.0-L	726036	14.0	±0.2	10-A14.0-WC	725661	14.0	±0.2
10-A15.0-L	726037	15.0	±0.2	10-A15.0-WC	725662	15.0	±0.2
10-A16.0-L	726038	16.0	±0.2	10-A16.0-WC	725663	16.0	±0.2
10-A17.0-L	726039	17.0	±0.2	10-A17.0-WC	725664	17.0	±0.2
10-A18.0-L	726040	18.0	±0.2	10-A18.0-WC	725665	18.0	±0.2
10-A19.0-L	726041	19.0	±0.2	10-A19.0-WC	725666	19.0	±0.2
10-A20.0-L	725436	20.0	±0.2	10-A20.0-WC	725461	20.0	±0.2
10-A21.0-L	725321	21.0	±0.2	10-A21.0-WC	725825	21.0	±0.2
10-A22.0-L	725490	22.0	±0.2	10-A22.0-WC	725962	22.0	±0.2
10-A23.0-L	725755	23.0	±0.2	10-A23.0-WC	725860	23.0	±0.2
10-A24.0-L	726042	24.0	±0.2	10-A24.0-WC	725830	24.0	±0.2
10-A25.0-L	725328	25.0	±0.2	10-A25.0-WC	726043	25.0	±0.2
10-A26.0-L	725644	26.0	±0.2	10-A26.0-WC	726044	26.0	±0.2
				10-A-TERM-WC		terminator	—
Return Loss I/O @ 1000 MHz: 20/20 dB min.							*Specification Document Number 871371*

Table 26: Amini PAD Attenuators Specifications

Model	P/N	Atten. 5–862 MHz Flat Loss in dB	Forward Path EQ, 65/85 MHz Insertion Loss in dB at Frequency (MHz)		EQ Value in dB	Return Path EQ, 65/85 MHz Insertion Loss in dB at Frequency (MHz)		EQ Value in dB
			85	862		5	65	
Amini-0	724428	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amini-1	724423	1.0	.98	.23	.75	.99	.03	.96
Amini-2	724558	2.0	1.92	.40	1.52	1.97	.04	1.93
Amini-3	724601	3.0	2.87	.51	2.36	2.94	.06	2.88
Amini-4	724632	4.0	4.06	.56	3.50	4.16	.08	4.08
Amini-5	724680	5.0	4.81	.59	4.22	4.90	.09	4.81
Amini-6	724627	6.0	5.82	.62	5.20	5.95	.10	5.85
Amini-7	724697	7.0	6.67	.62	6.05	6.84	.11	6.73
Amini-8	724689	8.0	7.67	.62	7.05	7.83	.12	7.71
Amini-9	724766	9.0	8.58	.60	7.98	8.80	.13	8.67
Amini-10	724769	10.0	9.49	.59	8.90	9.73	.14	9.59
Amini-11	724841	11.0	10.40	.60	9.80	10.68	.14	10.54
Amini-12	724800	12.0	11.34	.58	10.76	11.61	.15	11.46
Amini-13	724925	13.0	12.26	.56	11.70	12.57	.15	12.42
Amini-14	724865	14.0	13.11	.55	12.56	13.42	.16	13.26
Amini-15	724889	15.0	13.99	.55	13.44	14.30	.16	14.14
Amini-16	724906	16.0	14.88	.61	14.27	15.18	.17	15.01
Amini-17	725037	17.0	—	—	—	—	—	—
Amini-18	724943	18.0	—	—	—	—	—	—
Amini-19	724996	19.0	—	—	—	—	—	—
Amini-20	724957	20.0	—	—	—	—	—	—

Amini plug-ins can be used as both PADs and EQs in the Forward Path in the FM220 Basic and FM222 Amplifiers.
All in orange plastic.

Table 27: Amini Short PAD Attenuators Specifications

P/N	PAD Value	P/N	PAD Value	P/N	PAD Value	P/N	PAD Value
725258	0.0	725455	6.0	724672	12.0	725919	18.0
725982	0.5	725972	6.5	726150	12.5	725857	18.5
725983	1.0	725990	7.0	724734	13.0	725976	19.0
725828	1.5	725991	7.5	725940	13.5	725804	19.5
725984	2.0	725020	8.0	724760	14.0	725956	20.0
725826	2.5	725992	8.5	725923	14.5	725859	20.5
725985	3.0	724802	9.0	724693	15.0	725902	21.0

Table 27: Amini Short PAD Attenuators Specifications  (cont'd)

P/N	PAD Value	P/N	PAD Value	P/N	PAD Value	P/N	PAD Value
725986	3.5	725936	9.5	725840	15.5	725935	21.5
725987	4.0	724615	10.0	725906	16.0	725915	22.0
725931	4.5	725993	10.5	725961	16.5	725916	22.5
725988	5.0	724678	11.0	725812	17.0	725894	23.0
725989	5.5	725783	11.5	725819	17.5		

Amini Shorts are used in the CHP Max5000 Dual Input Transmitter and should be inserted with needle-nose pliers.
All in orange plastic.

Table 28: AP40xx Series Forward/Return Path PAD Attenuators Specifications

Model/ Part Number	dB Value (±0.3 dB)		Model	dB Value (±0.3 dB)
AP4000-L	0.0		AP4011-L	11.0
AP4001-L	1.0		AP4012-L	12.0
AP4002-L	2.0		AP4013-L	13.0
AP4003-L	3.0		AP4014-L	14.0
AP4004-L	4.0		AP4015-L	15.0
AP4005-L	5.0		AP4016-L	16.0
AP4006-L	6.0		AP4017-L	17.0
AP4007-L	7.0		AP4018-L	18.0
AP4008-L	8.0		AP-4075	75 ohm termination
AP4009-L	9.0			
AP4010-L	10.0			

Frequency Range: 5 to 1200 MHz
Impedance: 75 ohm
Return Loss: 20 dB (min.)
All in orange plastic.

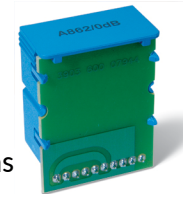


Table 29: Bridge and A862 Attenuators Specifications

Model	P/N	PAD Value	Flatloss 5-862MHz	Passband Flatness
Bridge (A862/0)	724739	0	0	±0.15dB
A862/02	725444	2	2	±0.15dB
A862/04	725672	4	4	±0.15dB
A862/05	778925	5	5	±0.15dB

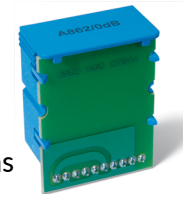


Table 29: Bridge and A862 Attenuators Specifications (cont'd)

Model	P/N	PAD Value	Flatloss 5–862MHz	Passband Flatness
A862/06	725218	6	6	±0.15dB
A862/08	725641	8	8	±0.15dB
A862/10	725868	10	10	±0.15dB
Dimensions, L x H: 30 x 37.7mm. All in blue plastic.				

Table 30: JXP Series Forward/Return PAD Attenuators Specifications

Model	Part Number	5-1000 MHz Flat Loss	Passband Flatness		Model	Part Number	5-1000 MHz Flat Loss	Passband Flatness
JXP-0B-R	531186-001-00	0	±0.5dB		JXP-14B-R	531186-015-00	14	±0.5dB
JXP-1B-R	531186-002-00	1	±0.5dB		JXP-15B-R	531186-016-00	15	±0.5dB
JXP-2B-R	531186-003-00	2	±0.5dB		JXP-16B-R	531186-017-00	16	±0.5dB
JXP-3B-R	531186-004-00	3	±0.5dB		JXP-17B-R	531186-018-00	17	±0.5dB
JXP-4B-R	531186-005-00	4	±0.5dB		JXP-18B-R	531186-019-00	18	±0.5dB
JXP-5B-R	531186-006-00	5	±0.5dB		JXP-19B-R	531186-020-00	19	±0.5dB
JXP-6B-R	531186-007-00	6	±0.5dB		JXP-20B-R	531186-021-00	20	±0.5dB
JXP-7B-R	531186-008-00	7	±0.5dB		JXP-21B-R	531186-022-00	21	±0.5dB
JXP-8B-R	531186-009-00	8	±0.5dB		JXP-22B-R	531186-023-00	22	±0.5dB
JXP-9B-R	531186-010-00	9	±0.5dB		JXP-23B-R	531186-024-00	23	±0.5dB
JXP-10B-R	531186-011-00	10	±0.5dB		JXP-24B-R	531186-025-00	24	±0.5dB
JXP-11B-R	531186-012-00	11	±0.5dB		JXP-25B-R	531186-026-00	25	±0.5dB
JXP-12B-R	531186-013-00	12	±0.5dB		JXP-26B-R	531186-027-00	26	±0.5dB
JXP-13B-R	531186-014-00	13	±0.5dB					

Table 31: JXP-TH*C-R Series Forward/Return PAD Attenuators Specifications

	Operating Temperature					
	–40 °C (–40 °F)	**–20 °C (–4 °F)**	**+25 °C (+77 °F)**	**+45 °C (+113 °F)**	**+60 °C (+140 °F)**	**+80 °C (+176 °F)**
5 MHz						
2 dB JXP-TH2C-R						
Insertion Loss (dB)	–2.97	–2.74	–2.23	–2.00	–1.83	–1.60
Return Loss (dB)	–29.04	–29.30	–36.52	–52.33	–41.28	–32.08
3 dB JXP-TH3C-R						
Insertion Loss (dB)	–4.28	–3.98	–3.30	–3.00	–2.78	–2.48
Return Loss (dB)	–28.50	–29.05	–41.50	–42.08	–33.50	–29.37
200 MHz						
2 dB JXP-TH2C-R						
Insertion Loss (dB)	–2.97	–2.74	–2.23	–2.00	–1.83	–1.60
Return Loss (dB)	–25.71	–26.80	–32.22	–36.50	–36.22	–29.61
3 dB JXP-TH3C-R						
Insertion Loss (dB)	–4.28	–3.98	–3.30	–3.00	–2.78	–2.48
Return Loss (dB)	–26.30	–26.81	–33.00	–34.15	–31.00	–27.49
750 MHz						
2 dB JXP-TH2C-R						
Insertion Loss (dB)	–2.97	–2.74	–2.23	–2.00	–1.83	–1.60
Return Loss (dB)	–21.00	–20.57	–23.00	–23.87	–22.30	–24.61
3 dB JXP-TH3C-R						
Insertion Loss (dB)	–4.28	–3.98	–3.30	–3.00	–2.78	–2.48
Return Loss (dB)	–22.30	–20.55	–23.50	–22.81	–21.80	–23.24

Table 31: JXP-TH*C-R Series Forward/Return PAD Attenuators Specifications

	Operating Temperature					
	–40 °C (–40 °F)	**–20 °C (–4 °F)**	**+25 °C (+77 °F)**	**+45 °C (+113 °F)**	**+60 °C (+140 °F)**	**+80 °C (+176 °F)**
870 MHz						
2 dB JXP-TH2C-R						
Insertion Loss (dB)	–2.97	–2.74	–2.23	–2.00	–1.83	–1.60
Return Loss (dB)	–19.93	–20.06	–21.14	–22.23	–20.10	–21.09
3 dB JXP-TH3C-R						
Insertion Loss (dB)	–4.28	–3.98	–3.30	–3.00	–2.78	–2.48
Return Loss (dB)	–22.00	–19.94	–22.00	–21.18	–19.90	–20.12

1. Characteristic Impedance is 75 ohms.
2. The maximum power dissipation is 0.125 W RMS.

Table 32: NPB Series 1.2 GHz Forward/Return Path PAD Attenuators Specifications

Model/Part Number	dB Value	5–1200 MHz Flat Loss (dB)	Passband Flatness (dB)
NPB-000	0	0.0	±0.15
NPB-010	1	1.0	±0.15
NPB-020	2	2.0	±0.15
NPB-030	3	3.0	±0.15
NPB-040	4	4.0	±0.15
NPB-050	5	5.0	±0.15
NPB-060	6	6.0	±0.15
NPB-070	7	7.0	±0.15
NPB-080	8	8.0	±0.15
NPB-090	9	9.0	±0.15
NPB-100	10	10.0	±0.15
NPB-110	11	11.0	±0.15
NPB-120	12	12.0	±0.15
NPB-130	13	13.0	±0.15
NPB-140	14	14.0	±0.15
NPB-150	15	15.0	±0.15
NPB-160	16	16.0	±0.15
NPB-170	17	17.0	±0.15
NPB-180	18	18.0	±0.15
NPB-190	19	19.0	±0.15

Table 32: NPB Series 1.2 GHz Forward/Return Path PAD Attenuators Specifications  (cont'd)

Model/Part Number	dB Value	5–1200 MHz Flat Loss (dB)	Passband Flatness (dB)
NPB-200	20	20.0	±0.15
NPB-750	terminator	terminator	N/A
Flatness measured relative to a straight line at the listed dB value. Return Loss: 20 dB (5–1003 MHz); 25 dB (5–1250 MHz) Impedance: 75 ohm Temperature Range: –40°C to 85°C (–40°F to 185°F) All in green plastic.			

Table 33: NPB Series 1.8 GHz Forward/Return Path PAD Attenuators Specifications 

Forward Path Attenuators								
Model/Part Number	dB Value	Return Loss 5–400 MHz (dB)	Return Loss 600–400 MHz (dB)	Return Loss 600–1000 MHz (dB)	Return Loss 1000–1218 MHz (dB)	Return Loss 1218–1794 MHz (dB)	Insertion Loss 1218 MHz (db)	Insertion Loss 1794 MHz (db)
NPB-000 (JMP)	0	≥30	≥27	≥23	≥22	≥18	0.25	0.55
NPB-050	0.5						0.85	1.15
NPB-010	1						1.30	1.60
NPB-015	1.5						1.85	2.15
NPB-020	2						2.35	2.65
NPB-025	2.5						2.85	3.15
NPB-030	3						3.35	3.75
NPB-035	3.5						3.95	4.35
NPB-040	4						4.40	4.80
NPB-045	4.5						4.90	5.30
NPB-050	5						5.40	5.90
NPB-055	5.5						5.95	6.45
NPB-060	6						6.45	6.95
NPB-065	6.5						6.95	7.45
NPB-070	7						7.45	7.95
NPB-080	8						8.45	8.95
NPB-090	9						9.50	10.00
NPB-100	10						10.50	11.00
NPB-110	11						11.40	12.05
NPB-120	12						12.35	13.00
NPB-130	13						13.30	13.80
NPB-140	14						14.25	14.75
NPB-150	15						15.20	15.70
NPB-160	16	≥28	≥26	≥21	≥19		16.25	16.45
NPB-170	17						17.10	17.30
NPB-180	18						18.10	18.30

Table 33: NPB Series 1.8 GHz Forward/Return Path PAD Attenuators Specifications  (cont'd)

Forward Path Attenuators								
Model/Part Number	dB Value	Return Loss 5–400 MHz (dB)	Return Loss 600–400 MHz (dB)	Return Loss 600–1000 MHz (dB)	Return Loss 1000–1218 MHz (dB)	Return Loss 1218–1794 MHz (dB)	Insertion Loss 1218 MHz (db)	Insertion Loss 1794 MHz (db)
NPB-190	19	≥32	≥28	≥23	≥21	≥18	19.35	19.55
NPB-200	20						20.10	20.30
NPB-750	terminator						N/A	N/A
Return Path Attenuators								
Model/Part Number	dB Value	Return Loss 5–350 MHz (dB)					Insertion Loss 5–350 MHz (dB)	
NPB-210	21	≥32					21.0	
NPB-220	22						22.0	
NPB-230	23						23.0	
NPB-240	24						24.0	
NPB-250	25						25.0	
NPB-260	26						26.0	
Impedance: 75 ohm Temperature Range: –40°C to 85°C (–40°F to 185°F) All in green plastic.								

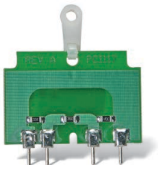
Table 34: NPD38xx Series Forward/Return Path PAD Attenuators Specifications

Model/Part Number	5–1002 MHz Flat Loss (dB)		Model/Part Number	5–1002 MHz Flat Loss (dB)
NPD3806	6		NPD3814	14
NPD3807	7		NPD3815	15
NPD3808	8		NPD3816	16
NPD3809	9		NPD3817	17
NPD3810	10		NPD3818	18
NPD3811	11		NPD3819	19
NPD3812	12		NPD3820	20
NPD3813	13		NPD3875	Terminator

Table 35: RPB Series Return PAD Attenuators (reverse SPB-style PAD) Specifications

Model	P/N	5–200 MHz Flat Loss (dB)	Model	P/N	5–200 MHz Flat Loss (dB)
RPB-21	726092	21.0	RPB-24	762237	24.0
RPB-22	762235	22.0	RPB-25	762238	25.0
RPB-23	762236	23.0’			
Passband Flatness: ±0.3dB Return Loss I/O: 25/25dB min. All in red plastic.			*Specification Document Number 600701*		

Table 36: SEQPB Series EQ Form Factor PAD Attenuators Specifications



Model	P/N	5–1002 MHz Flat Loss (dB)	Model	P/N	5–1002 MHz Flat Loss (dB)
SEQPB-1000-01	725614	1.0	SEQPB-1000-06	762137	6.0
SEQPB-1000-02	762134	2.0	SEQPB-1000-07	762138	7.0
SEQPB-1000-03	762135	3.0	SEQPB-1000-08	726084	8.0
SEQPB-1000-04	762136	4.0	SEQPB-1000-09	726085	9.0
SEQPB-1000-05	726083	5.0	SEQPB-1000-10	762139	10.0
Passband Flatness: ±0.3dB Return Loss I/O: 19/19dB min. (SEQPB-01 to 06) 18.5/18.5dB min. (SEQPB-07 to 010) Slope: –0.2 to –0.7dB			*Specification Document Number 600668*		

Table 37: SPB Series Forward/Return PAD Attenuators Specifications

Model	P/N	5–1002 MHz Flat Loss (dB)	Model	P/N	5–1002 MHz Flat Loss (dB)	Model	P/N	5–1000 MHz Flat Loss (dB)
SPB-0	162260-00	0.0	SPB-7	162260-07	7.0	SPB-14	162260-14	14.0
SPB-0.5	162260-005	0.5	SPB-7.5	162260-075	7.5	SPB-14.5	162260-145	14.5
SPB-1	162260-01	1.0	SPB-8	162260-08	8.0	SPB-15	162260-15	15.0
SPB-1.5	162260-015	1.5	SPB-8.5	162260-085	8.5	SPB-15.5	162260-155	15.5
SPB-2	162260-02	2.0	SPB-9	162260-09	9.0	SPB-16	162260-16	16.0
SPB-2.5	162260-025	2.5	SPB-9.5	162260-095	9.5	SPB-16.5	162260-165	16.5
SPB-3	162260-03	3.0	SPB-10	162260-10	10.0	SPB-17	162260-17	17.0
Passband Flatness: ±0.3dB Return Loss I/O: 19/19dB min. All in green plastic.				*Specification Document Number 600437*				

Table 37: SPB Series Forward/Return PAD Attenuators Specifications 

(cont'd)

Model	P/N	5–1002 MHz Flat Loss (dB)	Model	P/N	5–1002 MHz Flat Loss (dB)	Model	P/N	5–1000 MHz Flat Loss (dB)
SPB-3.5	162260-035	3.5	SPB-10.5	162260-105	10.5	SPB-17.5	162260-175	17.5
SPB-4	162260-04	4.0	SPB-11	162260-11	11.0	SPB-18	162260-18	18.0
SPB-4.5	162260-045	4.5	SPB-11.5	162260-115	11.5	SPB-18.5	162260-185	18.5
SPB-5	162260-05	5.0	SPB-12	162260-12	12.0	SPB-19	162260-19	19.0
SPB-5.5	162260-055	5.5	SPB-12.5	162260-125	12.5	SPB-19.5	162260-195	19.5
SPB-6	162260-06	6.0	SPB-13	162260-13	13.0	SPB-20	162260-20	20.0
SPB-6.5	162260-065	6.5	SPB-13.5	162260-135	13.5			

Passband Flatness: ±0.3dB
Return Loss I/O: 19/19dB min.
All in green plastic.

Specification Document Number 600437

Table 38: Thermal PAD Attenuators Specifications 

P/N	PAD Value	P/N	PAD Value
753116	3dB	797584 (w/o cover)	3dB

Passband Flatness: ±0.25dB
Return Loss I/O: 17/17dB min.
Insertion Loss@1002 MHz: −3.20 ±0.25 dB
Covers are all in blue plastic.

Specification Document Number 1503649

Table 39: T-RPA/*-* Series Return Path Attenuator Plug-in Modules Specifications

Specification	Freq (MHz)	T-RPA/ 42-2	T-RPA/ 42-4	T-RPA/ 42-6	T-RPA/ 42-8	T-RPA/ 42-10	T-RPA/ 42-12	T-RPA/ 42-14	T-RPA/ 42-16	T-RPA/ 42-18
Return Attenuation (dB nominal)	5–42	2.5	4.5	6.5	8.5	10.5	12.5	14.5	16.5	18.5
Tolerance (± dB max.)	5–30 31–42	1.0 2.0	1.0 2.0	1.0 2.0	1.0 2.0	1.0 2.0	1.4 2.0	1.6 2.0	1.6 2.5	2.1 2.5
Drop Insertion Loss[1] (dB max.)	54 100 300 550 750 870 1000 1218	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9	2.0 0.3 0.3 0.4 0.6 0.7 0.7 0.9

[1]The insertion loss specifications shown are in addition to the nominal tap value loss.

Table 39: T-RPA/*-* Series Return Path Attenuator Plug-in Modules Specifications (cont'd)

Specification	Freq (MHz)	T-RPA/ 85-2	T-RPA/ 85-4	T-RPA/ 85-6	T-RPA/ 85-8	T-RPA/ 85-10	T-RPA/ 85-12	T-RPA/ 85-14	T-RPA/ 85-16	T-RPA/ 85-18
Return Attenuation (dB nominal)	5–85	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0
Tolerance (± dB max.)	5–50 51–80	1.5 2.0	1.5 2.0	1.5 2.0	1.5 2.0	1.5 2.0	1.5 2.0	1.8 2.0	2.0 2.0	2.0 2.0
Drop Insertion Loss[1] (dB max.)	104 106 300 550 750 870 1000 1218	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.0	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.0	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.0	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.0	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.0	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.2	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.2	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.2	2.2 1.8 0.5 0.6 0.7 0.7 0.8 1.2

[1]The insertion loss specifications shown are in addition to the nominal tap value loss.

Forward Signal Correction Attenuators

Table 40: 1 GHz HS1 Haystack Signal Correction Attenuator Specifications 

General Specifications	
Bandwidth (MHz)	54–1002
Return Loss, dB (54 to 1002 MHz)	16 min.
Insertion Loss, dB (54 MHz)	–1.5 ± 0.5
Insertion Loss, dB (550 MHz)	–3.5 ± 0.5
Insertion Loss, dB (1002 MHz)	–1.5 ± 0.5
Temperature Range	–40 °C to 85 °C (–40 °F to 185° F)

Insertion Loss Over Frequency (Typical)														
Model	54 MHz (dB)	133 MHz (dB)	212 MHz (dB)	291 MHz (dB)	370 MHz (dB)	449 MHz (dB)	528 MHz (dB)	550 MHz (dB)	607 MHz (dB)	686 MHz (dB)	765 MHz (dB)	844 MHz (dB)	923 MHz (dB)	1002 MHz (dB)
HS1	–1.5	–2.6	–3.1	–3.3	–3.4	–3.5	–3.5	–3.5	–3.6	–3.6	–3.5	–3.2	–2.6	–1.5

Specification Document Number 1504417

Table 41: 1.2 GHz HS1 Haystack Signal Correction Attenuator Specifications 

General Specifications	
Bandwidth (MHz)	54–1218
Return Loss, dB	18 min.
Insertion Loss Roll, dB (54 to 204 MHz)	1.6 ± 0.2
Insertion Loss Roll, dB (900 to 1218 MHz)	≤0.25
Flatness, dB	±0.3
Temperature Range	–40 °C to 85 °C (–40 °F to 185° F)

Insertion Loss Over Frequency (Typical)													
Model	**54 MHz (dB)**	**151 MHz (dB)**	**248 MHz (dB)**	**345 MHz (dB)**	**442 MHz (dB)**	**539 MHz (dB)**	**636 MHz (dB)**	**733 MHz (dB)**	**830 MHz (dB)**	**927 MHz (dB)**	**1024 MHz (dB)**	**1121 MHz (dB)**	**1218 MHz (dB)**
HS1	–1.0	–1.8	–2.0	–2.2	–2.3	–2.3	–2.4	–2.5	–2.7	–2.7	–2.4	–1.5	–0.9

Specification Document Number 1514337

Table 42: 1.2 GHz PA1 Peaking Signal Correction Attenuator Specifications 

General Specifications	
Bandwidth (MHz)	54–1218
Return Loss, dB (54 to 1218 MHz)	20 min.
Insertion Loss, dB (1218 MHz)	≥–1.2
Peaking, dB (54 to 11218 MHz)	1.6 ± 0.2
Insertion Loss Roll, dB (900 to 1218 MHz)	≤0.25
Flatness, dB	±0.3
Temperature Range	–40 °C to 85 °C (–40 °F to 185° F)

Insertion Loss Over Frequency (Typical)													
Model	**54 MHz (dB)**	**300 MHz (dB)**	**550 MHz (dB)**	**800 MHz (dB)**	**850 MHz (dB)**	**900 MHz (dB)**	**950 MHz (dB)**	**1000 MHz (dB)**	**1050 MHz (dB)**	**1100 MHz (dB)**	**1150 MHz (dB)**	**1200 MHz (dB)**	**1218 MHz (dB)**
PA1	–2.7	–2.7	–2.7	–2.6	–2.6	–2.5	–2.5	–2.3	–2.2	–2.0	–1.6	–1.2	–1.1

Specification Document Number 1514336

Table 43: 1 GHz PA2 Peaking Signal Correction Attenuator Specifications 

General Specifications	
Bandwidth (MHz)	54–1002
Return Loss, dB (54 to 800 MHz)	21 min.
Return Loss, dB (800 to 1002 MHz)	16 min.
Insertion Loss, dB (54 MHz)	>–2.2
Insertion Loss, dB (1002 MHz)	>–1.2
Peaking, dB (54 to 1002 MHz)	1.2 ± 0.4
Temperature Range	–40 °C to 85 °C (–40 °F to 185° F)

Insertion Loss Over Frequency (Typical)													
Model	**54 MHz (dB)**	**133 MHz (dB)**	**212 MHz (dB)**	**291 MHz (dB)**	**370 MHz (dB)**	**449 MHz (dB)**	**528 MHz (dB)**	**607 MHz (dB)**	**686 MHz (dB)**	**765 MHz (dB)**	**844 MHz (dB)**	**923 MHz (dB)**	**1002 MHz (dB)**
PA2	–2.0	–2.0	–2.1	–2.1	–2.1	–2.2	–2.2	–2.3	–2.4	–2.4	–2.4	–2.0	–0.8

Specification Document Number 1514626

Table 44: 1.2 GHz PA2 Peaking Signal Correction Attenuator Specifications 

General Specifications	
Bandwidth (MHz)	54–1218
Return Loss, dB (54 to 1218 MHz)	20 min.
Insertion Loss, dB (1218 MHz)	≥–1.2
Insertion Loss Roll, dB (900 to 1218 MHz)	≤0.25
Peaking, dB (54 to 11218 MHz)	3.1 ± 0.2
Flatness, dB	±0.3
Temperature Range	–40 °C to 85 °C (–40 °F to 185° F)

Insertion Loss Over Frequency (Typical)													
Model	**54 MHz (dB)**	**300 MHz (dB)**	**550 MHz (dB)**	**800 MHz (dB)**	**850 MHz (dB)**	**900 MHz (dB)**	**950 MHz (dB)**	**1000 MHz (dB)**	**1050 MHz (dB)**	**1100 MHz (dB)**	**1150 MHz (dB)**	**1200 MHz (dB)**	**1218 MHz (dB)**
PA2	–3.9	–3.9	–4.0	–4.1	–4.0	–4.0	–3.9	–3.6	–3.3	–2.7	–1.9	–1.1	–0.8

Specification Document Number 1514336

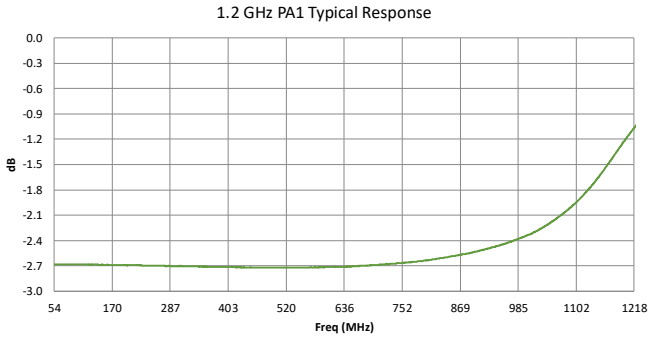
Table 45: 1 GHz PA3 Peaking Signal Correction Attenuator Specifications 

General Specifications	
Bandwidth (MHz)	54–1002
Return Loss, dB (54 to 800 MHz)	21 min.
Return Loss, dB (800 to 1002 MHz)	18 min.
Insertion Loss, dB (54 MHz)	>–3.1
Insertion Loss, dB (1002 MHz)	>–0.9
Peaking, dB (54 to 1002 MHz)	2.4 ± 0.4

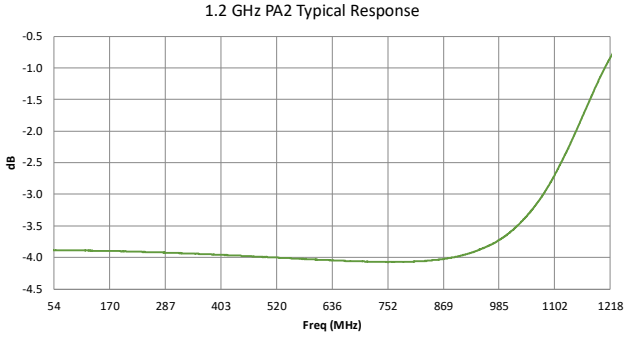
Insertion Loss Over Frequency (Typical)													
Model	**54 MHz (dB)**	**133 MHz (dB)**	**212 MHz (dB)**	**291 MHz (dB)**	**370 MHz (dB)**	**449 MHz (dB)**	**528 MHz (dB)**	**607 MHz (dB)**	**686 MHz (dB)**	**765 MHz (dB)**	**844 MHz (dB)**	**923 MHz (dB)**	**1002 MHz (dB)**
PA3	–3.0	–3.0	–3.0	–3.0	–3.1	–3.1	–3.1	–3.2	–3.2	–3.1	–2.6	–1.2	–0.6

Specification Document Number 1514626

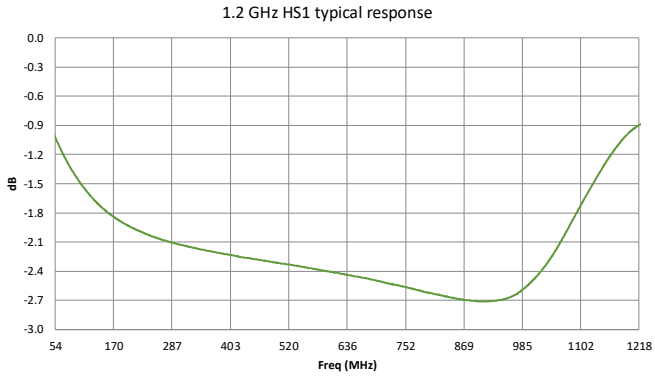
Typical Response, PA1
1.2 GHz Peak Attenuator



Typical Response, PA2
1.2 GHz Peak Attenuator



Typical Response, HS1
1.2 GHz Haystack Attenuator



Legacy Frequency Correction Modules Specifications

Within a longer cascade of amplifiers and passive network components it can be necessary to correct irregularities of the frequency response. The CM862/xx is a plug-in module that equalizes the frequency response of longer cascades or non-optimal transmitter-node combinations with two bumpers and two debumpers, which can be shifted in frequency and amplitude. One of each is responsible for the high and low frequency ranges. An additional fixed bump in the CM862/85 MHz, CM862/54 MHz, and CM862/47 MHz modules compensates the roll off of 4 diplexers (i.e. one CM862 is enough for 2 amplifiers).

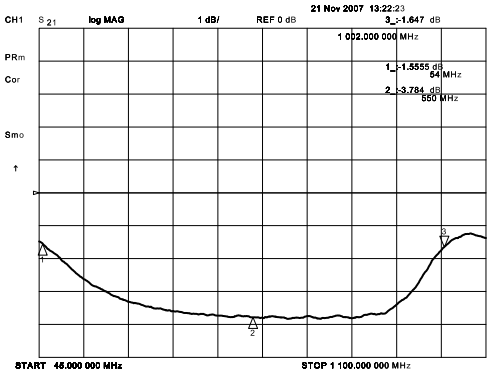
Table 46: CM862 System Equalizer Specifications

Model	P/N
CM862/00	772504
CM862/85	724571
CM862/54	772503
CM862/47	772502

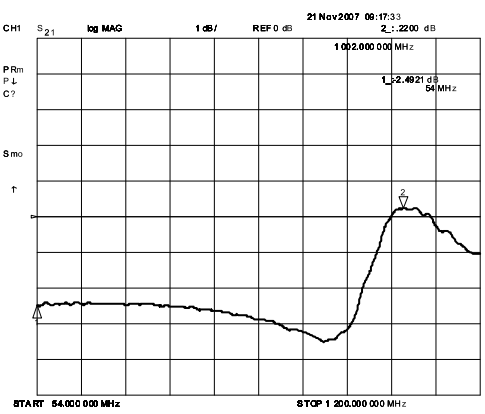
Table 47: Fixed-Value EDB Response Equalizers Specifications

P/N	Attenuated Range	Max. Bump or Trap Size	Location of Bump or Trap
1504415-001	54 to 1002 MHz	3.5 dB	54 to 1002 MHz
1504416-001	45 to 1002 MHz	3.5 dB	950 to 1002 MHz
1503691-001	54 to 1002 MHz	3.5 dB	54 to 1002 MHz
1503691-002	45 to 1002 MHz	3.5 dB	950 to 1002 MHz

Example Peak-to-Valley Response for Haystacks (727397/789316/761842)



Example Peak-to-Valley Response for Peaking Circuits (727398/761843)



Noise Filter Specifications

The Return Ingress Noise Filter is an ARRIS RF accessory for return attenuator (PAD) plug-in locations. This accessory not only suppresses signals below 10 MHz with at least 30 dB of attenuation but also passes signals above 15 MHz with minimal insertion loss. Ingress noise represents one of the major disturbances that affect upstream data transmission in broadband networks. This high pass filter prevents narrowband AM modulation carriers, such as short-wave radio signals, and any other interference from being introduced into the return path via an external source. Managing ingress noise in the return plant is crucial for data carrier performance, especially in broadband networks in which the return path is increasingly used for advanced services including video on demand and voice over IP. The ARRIS Return Ingress Noise Filter is a small, simple, yet vital component for implementing these services.

Table 48: FM401 Return Ingress Noise Filter 15 MHz (P/N 789307) Specifications

Characteristic	Specification
RF impedance, Ω	75
Bandwidth, MHz	15–200
Insertion Loss, dB	
15–20 MHz	< 1.50
20–200 MHz	< 1.00
Return Loss, dB min.	≤-18
Stop Band	
Bandwidth, MHz	5–10
Attenuation, dB	≥30
In some cases, the ingress filter may have to be inserted or removed with needlenose pliers.	

Table 49: Return Ingress Noise Filter 15 MHz (P/N 724577) Specifications

Characteristic	Specification
RF impedance, Ω	75
Bandwidth, MHz	15–200
Insertion Loss, dB	
15–20 MHz	< 1.50
20–200 MHz	< 1.00
Return Loss, dB min.	≤-18
Stop Band	
Bandwidth, MHz	5–10

Table 49: Return Ingress Noise Filter 15 MHz (P/N 724577) Specifications  (cont'd)

Characteristic	Specification
Attenuation, dB	≥30
Physical and Environmental Characteristics	
Dimensions (w x h x d), mm	11 x 30 x 5
Connector	3 pin plug-in
Temperature, °C	–40 to 85
Humidity, % Relative Humidity	5–95
In some cases, the ingress filter may have to be inserted or removed with needlenose pliers.	

Plug-in Equalizer Specifications

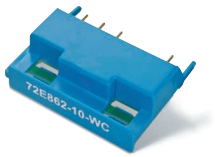
Plug-in equalizers are available as either linear equalizers or cable equalizers, both of which provide attenuation of RF signals with the greatest attenuation occurring at the lowest rated frequency. Linear equalizers provide linear attenuation, while cable equalizers provide sloped attenuation. EQLs, EQ21xxEs, GEQLS, EQ21xxGs, EQ21xxs, NEQLs, and 7-TG862-WCs are linear equalizers. SEQs, 7-2E862/x-WCs, MEQs, MEQTs, and T-EQ-*s are cable equalizers. Equalizers are available as both fixed (GEQL, NEQL, SEQ, 7-TG-862-WC, and 7-2E862/x-WC, and MEQ series) or thermal (MEQT series). All except the MEQ and MEQT series provide equalization in the forward path. Thermal equalizers provide level control in addition to equalization by slope-compensated insertion loss that changes with temperature for the amount of cable equalized.

Table 50: 1GHz Equalizer for CHP Max™ Headend Optics Platform Specifications 

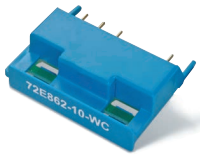
Model	P/N	Value
1300847	758805	0
861020	725106	0.5
861022	725107	1.0
861024	725000	1.5
1500944	725291	3.0

Table 51: 1200MHZ-ENHANCER Specifications 

Specification	Value
Insertion Loss, dB	1.0 (max.@102–1218 MHz)
Flatness, dB	±0.30 (max.@102–1218 MHz)
Slope, dB	0.0 ±0.40 (max.@102–1218 MHz)
Input Return Loss, dB	17 (min.@102–1218 MHz)
Output Return Loss, dB	17 (min.@102–1218 MHz)

Table 52: 7-2E862/x-WC Forward Path Cable Equalizers Specifications 

		Insertion Loss in dB at Frequency (MHz)							
Model	**P/N**	**54**	**70**	**85**	**450**	**550**	**650**	**750**	**870**
7-2E862/1-WC	2500808	1.3	1.2	1.2	0.8	0.7	0.6	0.6	0.5
7-2E862/2-WC	2500809	2.0	2.0	1.9	1.1	0.9	0.8	0.7	0.5
7-2E862/3-WC	2500810	2.8	2.7	2.6	1.4	1.2	0.9	0.7	0.5
7-2E862/4-WC	2500811	3.6	3.5	3.4	1.7	1.4	1.1	0.8	0.5
7-2E862/5-WC	2500812	4.4	4.2	4.1	2.0	1.6	1.2	0.9	0.5
7-2E862/6-WC	2500813	5.1	5.0	4.8	2.3	1.8	1.4	1.0	0.5
7-2E862/7-WC	2500814	5.9	5.7	5.5	2.6	2.1	1.5	1.0	0.5
7-2E862/8-WC	2500815	6.7	6.4	6.2	2.9	2.3	1.7	1.1	0.5
7-2E862/9-WC	2500816	7.4	7.2	6.9	3.2	2.5	1.8	1.2	0.5
7-2E862/10-WC	2500817	8.2	7.9	7.6	3.5	2.7	2.0	1.3	0.4
7-2E862/11-WC	2500818	9.0	8.7	8.4	3.8	2.9	2.1	1.3	0.4
7-2E862/12-WC	2500819	9.8	9.4	9.1	4.1	3.2	2.3	1.4	0.4
7-2E862/13-WC	2500820	10.5	10.1	9.8	4.4	3.4	2.4	1.5	0.4
7-2E862/14-WC	2500821	11.3	10.9	10.5	4.8	3.6	2.6	1.6	0.4
7-2E862/15-WC	2500822	12.1	11.6	11.2	5.1	3.8	2.7	1.6	0.4
7-2E862/16-WC	2500823	13.1	12.6	12.2	5.6	4.3	3.1	2.0	0.7
7-2E862/17-WC	2500824	13.9	13.4	12.9	5.9	4.5	3.2	2.0	0.7
7-2E862/18-WC	2500825	14.6	14.1	13.6	6.2	4.8	3.4	2.1	0.7
7-2E862/19-WC	2500981	15.4	14.8	14.3	6.5	5.0	3.5	2.2	0.7
7-2E862/20-WC	2500978	16.2	15.6	15.0	6.8	5.2	3.7	2.3	0.6
7-2E862/21-WC	2500982	17.0	16.3	15.7	7.1	5.4	3.8	2.3	0.6
7-2E862/22-WC	2500983	17.7	17.1	16.5	7.4	5.6	4.0	2.4	0.6
7-2E862/23-WC	2500979	18.5	17.8	17.2	7.7	5.9	4.1	2.5	0.6
7-2E862/24-WC	2500984	19.3	18.6	17.9	8.0	6.1	4.3	2.6	0.6

Table 52: 7-2E862/x-WC Forward Path Cable Equalizers Specifications 

(cont'd)

		Insertion Loss in dB at Frequency (MHz)							
Model	**P/N**	**54**	**70**	**85**	**450**	**550**	**650**	**750**	**870**
7-2E862/25-WC	2500985	20.1	19.3	18.6	8.3	6.3	4.4	2.6	0.6
7-2E862/26-WC	2500980	20.8	20.0	19.3	8.6	6.5	4.6	2.7	0.6

Table 53: 7-REF42/x-WC Return Cable Equalizers Specifications 

			Insertion Loss in dB at Frequency (MHz)						
Model	**P/N**	**PAD Value**	**5**	**7**	**13**	**19**	**25**	**33**	**42**
7-REF42/1-WC	724826	1	1.4	1.3	1.1	1.0	0.9	0.8	0.7
7-REF42/2-WC	724727	2	1.8	1.7	1.4	1.1	1.0	0.8	0.7
7-REF42/3-WC	724897	3	2.6	2.4	2.0	1.6	1.4	1.0	0.7
7-REF42/4-WC	724819	4	3.4	3.1	2.6	2.2	1.7	1.2	0.7
7-REF42/5-WC	724951	5	4.1	3.7	3.1	2.5	2.0	1.4	0.7
7-REF42/6-WC	724872	6	4.6	4.1	3.4	2.7	2.2	1.3	0.7
7-REF42/7-WC	724866	7	5.3	5.0	4.0	3.2	2.4	1.5	0.7
7-REF42/8-WC	724881	8	6.0	5.4	4.2	3.5	2.6	1.6	0.7
7-REF42/9-WC	725029	9	6.6	5.8	4.7	3.7	2.7	1.7	0.7
All in blue plastic.									

Table 54: 7-REF55/x-WC Return Cable Equalizers Specifications 

			Insertion Loss in dB at Frequency (MHz)								
Model	**P/N**	**PAD Value**	**5**	**7**	**13**	**19**	**25**	**33**	**42**	**49**	**55**
7-REF55/1-WC	762590	1	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.4
7-REF55/2-WC	762591	2	1.8	1.7	1.5	1.3	0.9	0.7	0.6	0.5	0.4
7-REF55/3-WC	762592	3	2.3	2.2	1.8	1.5	1.3	0.9	0.6	0.3	0.4
7-REF55/4-WC	762593	4	3.3	3.0	2.6	2.2	1.8	1.4	1.0	0.8	0.5
7-REF55/5-WC	762594	5	4.1	3.8	3.2	2.7	2.2	1.7	1.2	0.9	0.5
7-REF55/6-WC	762595	6	4.8	4.4	3.7	3.0	2.5	2.0	1.3	0.9	0.5
7-REF55/7-WC	762596	7	5.2	4.8	3.9	3.2	2.7	2.1	1.4	1.0	0.5
7-REF55/8-WC	762597	8	6.2	5.7	4.7	4.0	3.2	2.4	1.6	1.0	0.6
7-REF55/9-WC	762598	9	6.9	6.3	5.3	4.4	3.5	2.7	1.8	1.3	0.6

Table 54: 7-REF55/x-WC Return Cable Equalizers Specifications 

(cont'd)

			Insertion Loss in dB at Frequency (MHz)								
Model	**P/N**	**PAD Value**	**5**	**7**	**13**	**19**	**25**	**33**	**42**	**49**	**55**
7-REF55/10-WC	762599	10	7.6	7.0	5.7	4.8	3.7	2.9	1.9	1.3	0.6
All in blue plastic.											

Table 55: 7-REF65/x-WC Return Cable Equalizers Specifications 

			Insertion Loss in dB at Frequency (MHz)								
Model	**P/N**	**PAD Value**	**5**	**8**	**20**	**29**	**36**	**42**	**56**	**63**	**65**
7-REF65/1-WC	725750	1	1.3	1.2	1.0	0.9	0.8	0.7	0.6	0.6	0.6
7-REF65/2-WC	725785	2	2.1	1.9	1.5	1.3	1.2	1.0	0.7	0.7	0.6
7-REF65/3-WC	726028	3	2.7	2.5	2.2	1.9	1.5	1.1	0.7	0.7	0.6
7-REF65/4-WC	725677	4	3.5	3.2	2.7	2.4	1.9	1.3	0.8	0.7	0.6
7-REF65/5-WC	762600	5	4.2	3.8	3.2	2.5	2.1	1.5	0.9	0.7	0.6
7-REF65/6-WC	726029	6	4.8	4.1	3.2	2.8	2.2	1.6	1.1	0.7	0.6
7-REF65/7-WC	726030	7	5.8	5.3	3.9	3.0	2.5	2.1	1.3	0.9	0.6
7-REF65/8-WC	726031	8	6.5	5.8	4.2	3.6	2.7	2.2	1.3	1.0	0.6
7-REF65/9-WC	762601	9	6.9	6.2	5.0	3.8	3.0	2.2	1.4	1.0	0.6
7-REF65/10-WC	762602	10	8.0	7.1	5.2	1.0	3.2	2.7	1.5	1.0	0.6
7-REF65/11-WC	762603	11	8.6	7.9	5.6	4.4	3.4	2.8	1.5	1.0	0.6
All in blue plastic.											

Table 56: 7-REF85/x-WC Return Cable Equalizers Specifications

			Insertion Loss in dB at Frequency (MHz)								
Model	**P/N**	**PAD Value**	**5**	**8**	**20**	**29**	**36**	**42**	**56**	**63**	**65**
7-REF85/1-WC	787588	1	1.3	1.2	1.0	0.9	0.8	0.7	0.6	0.6	0.6
7-REF85/2-WC	787589	2	2.1	1.9	1.5	1.3	1.2	1.0	0.7	0.7	0.6
7-REF85/3-WC	787590	3	2.7	2.5	2.2	1.9	1.5	1.1	0.7	0.7	0.6
7-REF85/4-WC	787591	4	3.5	3.2	2.7	2.4	1.9	1.3	0.8	0.7	0.6
7-REF85/5-WC	787592	5	4.2	3.8	3.2	2.5	2.1	1.5	0.9	0.7	0.6
7-REF85/6-WC	787593	6	4.8	4.1	3.2	2.8	2.2	1.6	1.1	0.7	0.6
7-REF85/7-WC	787594	7	5.8	5.3	3.9	3.0	2.5	2.1	1.3	0.9	0.6
7-REF85/8-WC	787595	8	6.5	5.8	4.2	3.6	2.7	2.2	1.3	1.0	0.6
All in blue plastic.											

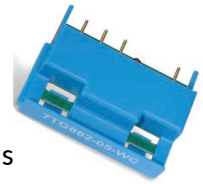


Table 57: 7-TG862-WC Series Linear Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)		Tilt in dB
Model	**P/N**	**50**	**862**	**45 to 890 MHz**
7-TG862/5-WC	724909	5.0	1.0	5.20
7-TG862/6-WC	725727	6.0	1.0	6.24
7-TG862/7-WC	725457	7.0	1.0	7.28
7-TG862/8-WC	725410	8.0	1.0	8.33
7-TG862/9-WC	725575	9.0	1.0	9.37
7-TG862/10-WC	725575	10.0	1.0	10.41
7-TG862/11-WC	725605	11.0	1.0	11.45
7-TG862/12-WC	725515	12.0	1.0	12.49
7-TG862/13-WC	725476	11.0	1.0	13.52
7-TG862/14-WC	725737	12.0	1.0	14.57
7-TG862/15-WC	725820	11.0	1.0	15.61
Passband Flatness: ±0.2dB Return loss I/O: 18/18dB min.				*Specification Document Number 871539*

Picture

N/A

Table 58: CBSM-1GHz Series Cable Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)										
Model	**P/N**	47	100	200	300	400	500	600	700	800	900	1000
CBSM-1G-03	728226	0.80	1.04	1.36	1.61	1.83	3.02	2.19	2.36	2.51	2.66	2.80
CBSM-1G-05	728227	0.80	1.28	1.92	2.42	2.85	3.24	3.59	3.92	4.22	4.52	4.80
CBSM-1G-07	728228	0.80	1.51	2.48	3.23	3.88	4.45	4.98	5.47	5.94	6.37	6.80
CBSM-1G-09	728229	0.80	1.75	3.03	4.04	4.90	5.67	6.38	7.03	7.65	8.23	8.80
Return Loss I/O: 22/22dB min. Tolerance: ±0.3dB				*Specification Document Number 1505004*								

Table 59: CE-120-* 1.2 GHz Forward Cable Equalizer Specifications

		Insertion Loss Over Frequency													
Part Number	**Frequency (dB)**	**54 MHz**	**70 MHz**	**86 MHz**	**105 MHz**	**204 MHz**	**258 MHz**	**550 MHz**	**600 MHz**	**650 MHz**	**750 MHz**	**870 MHz**	**1002 MHz**	**1100 MHz**	**1218 MHz**
CE-120-2	2	–2.7	–2.6	–2.6	–2.5	–2.2	–2.1	–1.6	–1.5	–1.4	–1.3	–1.1	–1.0	–0.8	–0.7
CE-120-3	3	–3.7	–3.6	–3.5	–3.4	–3.0	–2.8	–2.0	–1.9	–1.8	–1.6	–1.4	–1.1	–0.9	–0.7
CE-120-4	4	–4.7	–4.6	–4.5	–4.3	–3.8	–3.6	–2.5	–2.3	–2.2	–1.9	–1.6	–1.2	–1.0	–0.7
CE-120-5	5	–5.7	–5.5	–5.2	–5.2	–4.6	–4.3	–2.9	–2.7	–2.6	–2.2	–1.8	–1.4	–1.1	–0.7
CE-120-6	6	–6.7	–6.5	–6.3	–6.1	–5.3	–5.0	–3.4	–3.2	–2.9	–2.5	–2.0	–1.5	–1.1	–0.7
CE-120-7	7	–7.7	–7.5	–7.3	–7.0	–6.1	–5.7	–3.8	–3.6	–3.3	–2.8	–2.2	–1.6	–1.2	–0.7
CE-120-8	8	–8.7	–8.4	–8.2	–8.0	–6.9	–6.4	–4.3	–4.0	–3.7	–3.1	–2.4	–1.8	–1.3	–0.7
CE-120-9	9	–9.7	–9.4	–9.2	–8.9	–7.7	–7.1	–4.7	–4.4	–4.0	–3.4	–2.7	–1.9	–1.3	–0.7
CE-120-10	10	–10.7	–10.4	–10.1	–9.8	–8.4	–7.8	–5.2	–4.8	–4.4	–3.7	–2.9	–2.0	–1.4	–0.7
CE-120-11	11	–11.7	–11.3	–11.0	–10.7	–9.2	–8.5	–5.6	–5.2	–4.8	–4.0	–3.1	–2.1	–1.5	–0.7
CE-120-12	12	–12.7	–12.3	–12.0	–11.6	–10.0	–9.3	–6.1	–5.6	–5.2	–4.3	–3.3	–2.3	–1.5	–0.7
CE-120-13	13	–13.7	–13.3	–12.9	–12.5	–10.8	–10.0	–6.5	–6.0	–5.5	–4.6	–3.5	–2.4	–1.6	–0.7
CE-120-14	14	–14.7	–14.3	–13.8	–13.4	–11.5	–10.7	–7.0	6.4	–5.9	–4.9	–3.7	–2.5	–1.7	–0.7
CE-120-15	15	–15.7	–15.2	–14.8	–14.3	–12.3	–11.4	–7.4	–6.8	–6.3	–5.2	–4.0	–2.7	–1.8	–0.7
CE-120-16	16	–16.7	–16.2	–15.7	–15.2	–13.1	–12.1	–7.9	–7.2	–6.6	–5.5	–4.2	–2.8	–1.8	–0.7
CE-120-17	17	–17.7	–17.2	–16.7	–16.1	–13.8	–12.8	–8.3	–7.7	–7.0	–5.8	–4.4	–2.9	–1.9	–0.7
CE-120-18	18	–18.7	–18.1	–17.6	–17.0	–14.6	–13.5	–8.8	–8.1	–7.4	–6.1	–4.6	–3.1	–2.0	–0.7
CE-120-19	19	–19.7	–19.1	–18.5	–17.9	–15.4	–14.2	–9.2	–8.5	–7.8	–6.4	–4.8	–3.2	–2.0	–0.7
CE-120-20	20	–20.7	–20.1	–19.5	–18.8	–16.2	–15.0	–9.7	–8.9	–8.1	–6.7	–5.0	–3.3	–2.1	–0.7

Table 60: CS-120-* 1.2 GHz Cable Simulator Specifications 

		Insertion Loss Over Frequency												
Part Number	Frequency (dB)	54 MHz	70 MHz	86 MHz	105 MHz	204 MHz	258 MHz	550 MHz	600 MHz	650 MHz	750 MHz	870 MHz	1002 MHz	1100 MHz	1218 MHz
CS-120-1	1	–0.7	–0.7	–0.8	–0.8	–0.9	–1.0	–1.3	–1.3	–1.3	–1.4	–1.5	–1.6	–1.6	–1.7
CS-120-2	2	–0.7	–0.8	–0.8	–0.9	–1.2	–1.3	–1.8	–1.9	–2.0	–2.1	–2.3	–2.4	–2.6	–2.7
CS-120-3	3	–0.7	–0.8	–0.9	–1.0	–1.4	–1.6	–2.4	–2.5	–2.6	–2.8	–3.0	–3.3	–3.5	–3.7
CS-120-4	4	–0.7	–0.8	–0.9	–1.1	–1.6	–1.9	–2.9	–3.1	–3.2	–3.5	–3.8	–4.2	–4.4	–4.7
CS-120-5	5	–0.7	–0.9	–1.0	–1.2	–1.8	–2.1	–3.5	–3.7	–3.8	–4.2	–4.6	–5.0	–5.3	–5.7
CS-120-6	6	–0.7	–0.9	–1.1	–1.3	–2.1	–2.4	–4.0	–4.2	–4.5	–4.9	–5.4	–5.9	–6.3	–6.7
CS-120-7	7	–0.7	–0.9	–1.1	–1.3	–2.3	–2.7	–4.6	–4.8	–5.1	–5.6	–6.2	–6.8	–7.2	–7.7
CS-120-8	8	–0.7	–1.0	–1.2	–1.4	–2.5	–3.0	–5.1	–5.4	–5.7	–6.3	–7.0	–7.6	–8.1	–8.7
CS-120-9	9	–0.7	–1.0	–1.3	–1.5	–2.7	–3.3	–5.7	–6.0	–6.4	–7.0	–7.7	–8.5	–9.1	–9.7
CS-120-10	10	–0.7	–1.0	–1.3	–1.6	–3.0	–3.6	–6.2	–6.6	–7.0	–7.7	–8.5	–9.4	–10.0	–10.7

Picture

N/A

Table 61: E606 Series Cable Equalizer Specifications

Insertion Loss in dB at Frequency (MHz)				
Model	**P/N**	**PAD Value**	**47**	**606**
PH0.42171	725829	2	2	1
PH0.42161	725912	4	4	1
PH0.42151	725836	6	6	1
PH0.41052	725898	8	8	1
PH0.41062	725872	10	10	1
PH0.41072	725945	12	12	1
PH0.41082	725834	14	14	1
PH0.41092	725879	16	16	1

Passband Flatness: ±0.2dB
Return Loss: <20dB (47MHz)–1.5dB/oct.
Dimensions in L x H: 30 x 37.7mm
All in blue plastic.

Table 62: E862 Series Cable Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)	
Model	**P/N**	**47**	**862**
E862/02	724767	2	1
E862/04	724862	4	1
E862/06	724718	6	1
E862/08	724580	8	1
E862/10	724993	10	1
E862/12	725063	12	1
E862/14	725122	14	1
E862/16	725227	16	1
Passband Flatness: ±0.2dB Return Loss: <20dB (47MHz)–1.5dB/oct.			

Table 63: EQ21xx Series Linear Equalizers Specifications

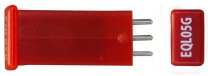
	Insertion Loss in dB at Frequency (MHz)										
Model	**45**	**70**	**80**	**100**	**300**	**400**	**500**	**600**	**700**	**800**	**870**
EQ2100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EQ2102	2.0	2.0	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0
EQ2103	3.0	2.9	2.9	2.9	2.4	2.1	1.9	1.7	1.4	1.2	1.0
EQ2104	4.0	3.9	3.9	3.8	3.1	2.7	2.3	2.0	1.6	1.3	1.0
EQ2105	5.0	4.9	4.8	4.7	3.8	3.3	2.8	2.3	1.8	1.3	1.0
EQ2106	6.0	5.8	5.8	5.7	4.5	3.8	3.2	2.6	2.0	1.4	1.0
EQ2107	7.0	6.8	6.7	6.6	5.1	4.4	3.7	3.0	2.2	1.5	1.0
EQ2108	8.0	7.8	7.7	7.5	5.8	5.0	4.1	3.3	2.4	1.6	1.0
EQ2109	9.0	8.8	8.7	8.5	6.5	5.6	4.6	3.6	2.6	1.7	1.0
EQ2110	10.0	9.7	9.6	9.4	7.2	6.1	5.0	3.9	2.9	1.8	1.0
EQ2111	11.0	10.7	10.6	10.3	7.9	6.7	5.5	4.3	3.1	1.8	1.0
EQ2112	12.0	11.7	11.5	11.3	8.6	7.3	5.9	4.6	3.3	1.9	1.0
EQ2113	13.0	12.6	12.5	12.2	9.3	7.8	6.4	4.9	3.5	2.0	1.0
EQ2114	14.0	13.6	13.4	13.1	10.0	8.4	6.8	5.3	3.7	2.1	1.0
EQ2115	15.0	14.6	14.4	14.1	10.7	9.0	7.3	5.6	3.9	2.2	1.0
EQ2116	16.0	15.5	15.4	15.0	11.4	9.5	7.7	5.9	4.1	2.3	1.0
EQ2117	17.0	16.5	16.3	15.9	12.1	10.1	8.2	6.2	4.3	2.4	1.0

Table 63: EQ21xx Series Linear Equalizers Specifications  (cont'd)

	Insertion Loss in dB at Frequency (MHz)										
Model	**45**	**70**	**80**	**100**	**300**	**400**	**500**	**600**	**700**	**800**	**870**
EQ2118	18.0	17.5	17.3	16.9	12.7	10.7	8.6	6.6	4.5	2.4	1.0
EQ2119	19.0	18.5	18.2	17.8	13.4	11.3	9.1	6.9	4.7	2.5	1.0
EQ2120	20.0	19.4	19.2	18.7	14.1	11.8	9.5	7.2	4.9	2.6	1.0
EQ2121	21.0	20.4	20.2	19.7	14.8	12.4	10.0	7.5	5.1	2.7	1.0
Passband Flatness: ±0.3dB Insertion Loss: 1 dB Impedance: 75 ohms Flatness measured with respect to slope. Return Loss I/O: 18/18 dB min. All in purple plastic.											

Table 64: EQ21xxE Series Linear Equalizers Specifications 

	Insertion Loss in dB at Frequency (MHz)	
Model	**45**	**1220**
EQ2102E	2.6	0.6
EQ2103E	3.6	0.6
EQ2104E	4.6	0.6
EQ2105E	5.6	0.6
EQ2106E	6.6	0.6
EQ2107E	7.6	0.6
EQ2108E	8.6	0.6
EQ2109E	9.6	0.6
EQ2110E	10.6	0.6
EQ2111E	11.6	0.6
EQ2112E	12.6	0.6
Passband Flatness: 0.3; Flatness measured with respect to slope. Return Loss I/O: –20 dB min./–22 dB max. All in pink plastic.		

Table 65: EQ21xxG Series Linear Equalizers Specifications 

	Insertion Loss in dB at Frequency (MHz)										
Model	**45**	**70**	**100**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**
EQ2100G	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EQ2102G	2.0	2.0	1.9	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0
EQ2103G	3.0	2.9	2.9	2.5	2.3	2.0	1.8	1.6	1.4	1.2	1.0
EQ2104G	4.0	3.9	3.8	3.2	2.9	2.6	2.3	1.9	1.6	1.3	1.0
EQ2105G	5.0	4.9	4.8	3.9	3.5	3.1	2.7	2.3	1.8	1.4	1.0
EQ2106G	6.0	5.9	5.7	4.7	4.1	3.6	3.1	2.6	2.0	1.5	1.0
EQ2107G	7.0	6.8	6.7	5.4	4.8	4.1	3.5	2.9	2.3	1.6	1.0
EQ2108G	8.0	7.8	7.6	6.1	5.4	4.7	3.9	3.2	2.5	1.7	1.0
EQ2109G	9.0	8.8	8.5	6.9	6.0	5.2	4.4	3.5	2.7	1.8	1.0
EQ2110G	10.0	9.8	9.5	7.6	6.7	5.7	4.8	3.8	2.9	1.9	1.0
EQ2111G	11.0	10.7	10.4	8.3	7.3	6.2	5.2	4.1	3.1	2.0	1.0
EQ2112G	12.0	11.7	11.4	9.1	7.9	6.8	5.6	4.5	3.3	2.2	1.0
EQ2113G	13.0	12.7	12.3	9.8	8.5	7.3	6.0	4.8	3.5	2.3	1.0
EQ2114G	14.0	13.7	13.3	10.5	9.2	7.8	6.4	5.1	3.7	2.4	1.0
EQ2115G	15.0	14.6	14.2	11.3	9.8	8.3	6.9	5.4	3.9	2.5	1.0
EQ2116G	16.0	15.6	15.1	12.0	10.4	8.9	7.3	5.7	4.1	2.6	1.0
EQ2117G	17.0	16.6	16.1	12.7	11.1	9.4	7.7	6.0	4.4	2.7	1.0
EQ2118G	18.0	17.6	17.0	13.5	11.7	9.9	8.1	6.3	4.6	2.8	1.0
EQ2119G	19.0	18.5	18.0	14.2	12.3	10.4	8.5	6.7	4.8	2.9	1.0
EQ2120G	20.0	19.5	18.9	14.9	12.9	10.9	9.0	7.0	5.0	3.0	1.0

Passband Flatness: ±0.3dB; Flatness measured with respect to slope.
Insertion Loss: 1 dB
Impedence: 75 ohms
Return Loss I/O: 18/18 dB min.
All in red plastic.

Table 66: EQ41xx Series Linear Equalizers Specifications 

	Insertion Loss in dB at Frequency (MHz)		
Model	**54**	**550**	**870**
EQ4100	0.1	0.1	0.1
EQ4101	1.2	0.8	0.5
EQ4102	2.0	1.0	0.5
EQ4103	3.4	1.8	0.5
EQ4104	4.6	2.4	1.0

Table 66: EQ41xx Series Linear Equalizers Specifications 

(cont'd)

	Insertion Loss in dB at Frequency (MHz)		
Model	**54**	**550**	**870**
EQ4105	5.6	2.8	1.0
EQ4106	6.7	3.2	1.0
EQ4107	7.8	3.7	1.0
EQ4108	9.0	4.1	1.0
EQ4109	10.1	4.6	1.0
EQ4110	11.3	5.0	1.0
EQ4111	12.5	5.3	1.0
EQ4112	13.4	5.7	1.0
Insertion Loss: 1 dB Frequency Response: ±0.3 dB, max. Return Loss I/O: 18 dB min.			

Table 67: EQ41xxG Series Linear Equalizers Specifications 

	Insertion Loss in dB at Frequency (MHz)			
Model	**54**	**550**	**870**	**1003**
EQ4100G	0.1	0.1	0.1	0.1
EQ4101G	1.2	0.8	0.5	0.3
EQ4102G	2.0	1.0	0.5	0.3
EQ4103G	3.4	1.8	0.7	0.5
EQ4104G	4.6	2.4	1.0	0.5
EQ4105G	5.6	2.8	1.0	0.5
EQ4106G	6.7	3.3	1.0	0.5
EQ4107G	7.8	3.9	1.4	1.0
EQ4108G	9.0	4.4	1.5	1.0
EQ4109G	10.1	5.0	1.8	1.0
EQ4110G	11.3	5.5	1.9	1.0
EQ4111G	12.5	6.0	2.0	1.0
EQ4112G	13.5	6.5	2.2	1.0
EQ4113G	14.5	6.6	2.0	1.0
Insertion Loss: 1 dB Frequency Response: ±0.3 dB, max. Return Loss I/O: 18 dB min.				

Table 68: EQL-1220MHz-xx Series Linear Equalizers Specifications 

P/N	dB Value	Insertion Loss in dB at Frequency (MHz)	
		45	1100
1510053-001	1	1.6	0.6
1510053-002	2	2.6	0.6
1510053-003	3	3.6	0.6
1510053-004	4	4.6	0.6
1510053-005	5	5.6	0.6
1510053-006	6	6.6	0.6
1510053-007	7	7.6	0.6
1510053-008	8	8.6	0.6
1510053-009	9	9.6	0.6
1510053-010	10	10.6	0.6
1510053-011	11	11.6	0.6
1510053-012	12	12.6	0.6
Passband Flatness: ±0.3dB Flatness measured with respect to slope. Return Loss: –20 dB min., –22 dB max. All in gray plastic.			

Table 69: FEQC-1GHz Series Cable Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)										
Model	**P/N**	**47**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**
FEQC-1G-02	727900	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.9	0.8
FEQC-1G-03	727901	2.8	2.6	2.2	2.0	1.8	1.6	1.4	1.2	1.1	0.9	0.8
FEQC-1G-04	727902	3.8	3.4	3.0	2.6	2.3	2.0	1.7	1.5	1.2	1.0	0.8
FEQC-1G-05	727903	4.8	4.3	3.7	3.2	2.8	2.4	2.0	1.7	1.4	1.1	0.8
FEQC-1G-06	727904	5.8	5.2	4.4	3.8	3.2	2.8	2.3	1.9	1.5	1.2	0.8
FEQC-1G-07	727905	6.8	6.1	5.1	4.4	3.7	3.1	2.6	2.1	1.7	1.2	0.8
FEQC-1G-08	727906	7.8	7.0	5.8	5.0	4.2	3.5	2.9	2.3	1.8	1.3	0.8
FEQC-1G-09	727907	8.8	7.8	6.6	5.6	4.7	3.9	3.2	2.6	2.0	1.4	0.8
FEQC-1G-10	727908	9.8	8.7	7.3	6.2	5.2	4.3	3.5	2.8	2.1	1.4	0.8
FEQC-1G-11	727909	11.0	9.8	8.2	7.0	5.9	4.9	4.0	3.2	2.4	1.7	1.0
FEQC-1G-12	727910	12.0	10.7	8.9	7.5	6.4	5.3	4.3	3.4	2.6	1.8	1.0
FEQC-1G-13	727911	13.0	11.6	9.6	8.1	6.8	5.7	4.6	3.7	2.7	1.9	1.0
FEQC-1G-14	727912	14.0	12.5	10.4	8.7	7.3	6.1	4.9	3.9	2.9	1.9	1.0
FEQC-1G-15	727913	15.0	13.3	11.1	9.3	7.8	6.5	5.2	4.1	3.0	2.0	1.0
FEQC-1G-16	727914	16.0	14.2	11.8	9.9	8.3	6.9	5.5	4.3	3.2	2.1	1.0
FEQC-1G-17	727915	17.0	15.1	12.5	10.5	8.8	7.3	5.9	4.5	3.3	2.1	1.0
FEQC-1G-18	728060	18.0	16.0	13.3	11.1	9.3	7.7	6.2	4.8	3.5	2.2	1.0
FEQC-1G-19	727917	19.0	16.9	14.0	11.7	9.8	8.0	6.5	5.0	3.6	2.3	1.0
FEQC-1G-20	727918	20.0	17.7	14.7	12.3	10.3	8.4	6.8	5.2	3.7	2.4	1.0
FEQC-1G-21	727919	21.0	18.6	15.4	12.9	10.7	8.8	7.1	5.4	3.9	2.4	1.0
FEQC-1G-22	727920	22.0	19.5	16.1	13.5	11.2	9.2	7.4	5.6	4.0	2.5	1.0
FEQC-1G-23	727921	23.0	20.4	16.9	14.1	11.7	9.6	7.7	5.9	4.2.	2.6	1.0
FEQC-1G-24	728061	24.0	21.3	17.6	14.7	12.2	10.0	8.0	6.1	4.3	2.6	1.0

Return Loss I/O:
- 22/22 dB min. (FEQC-1G-02 to 20)
- 20/20 dB min. (FEQC-1G-21 to 24)

Tolerance:
- ±0.3dB (FEQC-1G-02 to 20)
- ±0.5dB (FEQC-1G-21 to 24)

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Table 70: FEQC-750MHz Series Cable Equalizers Specifications 

		Insertion Loss in dB at Frequency (MHz)								
Model	**P/N**	**47**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**750**
FEQC-750-02	787652	1.8	1.7	1.5	1.3	1.2	1.1	0.95	0.85	0.8
FEQC-750-04	787654	3.8	3.4	2.8	2.3	1.9	1.6	1.25	0.95	0.8
FEQC-750-06	787656	5.8	5.1	4.1	3.3	2.7	2.1	1.5	1.0	0.8
FEQC-750-08	787658	7.8	6.8	5.4	4.3	3.4	2.6	1.8	1.1	0.8
FEQC-750-10	787660	9.8	8.5	6.7	5.3	4.2	3.1	2.1	1.2	0.8
FEQC-750-12	787662	12.0	10.4	8.2	6.6	5.1	3.8	2.6	1.5	1.0
FEQC-750-14	787665	14.0	12.1	9.6	7.6	5.9	4.3	2.9	1.6	1.0

Return Loss I/O: 22/22dB min.
Tolerance: ±0.3dB

Specification Document Number 1505649

Table 71: FEQC-870MHz Series Cable Equalizers Specifications 

		Insertion Loss in dB at Frequency (MHz)									
Model	**P/N**	**47**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**870**
FEQC-870-02	787638	2.2	2.0	1.75	1.5	1.35	1.2	1.0	0.9	0.75	0.65
FEQC-870-03	787639	3.0	2.7	2.3	2.0	1.7	1.45	1.2	1.0	0.8	0.65
FEQC-870-04	787640	3.8	3.4	2.85	2.4	2.0	1.7	1.4	1.1	0.8	0.65
FEQC-870-05	787641	4.6	4.1	3.4	2.9	2.4	2.0	1.6	1.2	0.9	0.65
FEQC-870-06	787642	5.4	4.8	4.0	3.3	2.75	2.25	1.8	1.3	0.9	0.65
FEQC-870-07	787643	7.0	6.2	5.1	4.2	3.45	2.8	2.15	1.6	1.0	0.65
FEQC-870-08	787644	7.8	6.9	5.6	4.65	3.8	3.0	2.3	1.7	1.1	0.65
FEQC-870-09	787645	8.7	7.7	6.3	5.25	4.3	3.5	2.7	1.95	1.3	0.80
FEQC-870-10	787646	10.3	9.1	7.4	6.1	5.0	4.0	3.05	2.2	1.35	0.80
FEQC-870-11	787647	11.1	9.8	8.0	6.6	5.35	4.25	3.25	2.3	1.4	0.80
FEQC-870-12	787648	11.9	10.5	8.6	7.0	5.7	4.6	3.5	2.5	1.6	1.00
FEQC-870-13	787649	12.8	11.2	9.1	7.5	6.1	4.8	3.7	2.6	1.6	0.90
FEQC-870-14	787650	14.0	12.3	10.0	8.2	6.7	5.3	4.0	2.8	1.7	1.0

Return Loss I/O:
- 22/22dB min. (FEQC-870-02 to -08)
- 20/20dB min. (FEQC-870-09 to 12 and 14)
- 18/18dB min. (FEQC-870-13)

Tolerance: ±0.3dB

Specification Document Number 1505648

Table 72: GEQC-1GHz Cable Equalizers Specifications

Insertion Loss in dB at Frequency (MHz)													
Model	**P/N**	**45**	**54**	**70**	**80**	**222**	**400**	**500**	**600**	**700**	**800**	**870**	**1000**
GEQC-1GHz-050	771000	4.7	4.6	4.5	4.4	3.5	2.7	2.3	2.0	1.7	1.4	1.2	0.7
GEQC-1GHz-070	771001	6.4	6.2	6.0	5.9	4.6	3.5	3.0	2.5	2.0	1.6	1.4	0.7
GEQC-1GHz-090	725168	7.8	7.6	7.5	7.3	5.7	4.2	3.5	2.8	2.1	1.6	1.3	0.8
Passband Flatness: ± 0.3 dB Return Loss I/O: 22/22 dB min.										*Specification Document Number 1502429*			

Table 73: GEQC-870 Cable Equalizers Specifications

Insertion Loss in dB at Frequency (MHz)												
Model	**P/N**	**45**	**54**	**70**	**80**	**222**	**400**	**500**	**600**	**700**	**800**	**870**
GEQC-870-080	725512	6.9	6.8	6.6	6.5	4.9	3.5	2.9	2.2	1.5	1.0	0.7
Passband Flatness: ± 0.3 dB Return Loss I/O: 22/22 dB min.										*Specification Document Number 1501842*		

Table 74: GEQL-1GHZ-xxx and GEQL-1GHZ-xxx-1 Series Linear Equalizers Specifications

				Insertion Loss in dB at Frequency (MHz)										
Model	**P/N**	**Model**	**P/N**	**45**	**70**	**100**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1002**
GEQL-1GHZ-000	724574	—	—	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GEQL-1GHZ-020	724481	GEQL-1GHZ-020-1	725261	2.0	2.0	1.9	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0
GEQL-1GHZ-030	724496	GEQL-1GHZ-030-1	725271	3.0	2.9	2.9	2.5	2.3	2.0	1.8	1.6	1.4	1.2	1.0
GEQL-1GHZ-040	724495	GEQL-1GHZ-040-1	725260	4.0	3.9	3.8	3.2	2.9	2.6	2.3	2.0	1.6	1.3	1.0
GEQL-1GHZ-050	724404	GEQL-1GHZ-050-1	725272	5.0	4.9	4.8	3.9	3.5	3.1	2.7	2.3	1.8	1.4	1.0
GEQL-1GHZ-060	724355	GEQL-1GHZ-060-1	725243	6.0	5.9	5.7	4.7	4.1	3.6	3.1	2.6	2.0	1.5	1.0
GEQL-1GHZ-070	724320	GEQL-1GHZ-070-1	725247	7.0	6.8	6.7	5.4	4.8	4.1	3.5	2.9	2.3	1.6	1.0
GEQL-1GHZ-080	724272	GEQL-1GHZ-080-1	725199	8.0	7.8	7.6	6.1	5.4	4.7	3.9	3.2	2.5	1.7	1.0
GEQL-1GHZ-090	724279	GEQL-1GHZ-090-1	725064	9.0	8.8	8.5	6.9	6.0	5.2	4.4	3.5	2.7	1.8	1.0
GEQL-1GHZ-100	724294	GEQL-1GHZ-100-1	725080	10.0	9.8	9.5	7.6	6.7	5.7	4.8	3.8	2.9	1.9	1.0
GEQL-1GHZ-110	724275	GEQL-1GHZ-110-1	725180	11.0	10.7	10.4	8.3	7.3	6.2	5.2	4.1	3.1	2.0	1.0
GEQL-1GHZ-120	724255	GEQL-1GHZ-120-1	725076	12.0	11.7	11.4	9.1	7.9	6.8	5.6	4.5	3.3	2.2	1.0
GEQL-1GHZ-130	724475	GEQL-1GHZ-130-1	725209	13.0	12.8	12.4	9.9	8.6	7.3	6.1	4.8	3.5	2.3	1.0
Passband Flatness: ±0.15 dB (GEQL-1GHZ-000) ±0.3 dB (GEQL-1GHZ-020 to 130) Flatness measured with respect to slope. Return Loss I/O: 18/18 dB min. All in red plastic.										*Specification Document Number 1500202* *Specification Document Number 1502283*				

Table 75: GEQL-87-xxx and GEQL-870-xxx-1 Series Linear Equalizers Specifications 

				Insertion Loss in dB at Frequency (MHz)										
Model	**P/N**	**Model**	**P/N**	**54**	**70**	**80**	**100**	**300**	**400**	**500**	**600**	**700**	**800**	**870**
GEQL-870-020	725405	GEQL-870-020-1	725745	2.0	2.0	2.0	1.9	1.7	1.6	1.5	1.3	1.2	1.1	1.0
GEQL-870-030	725406	GEQL-870-030-1	725730	3.0	3.0	2.9	2.9	2.4	2.2	1.9	1.7	1.4	1.2	1.0
GEQL-870-040	725400	GEQL-870-040-1	—	4.0	3.9	3.9	3.8	3.1	2.7	2.4	2.0	1.6	1.3	1.0
GEQL-870-050	725386	GEQL-870-050-1	—	5.0	4.9	4.8	4.7	3.8	3.3	2.8	2.3	1.8	1.3	1.0
GEQL-870-060	725114	GEQL-870-060-1	725582	6.0	5.8	5.8	5.7	4.5	3.8	3.2	2.6	2.0	1.4	1.0
GEQL-870-070	725401	GEQL-870-070-1	725708	7.0	6.8	6.7	6.6	5.1	4.4	3.7	3.0	2.2	1.5	1.0
GEQL-870-080	725402	GEQL-870-080-1	725573	8.0	7.8	7.7	7.5	5.8	5	4.1	3.3	2.4	1.6	1.0
GEQL-870-090	725403	GEQL-870-090-1	725651	9.0	8.8	8.7	8.5	6.5	5.6	4.6	3.6	2.6	1.7	1.0
GEQL-870-100	725407	GEQL-870-100-1	725701	10.0	9.7	9.6	9.4	7.2	6.1	5.0	3.9	2.9	1.8	1.0
GEQL-870-110	725358	GEQL-870-110-1	725766	11.0	10.7	10.6	10.3	7.9	6.7	5.5	4.3	3.1	1.8	1.0
GEQL-870-120	725408	GEQL-870-120-1	725577	12.0	11.7	11.5	11.3	8.6	7.3	5.9	4.6	3.3	1.9	1.0
GEQL-870-130	725404	GEQL-870-130-1	725618	13.0	12.6	12.5	12.2	9.3	7.8	6.4	4.9	3.5	2.0	1.0

Passband Flatness: ±0.3dB
Return Loss I/O: 18/18dB min.
Flatness measured with respect to slope.
All in purple plastic.

Specification Document Number 1500774
Specification Document Number 1502284

Table 76: MEQ-42 and MEQT-42 Series Return Cable Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)		dB of Cable Equalized at Frequency (MHz)					
Model	**P/N**	**5**	**42**	**42**	**300**	**400**	**450**	**550**	**750**
MEQ-42-2	724154	3.0	1.0	3.0	8.0	9.4	10.2	11.3	13.4
MEQ-42-3	724230	4.0	1.0	4.6	12.6	15.0	15.8	17.7	21.0
MEQ-42-4	724435	5.0	1.0	6.1	16.7	19.4	20.7	23.0	27.0
MEQ-42-5	724557	6.0	1.0	7.6	20.4	23.8	25.4	28.3	33.0
MEQ-42-6	724614	7.0	1.0	9.1	24.6	29.0	30.4	34.0	39.6
MEQ-42-7	724518	8.0	1.0	10.6	27.0	31.5	33.0	36.4	45.5
MEQT-42-2	724351	3.6	2.5	3.2	9.0	10.5	11.2	12.5	14.9
MEQT-42-3	724542	5.6	2.5	4.7	13.0	15.2	16.2	18.1	21.5
MEQT-42-4	724669	6.8	2.5	6.5	18.0	21.0	22.4	25.0	29.8
MEQT-42-5	724742	8.4	2.5	9.0	25.0	29.2	31.1	34.7	41.4
MEQT-42-6	724778	8.7	2.5	9.4	26.0	30.4	32.4	36.1	43.1
MEQT-42-7	724644	10.1	2.5	11.5	32.0	37.4	39.8	44.5	53.0
Passband Flatness: ±0.2dB (MEQ-42-x) ±0.3dB (MEQT-42-x) Return Loss I/O: 18/16dB min.				*MEQ-42 Specification Document Number 600540* *MEQT-42 Specification Document Number 600595*					

Table 77: MEQ-55 Series Return Cable Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)		dB of cable equalized at Frequency (MHz)					
Model	**P/N**	**5**	**55**	**55**	**300**	**400**	**450**	**550**	**750**
MEQ-55-2	726090	1.9	1.0	1.2	3.0	3.5	3.7	4.2	5.0
MEQ-55-3	726091	2.7	1.0	2.5	6.0	7.0	7.5	8.3	9.9
MEQ-55-4	762225	3.6	1.0	3.7	9.0	10.5	11.2	12.5	14.9
MEQ-55-5	762227	4.5	1.0	4.9	12.0	14.0	14.9	16.7	19.9
MEQ-55-6	726299	5.6	1.0	6.6	16.0	18.7	19.9	22.2	26.5
MEQ-55-7	762230	6.8	1.0	8.2	20.0	23.4	24.9	27.8	33.1
Passband Flatness: ±0.2dB Return Loss I/O: 18/16dB min.				*Specification Document Number 600695*					

Table 78: MEQ-65 Series Return Cable Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)		dB of Cable Equalized at Frequency (MHz)					
Model	**P/N**	**5**	**65**	**65**	**300**	**400**	**450**	**550**	**750**
MEQ-65-02	724846	2.0	1.0	1.3	3.0	3.5	3.7	4.2	5.0
MEQ-65-03	724852	2.9	1.0	2.7	6.0	7.0	7.5	8.3	9.9
MEQ-65-04	724696	3.9	1.0	4.0	9.0	10.5	11.2	12.5	14.9
MEQ-65-05	724818	5.2	1.0	5.8	13.0	15.2	16.2	18.1	21.5
MEQ-65-06	724910	6.2	1.0	7.1	16.0	18.7	19.9	22.2	26.5
MEQ-65-07	724973	7.1	1.0	8.5	19.0	22.2	23.6	26.4	31.5
Passband Flatness: ±0.1dB Return Loss I/O: 18/16dB min.				*Specification Document Number 600615*					

Table 79: MEQ-85 and MEQT-85 Series Return Cable Equalizers Specifications

		Insertion Loss @ 23C in dB at Frequency (MHz)		Cable Loss @ 23C	Insertion Loss @ -20C in dB at Frequency (MHz)		Insertion Loss @ 80C in dB at Frequency (MHz)	
Model	**P/N**	**5**	**85**	**85**	**5**	**85**	**550**	**750**
MEQ-85-2	775422	1.98	1.00	1.30	—	—	—	—
MEQ-85-3	775423	2.97	1.00	2.60	—	—	—	—
MEQ-85-4	775424	4.03	1.00	4.00	—	—	—	—
MEQ-85-5	775425	5.01	1.00	5.30	—	—	—	—
MEQ-85-6	775426	6.00	1.00	6.60	—	—	—	—
MEQ-85-7	775427	7.06	1.00	8.00	—	—	—	—
MEQT-85-2	775428	3.48	2.50	1.30	4.01	3.14	2.96	1.91
MEQT-85-3	775429	4.47	2.50	2.60	5.04	3.28	3.92	1.81
MEQT-85-4	775430	5.43	2.50	4.00	6.13	3.43	4.96	1.71
MEQT-85-5	775431	6.51	2.50	5.30	7.15	3.57	6.02	1.72
MEQT-85-6	775432	7.50	2.50	6.60	8.17	3.71	7.08	1.72
MEQT-85-7	775433	8.56	2.50	8.00	9.27	3.86	8.02	1.62
Passband Flatness: ±0.2dB (MEQ-85, MEQT-85-2 to 4) ±0.3dB (MEQT-85-5 to 7) Return Loss I/O: 18/16dB min.				*MEQ-85 Specification Document Number 1504358* *MEQT-85 Specification Document Number 1504359*				

Table 80: MEQ-204 Series Return Cable Equalizers Specifications

Insertion Loss (dB)										Cable Equalized @ 204 MHz (dB)
Model	5 MHz	25 MHz	50 MHz	75 MHz	100 MHz	125 MHz	150 MHz	175 MHz	204 MHz	
MEQ-204-2	–2.0	–1.8	–1.6	–1.5	–1.4	–1.3	–1.2	–1.1	–1.0	1.18
MEQ-204-3	–3.0	–2.6	–2.2	–2.0	–1.7	–1.5	–1.4	–1.2	–1.0	2.34
MEQ-204-4	–4.0	–3.3	–2.8	–2.4	–2.1	–1.8	–1.5	–1.3	–1.0	3.51
MEQ-204-5	–5.0	–4.1	–3.5	–2.9	–2.5	–2.1	–1.7	–1.4	–1.0	4.69
MEQ-204-6	–6.0	–4.9	–4.1	–3.4	–2.9	–2.4	–1.9	–1.5	–1.0	5.86
MEQ-204-7	–7.0	–5.7	–4.7	–3.9	–3.2	–2.6	–2.1	–1.6	–1.0	7.03
MEQ-204-8	–8.0	–6.5	–5.3	–4.4	–3.6	–2.9	–2.2	–1.6	–1.0	8.20
MEQ-204-9	–9.0	–7.3	–5.9	–4.9	–4.0	–3.2	–2.4	–1.7	–1.0	9.37
MEQ-204-10	–10.0	–8.0	–6.5	–5.3	–4.3	–3.4	–2.6	–1.8	–1.0	10.54
MEQ-204-11	–11.0	–8.8	–7.1	–5.8	–4.7	–3.7	–2.8	–1.9	–1.0	11.71
MEQ-204-12	–12.0	–9.6	–7.8	–6.3	–5.1	–4.0	–3.0	–2.0	–1.0	12.88
MEQ-204-13	–13.0	-10.4	–8.4	–6.8	–5.4	–4.2	–3.1	–2.1	–1.0	14.05
MEQ-204-14	–14.0	–11.2	–9.0	–7.3	–5.8	–4.5	–3.3	–2.2	–1.0	15.22
MEQ-204-15	–15.0	–12.0	–9.6	–7.8	–6.2	–4.8	–3.5	–2.3	–1.0	16.40
MEQ-204-16	–16.0	–12.7	–10.2	–8.3	–6.6	–5.1	–3.7	–2.4	–1.0	17.57
Return Loss: 22 dB (MEQ-204-2 through -12); 22 dB (MEQ-204-13 through -16) Flatness: ±0.3 dB						*MEQ-204 Specification Document Number 1513709*				

Table 81: NEQL-870 Series Linear Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)										
Model	P/N	54	70	80	100	300	400	500	600	700	800	870
NEQL-870-050	725236	5.0	4.9	4.8	4.7	3.8	3.3	2.8	2.3	1.8	1.3	1.0
NEQL-870-060	725220	6.0	5.8	5.8	5.7	4.5	3.8	3.2	2.6	2.0	1.4	1.0
NEQL-870-050	725236	5.0	4.9	4.8	4.7	3.8	3.3	2.8	2.3	1.8	1.3	1.0
NEQL-870-060	725220	6.0	5.8	5.8	5.7	4.5	3.8	3.2	2.6	2.0	1.4	1.0
NEQL-870-070	725388	7.0	6.8	6.7	6.6	5.1	4.4	3.7	3.0	2.2	1.5	1.0
NEQL-870-080	725170	8.0	7.8	7.7	7.5	5.8	5.0	4.1	3.3	2.4	1.6	1.0
NEQL-870-090	725102	9.0	8.8	8.7	8.5	6.5	5.6	4.6	3.6	2.6	1.7	1.0
NEQL-870-100	725135	10.0	9.7	9.6	9.4	7.2	6.1	5.0	3.9	2.9	1.8	1.0
NEQL-870-110	725217	11.0	10.7	10.6	10.3	7.9	6.7	5.5	4.3	3.1	1.8	1.0
NEQL-870-120	725229	12.0	11.7	11.5	11.3	8.6	7.3	5.9	4.6	3.3	1.9	1.0

Table 81: NEQL-870 Series Linear Equalizers Specifications  (cont'd)

		Insertion Loss in dB at Frequency (MHz)										
Model	**P/N**	**54**	**70**	**80**	**100**	**300**	**400**	**500**	**600**	**700**	**800**	**870**
NEQL-870-130	726401	13.0	12.6	12.5	12.2	9.3	7.8	6.4	4.9	3.5	2.0	1.0
NEQL-870-140	726402	14.1	13.8	13.6	13.3	10.2	8.6	7.0	5.5	3.9	2.3	1.2
NEQL-870-150	776407	15.0	14.8	14.6	14.3	10.9	9.2	7.5	5.8	4.1	2.4	1.2

Passband Flatness: ±0.3dB
Return Loss I/O: 18/18dB min.
Flatness measured with respect to slope.
All in yellow plastic.

Specification Document Number 601264

Table 82: PEQ-1G Cable Equalizers Specifications

		Insertion Loss (dB) @ Frequency (MHz)											Cable Loss @ 1002 MHz
Model	**P/N**	**54**	**85**	**105**	**222**	**350**	**450**	**550**	**650**	**750**	**870**	**1002**	
PEQ-1G-02	725369	2.0	1.9	1.8	1.5	1.4	1.3	1.2	1.0	0.8	0.7	0.7	1.55
PEQ-1G-03	725370	2.9	2.8	2.6	2.3	2.1	1.9	1.7	1.4	1.1	0.9	0.8	2.80
PEQ-1G-04	725371	4.0	3.8	3.6	3.1	2.6	2.3	2.1	1.9	1.6	1.4	1.0	3.70
PEQ-1G-05	725372	5.0	4.7	4.6	3.8	3.1	2.7	2.4	2.0	1.7	1.4	1.0	5.10
PEQ-1G-06	725373	6.0	5.7	5.5	4.6	3.8	3.3	2.8	2.4	2.0	1.6	1.0	6.35
PEQ-1G-07	725374	7.0	6.6	6.4	5.4	4.4	3.8	3.1	2.6	2.0	1.6	1.0	7.75
PEQ-1G-08	725375	8.0	7.4	7.1	5.8	4.7	4.0	3.4	2.8	2.2	1.6	1.0	8.90
PEQ-1G-09	725376	9.0	8.5	8.2	6.8	5.4	4.5	3.8	3.1	2.5	1.9	1.0	10.20
PEQ-1G-10	725376	10.0	9.3	9.0	7.3	5.7	4.8	4.0	3.2	2.5	1.9	1.0	11.45
PEQ-1G-11	725378	11.0	10.4	10.0	8.1	6.4	5.4	4.5	3.7	2.9	2.1	1.0	12.70
PEQ-1G-12	725379	12.0	11.1	10.8	8.8	7.0	5.9	4.9	3.9	3.0	2.1	1.0	14.00
PEQ-1G-13	725380	13.0	12.2	11.8	9.5	7.6	6.3	5.1	4.1	3.2	2.2	1.0	15.25
PEQ-1G-14	778087	14.0	13.0	12.4	10.2	8.2	6.9	5.7	4.6	3.5	2.3	1.0	16.50
PEQ-1G-15	725381	14.9	13.9	13.3	10.8	8.6	7.1	5.8	4.6	3.5	2.3	1.0	17.80
PEQ-1G-16	725382	16.0	14.9	14.3	11.5	9.2	7.6	6.3	5.0	3.7	2.4	1.0	19.05
PEQ-1G-17	725383	17.0	15.6	15.0	12.2	9.7	8.0	6.5	5.2	3.9	2.4	1.0	20.30
PEQ-1G-18	725384	18.0	16.9	16.2	13.2	10.5	8.7	7.0	5.6	4.0	2.4	0.8	21.80
PEQ-1G-19	725385	19.0	17.7	16.9	13.7	10.8	9.0	7.3	5.7	4.1	2.4	0.8	23.05
PEQ-1G-20	778088	20.0	18.5	17.7	14.2	11.2	9.3	7.6	6.0	4.4	2.6	0.8	24.05

Passband Flatness:
- ±0.3dB (PEQ-1G-02 to 18)
- ±0.4dB (PEQ-1G-19 and 20)

Return Loss I/O:
- 18/18dB min. (PEQ-1G-02 to 18)
- 16/16dB min. (PEQ-1G-19 and 20)

Specification Document Number 1503587

Table 83: REQC-42 MHz Series Cable Equalizers Specifications 

		Insertion Loss in dB at Frequency (MHz)					
Model	**P/N**	**5**	**10**	**20**	**30**	**40**	**42**
REQC-42-2	788504	2.0	1.7	1.3	1.0	0.70	0.65
REQC-42-3	788505	2.8	2.4	1.75	1.3	0.90	0.8
REQC-42-4	788506	3.3	2.7	1.9	1.3	075	0.65
REQC-42-5	788507	4.6	3.8	2.55	1.6	0.8	0.65
REQC-42-6	788508	5.95	4.8	3.2	1.9	0.85	0.65
REQC-42-7	788509	7.40	6.0	4.0	2.4	1.05	0.80
REQC-42-8	788510	7.80	6.3	4.1	2.5	1.1	0.80
REQC-42-9	788511	8.75	7.0	4.60	2.7	1.1	0.8
REQC-42-10	788512	10	8.1	5.3	3.2	1.3	1.0
REQC-42-11	788513	11	8.8	5.8	3.4	1.4	1.0
Return Loss I/O: 22/22dB min. Tolerance: ±0.3dB				*Specification Document Number 1505737*			

Table 84: REQC-65 MHz Series Cable Equalizers Specifications 

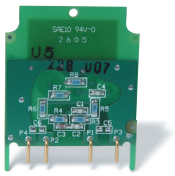
		Insertion Loss in dB at Frequency (MHz)							
Model	**P/N**	**5**	**10**	**20**	**30**	**40**	**50**	**60**	**65**
REQC-65-2	727923	1.8	1.7	1.5	1.3	1.1	1.0	0.9	0.8
REQC-65-3	727924	2.8	2.6	2.1	1.7	1.4	1.2	0.9	0.8
REQC-65-4	727925	3.8	3.4	2.7	2.2	1.7	1.3	0.9	0.8
REQC-65-5	727926	4.8	4.3	3.4	2.7	2.0	1.5	1.0	0.8
REQC-65-6	727927	5.8	5.3	4.1	3.2	2.4	1.7	1.1	0.8
REQC-65-7	727928	6.8	6.1	4.7	3.6	2.7	1.9	1.1	0.8
REQC-65-8	727929	7.8	7.0	5.4	4.1	3.0	2.1	1.2	0.8
REQC-65-9	727930	8.8	7.9	6.1	4.6	3.4	2.3	1.3	0.8
REQC-65-10	727931	10.0	8.9	6.8	5.2	3.8	2.6	1.5	1.0
REQC-65-11	727932	11.0	9.7	7.4	5.6	4.1	2.8	1.6	1.0
Return Loss I/O: 22/22dB min. Tolerance: ±0.3dB						*Specification Document Number 1504827*			

Table 85: REQC-85 MHz Series Cable Equalizers Specifications 

		Insertion Loss in dB at Frequency (MHz)									
Model	**P/N**	**5**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**85**
REQC-85-2	791130	2.0	1.9	1.7	1.5	1.4	1.3	1.2	1.1	1.05	1.0
REQC-85-3	791131	3.0	2.7	2.4	2.1	1.8	1.6	1.4	1.2	1.1	1.0
REQC-85-4	791132	4.0	3.6	3.05	2.6	2.2	1.9	1.65	1.4	1.1	1.0
REQC-85-5	791133	5.0	4.5	3.7	3.2	2.7	2.2	1.85	1.5	1.15	1.0
REQC-85-6	791134	6.0	5.35	4.4	3.7	3.1	2.6	2.1	1.6	1.2	1.0
REQC-85-7	791135	7.0	6.2	5.1	4.2	3.5	2.9	2.3	1.75	1.25	1.0
REQC-85-8	791136	8.0	7.1	5.8	4.8	3.9	3.2	2.5	1.9	1.3	1.0
REQC-85-9	791137	9.0	7.95	6.5	5.3	4.35	3.5	2.7	2.0	1.3	1.0
REQC-85-10	791138	10.0	8.8	7.2	5.9	4.8	3.8	2.9	2.1	1.35	1.0
REQC-85-11	791139	11.0	9.7	7.8	6.4	5.2	4.1	3.15	2.25	1.4	1.0
Return Loss I/O: 22/22dB min. Tolerance: ±0.3dB											*Specification Document Number 1506125*

Table 86: REQC-204 MHz Series Cable Equalizers Specifications 

	Insertion Loss in dB at Frequency (MHz)										
Model	**5**	**25**	**45**	**65**	**85**	**105**	**125**	**145**	**165**	**185**	**204**
REQC-204-2	–2.0	–1.8	–1.6	–1.5	–1.4	–1.4	–1.3	–1.2	–1.1	–1.1	–1.0
REQC-204-3	–3.0	–2.6	–2.3	–2.1	–1.9	–1.7	–1.5	–1.4	–1.3	–1.1	–1.0
REQC-204-4	–4.0	–3.3	–2.9	–2.6	–2.3	–2.1	–1.8	–1.6	–1.4	–1.2	–1.0
REQC-204-5	–5.0	–4.1	–3.6	–3.1	–2.7	–2.4	–2.1	–1.8	–1.5	–1.2	–1.0
REQC-204-6	–6.0	–4.9	–4.2	–3.7	–3.2	–2.8	–2.4	–2.0	–1.6	–1.3	–1.0
REQC-204-7	–7.0	–5.7	–4.9	–4.2	–3.6	–3.1	–2.6	–2.2	–1.8	–1.4	–1.0
REQC-204-8	–8.0	–6.5	–5.5	–4.7	–4.1	–3.5	–2.9	–2.4	–1.9	–1.4	–1.0
REQC-204-9	–9.0	–7.3	–6.2	–5.3	–4.5	–3.8	–3.2	–2.6	–2.0	–1.5	–1.0
REQC-204-10	–10.0	–8.0	–6.8	–5.8	–4.9	–4.2	–3.4	–2.8	–2.1	–1.5	–1.0
REQC-204-11	–11.0	–8.8	–7.4	–6.3	–5.4	–4.5	–3.7	–3.0	–2.3	–1.6	–1.0
Return Loss: 22 dB Flatness: ±0.3 dB											*Specification Document Number 1514027*

Table 87: SEQ-1G Series Cable Equalizers Specifications 

		Insertion Loss in dB at Frequency (MHz)											
Model	**P/N**	**54**	**85**	**105**	**222**	**350**	**450**	**550**	**650**	**750**	**870**	**1002**	*
SEQ-1G-0	724297	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEQ-1G-02	724252	2.0	1.9	1.8	1.5	1.4	1.3	1.2	1.0	0.8	0.7	0.7	1.55
SEQ-1G-03	724323	2.9	2.8	2.6	2.3	2.1	1.9	1.7	1.4	1.1	0.9	0.8	2.80
SEQ-1G-04	724313	4.0	3.8	3.6	3.1	2.6	2.3	2.1	1.9	1.6	1.4	1.0	3.70
SEQ-1G-05	724319	5.0	4.7	4.6	3.8	3.1	2.7	2.4	2.0	1.7	1.4	1.0	5.10
SEQ-1G-06	724248	6.0	5.7	5.5	4.6	3.8	3.3	2.8	2.4	2.0	1.6	1.0	6.35
SEQ-1G-07	724253	7.0	6.6	6.4	5.4	4.4	3.8	3.1	2.6	2.0	1.6	1.0	7.75
SEQ-1G-08	724261	8.0	7.4	7.1	5.8	4.7	4.0	3.4	2.8	2.2	1.6	1.0	8.90
SEQ-1G-09	724274	9.0	8.5	8.2	6.8	5.4	4.5	3.8	3.1	2.5	1.9	1.0	10.20
SEQ-1G-10	724280	10.0	9.3	9.0	7.3	5.7	4.8	4.0	3.2	2.5	1.9	1.0	11.45
SEQ-1G-11	724317	11.0	10.4	10.0	8.1	6.4	5.4	4.5	3.7	2.9	2.1	1.0	12.70
SEQ-1G-12	724300	12.0	11.1	10.8	8.8	7.0	5.9	4.9	3.9	3.0	2.1	1.0	14.0
SEQ-1G-13	724330	13.0	12.2	11.8	9.5	7.6	6.3	5.1	4.1	3.2	2.2	1.0	15.25
SEQ-1G-14	724345	14.0	13.0	12.4	10.2	8.2	6.9	5.7	4.6	3.5	2.3	1.0	16.5
SEQ-1G-15	724359	14.9	13.9	13.3	10.8	8.6	7.1	5.8	4.6	3.5	2.3	1.0	17.8
SEQ-1G-16	724368	16.0	14.9	14.3	11.5	9.2	7.6	6.3	5.0	3.7	2.4	1.0	19.05
SEQ-1G-17	724427	17.0	15.6	15.0	12.2	9.7	8.0	6.5	5.2	3.9	2.4	1.0	20.3
SEQ-1G-18	724425	18.0	16.9	16.2	13.2	10.5	8.7	7.0	5.6	4.0	2.4	0.8	21.8
SEQ-1G-19	724519	19.0	17.7	16.9	13.7	10/8	9.0	7.3	5.7	4.1	2.4	0.8	23.05
SEQ-1G-20	724502	20.0	18.2	17.7	14.2	11.2	9.3	7.6	6.0	4.4	2.6	0.8	24.05

Passband Flatness:
- ±0.3 dB (SEQ-1G-02 to 18)
- ±0.4 dB (SEQ-1G-19 and 20)

Return Loss I/O:
- 18/18dB min. (SEQ-1G-02 to 18)
- 16/16dB min. (SEQ-1G-19 and 20)

**dB of cable equalized at 1002MHz*

Specification Document Number 1500769

Table 88: SEQ-750 Series Cable Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)									dB of cable equalized at highest frequency
Model	**P/N**	**54**	**70**	**80**	**222**	**350**	**450**	**550**	**650**	**750**	
SEQ-0	724376	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEQ-750-02	724907	2.0	2.0	2.0	1.8	1.4	1.3	1.3	1.2	1.0	1.5
SEQ-750-03	724920	3.0	2.8	2.7	2.4	1.9	1.7	1.5	1.3	1.0	2.5
SEQ-750-04	724955	3.9	3.9	3.8	3.1	2.4	2.0	1.7	1.4	1.0	4.0
SEQ-750-05	724911	4.9	4.6	4.5	3.5	2.9	2.3	1.8	1.4	1.0	5.0
SEQ-750-06	724861	5.9	5.7	5.6	4.2	3.3	2.7	2.0	1.5	1.0	6.5
SEQ-750-07	724885	7.0	6.8	6.6	5.0	3.6	2.8	2.0	1.6	1.0	8.0
SEQ-750-08	725006	8.0	7.9	7.6	5.5	4.2	3.3	2.5	1.8	1.0	9.0
SEQ-750-09	725070	9.0	8.8	8.6	6.3	4.8	3.8	2.7	2.0	1.0	10.5
SEQ-750-10	725025	9.8	9.4	9.2	6.7	5.0	3.8	2.8	2.0	1.0	12.0
SEQ-750-11	725004	11.0	10.5	10.2	7.5	5.5	4.2	3.0	2.0	1.0	13.5
SEQ-750-12	725208	11.8	11.3	11.0	8.1	6.0	4.6	3.3	2.2	1.0	14.5
SEQ-750-13	725257	12.9	12.4	12.2	8.9	6.6	5.1	3.7	2.5	1.0	16.0
SEQ-750-14	725205	14.0	13.5	13.2	9.7	6.9	5.3	3.8	2.5	1.0	17.0
SEQ-750-15	725139	14.9	14.3	13.9	10.1	7.5	5.8	4.3	2.6	1.0	18.5
SEQ-750-16	724859	15.8	14.9	14.5	10.5	8.0	6.1	4.4	2.7	1.0	20.0
SEQ-750-17	725058	16.8	16.0	15.6	11.3	8.2	6.2	4.4	2.6	1.0	21.0
SEQ-750-18	725120	17.9	17.1	16.6	11.9	8.6	6.6	4.6	2.6	1.0	22.4
SEQ-750-19	725119	18.8	17.8	17.4	12.3	9.1	6.9	4.8	2.7	1.0	23.7
SEQ-750-20	725160	19.8	19.0	18.5	13.2	9.5	7.2	5.0	2.8	1.0	25.0
SEQ-750-21	725273	20.8	19.8	19.3	13.4	10.0	7.5	5.2	2.9	1.0	26.3
SEQ-750-2-2	762194	2.8	2.8	2.8	2.5	2.3	2.2	2.1	2.1	2.0	1.1
SEQ-750-4-2	762239	4.5	4.4	4.3	3.6	3.1	2.8	2.5	2.2	2.0	3.3
SEQ-750-4-3	762241	5.5	5.4	5.3	4.7	4.1	3.8	3.5	3.2	3.0	3.3
SEQ-750-5-5	725184	8.9	8.6	8.6	7.6	6.9	6.3	5.8	5.4	5.0	5.0
Passband Flatness: ±0.3dB Return Loss I/O: 18/16dB min.											*Specification Document Number 600563*

Table 89: SEQ-862 Series Cable Equalizers Specifications

		Insertion Loss in dB at Frequency (MHz)									dB of cable equalized at highest frequency
Model	**P/N**	**54**	**70**	**80**	**222**	**500**	**600**	**700**	**800**	**862**	
SEQ-0	724376	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEQ-862-02	724596	1.9	1.9	1.9	1.8	1.4	1.3	1.2	1.1	1.0	1.0
SEQ-862-03	724531	2.9	2.8	2.8	2.4	1.6	1.5	1.4	1.2	1.0	2.0
SEQ-862-04	724535	4.0	4.0	4.0	3.2	1.9	1.6	1.4	1.2	1.0	4.0
SEQ-862-05	724464	4.8	4.6	4.5	3.4	2.1	1.7	1.4	1.2	1.0	5.0
SEQ-862-06	724473	5.9	5.6	5.6	4.2	2.6	2.1	1.6	1.2	1.0	6.5
SEQ-862-07	724521	6.9	6.6	6.6	5.4	3.1	2.5	1.9	1.4	1.0	7.8
SEQ-862-08	724515	7.8	7.5	7.4	5.6	3.4	2.7	2.1	1.4	1.0	8.7
SEQ-862-09	724568	8.8	8.4	8.3	6.3	3.6	2.8	2.0	1.4	1.0	10.5
SEQ-862-10	724616	9.6	9.1	8.9	6.9	3.8	2.9	2.1	1.4	1.0	11.0
SEQ-862-11	724583	10.8	10.3	10.2	7.6	4.4	3.5	2.5	1.6	1.0	13.0
SEQ-862-12	724545	11.6	11.1	10.8	8.2	4.7	3.7	2.7	1.7	1.0	14.5
SEQ-862-13	724620	12.8	12.4	12.0	8.8	5.0	3.9	2.8	1.7	1.0	15.5
SEQ-862-14	724646	13.6	12.9	12.7	9.6	5.2	4.0	2.9	1.8	1.0	16.5
SEQ-862-15	724658	14.5	13.9	13.5	10.4	5.6	4.2	3.0	1.8	1.0	17.5
SEQ-862-16	724609	15.3	14.7	14.3	10.8	6.1	4.7	3.3	2.0	1.0	19.0
SEQ-862-17	724674	17.5	16.8	16.4	12.2	6.5	5.1	3.5	2.0	1.0	21.3
SEQ-862-18	724679	18.4	17.5	17.2	12.7	6.8	5.2	3.6	2.0	1.0	22.4
SEQ-862-19	724795	19.5	18.6	18.2	13.6	7.2	5.7	3.8	2.0	1.0	23.9
SEQ-862-20	724790	20.3	19.4	19.0	14.2	7.6	5.8	3.9	2.0	1.0	24.9
Passband Flatness: ±0.3dB Return Loss I/O: 20/18dB min.							*Specification Document Number 600438 Rev J*				

Table 90: SFE Series Forward Cable Equalizers Specifications

Insertion Loss in dB at Frequency (MHz)												
Model	**Part Number**	**50**	**65**	**85**	**200**	**300**	**450**	**550**	**650**	**750**	**870**	**1003**
SFE-100-0-R	535723-001-00	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
SFE-100-1-R	531124-001-00	-1.8	-1.8	-1.7	-1.6	-1.5	-1.3	-1.3	-1.2	-1.1	-1.1	-1.0
SFE-100-2-R	531124-002-00	-2.6	-2.5	-2.5	-2.1	-1.9	-1.7	-1.5	-1.4	-1.3	-1.1	-1.0
SFE-100-3-R	531124-003-00	-3.3	-3.2	-3.1	-2.7	-2.4	-2.0	-1.8	-1.6	-1.4	-1.2	-1.0

Table 90: SFE Series Forward Cable Equalizers Specifications (cont'd)

Insertion Loss in dB at Frequency (MHz)												
Model	**Part Number**	**50**	**65**	**85**	**200**	**300**	**450**	**550**	**650**	**750**	**870**	**1003**
SFE-100-4-R	531124-004-00	-4.1	-4.0	-3.9	-3.2	-2.8	-2.3	-2.0	-1.8	-1.5	-1.3	-1.0
SFE-100-5-R	531124-005-00	-4.9	-4.7	-4.6	-3.8	-3.3	-2.7	-2.3	-2.0	-1.7	-1.3	-1.0
SFE-100-6-R	531124-006-00	-5.7	-5.5	-5.3	-4.3	-3.7	-3.0	-2.6	-2.2	-1.8	-1.4	-1.0
SFE-100-7-R	531124-007-00	-6.4	-6.3	-6.0	-4.9	-4.2	-3.3	-2.8	-2.4	-1.9	-1.5	-1.0
SFE-100-8-R	531124-008-00	-7.2	-7.0	-6.8	-5.4	-4.6	-3.6	-3.1	-2.6	-2.1	-1.5	-1.0
SFE-100-9-R	531124-009-00	-8.0	-7.8	-7.5	-6.0	-5.1	-4.0	-3.3	-2.8	-2.2	-1.6	-1.0
SFE-100-10-R	531124-010-00	-8.8	-8.6	-8.2	-6.5	-5.5	-4.3	-3.6	-2.9	-2.4	-1.7	-1.0
SFE-100-11-R	531124-011-00	-9.5	-9.2	-8.9	-7.1	-6.0	-4.6	-3.9	-3.1	-2.5	-1.8	-1.0
SFE-100-12-R	531124-012-00	-10.3	-10.0	-9.6	-7.6	-6.4	-5.0	-4.1	-3.3	-2.6	-1.8	-1.0
SFE-100-13-R	531124-013-00	-11.1	-10.8	-10.4	-8.2	-6.9	-5.3	-4.4	-3.5	-2.8	-1.9	-1.0
SFE-100-14-R	531124-014-00	-11.9	-11.6	-11.1	-8.7	-7.3	-5.6	-4.6	-3.7	-2.9	-2.0	-1.0
SFE-100-15-R	531124-015-00	-12.7	-12.4	-11.9	-9.3	-7.8	-6.0	-4.9	-3.9	-3.0	-2.0	-1.0
SFE-100-16-R	531124-016-00	-13.4	-13.0	-12.5	-9.9	-8.2	-6.3	-5.2	-4.1	-3.2	-2.1	-1.0
SFE-100-17-R	531124-017-00	-14.2	-13.8	-13.3	-10.4	-8.7	-6.6	-5.4	-4.3	-3.3	-2.2	-1.0
SFE-100-18-R	531124-018-00	-15.0	-14.6	-14.0	-11.0	-9.2	-6.9	-5.7	-4.5	-3.4	-2.2	-1.0
SFE-100-19-R	531124-019-00	-15.8	-15.3	-14.8	-11.5	-9.6	-7.3	-5.9	-4.7	-3.6	-2.3	-1.0
SFE-100-20-R	531124-020-00	-16.5	-16.0	-15.4	-12.1	-10.1	-7.6	-6.2	-4.9	-3.7	-2.4	-1.0
SFE-100-21-R	531124-021-00	-17.3	-16.8	-16.2	-12.6	-10.5	-7.9	-6.4	-5.1	-3.8	-2.4	-1.0
SFE-100-22-R	531124-022-00	-18.1	-17.6	-16.9	-13.2	-11.0	-8.3	-6.7	-5.3	-4.0	-2.5	-1.0
SFE-100-23-R	531124-023-00	-18.9	-18.3	-17.7	-13.7	-11.8	-8.6	-7.0	-5.5	-4.1	-2.6	-1.0
SFE-100-24-R	531124-024-00	-19.6	-19.1	-18.3	-14.3	-11.9	-8.9	-7.2	-5.7	-4.2	-2.6	-1.0

Table 91: SRE Series Return Equalizers Specifications

Specification	SRE-042-*	SRE-065-*	SRE-085-*	SRE-204-*
Passband (MHz)	5–42	5–65	5–85	5–204
Equalization (dB)	SRE value ± 0.5[1]	SRE value ± 0.5[1]	SRE value ± 0.5[1]	SRE value ± 0.5[2]
Flatness	±0.05	±0.05	±0.06	±0.03

Table 91: SRE Series Return Equalizers Specifications (cont'd)

Specification	SRE-042-*	SRE-065-*	SRE-085-*	SRE-204-*
Return Loss (dB, max.)	–22.0	–22.0	–20.0	–20.0
Insertion Loss (dB, max.)	–1.5	–1.5	–1.5	–1.3

1. SRE values available from 0 dB to 12 dB, in 2 dB increments. SRE-85-6, for example, indicates an equalizer with 6 dB of equalization.
2. SRE values available from 0 dB to 20 dB, in 2 dB increments. SRE-204-14, for example, indicates an equalizer with 14 dB of equalization.

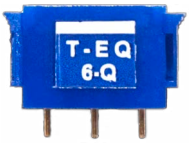


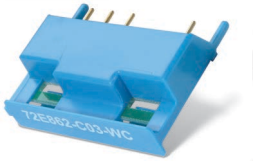
Table 92: T-EQ-*-Q Series Cable Equalizers Specifications

Specification	Frequency (MHz)	T-EQ-2-Q	T-EQ-4-Q	T-EQ-6-Q	T-EQ-8-Q	T-EQ-10-Q	T-EQ-12-Q	T-EQ-14-Q	T-EQ-16-Q	T-EQ-18-Q	T-EQ-20-Q	T-EQ-22-Q
EQ Value (dB nominal)	—	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0
Drop Insertion Loss* (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	11.3	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	1.8	1.8	1.8	1.8
	1218	1.0	1.0	0.9	1.1	1.1	1.1	1.1	1.2	1.5	1.5	1.5
Forward Response Flatness (dB max.)	—	± 0.5	± 0.5	± 0.5	± 0.7	± 0.7	± 0.7	± 0.8	± 0.9	±1.2	±1.2	±1.2

Cable Simulators and Cable Equivalents Specifications

Cable simulators provide sloped attenuation of RF signals with the greatest attenuation occurring at the highest frequency. They are plug-in fixed units, which are used in place of equalizers in the forward path in those cases where the cable spacing is less than the amount of equalization built into the amplifier.

Table 93: 7-2E862Cx-WC Cable Simulators Specifications

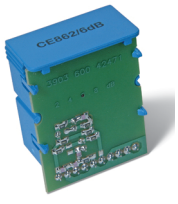


		Insertion Loss in dB at Frequency (MHz)								
Model	**P/N**	**45**	**54**	**70**	**85**	**450**	**550**	**650**	**750**	**870**
7-2E862C1-WC	725326	0.2	0.2	0.3	0.3	0.7	0.8	0.8	0.9	1.0
7-2E862C2-WC	725318	0.2	0.2	0.3	0.4	1.2	1.3	1.5	1.6	1.8
7-2E862C3-WC	725356	0.2	0.3	0.4	0.4	1.7	1.9	2.1	2.4	2.6
7-2E862C4-WC	725314	0.2	0.3	0.4	0.5	2.2	2.5	2.8	3.1	3.4
7-2E862C5-WC	725280	0.3	0.5	0.6	0.7	2.8	3.2	3.6	3.9	4.3
7-2E862C6-WC	725452	0.6	0.8	1.0	1.1	3.6	4.1	4.5	5.0	5.4
7-2E862C7-WC	725392	0.7	0.9	1.1	1.3	4.2	4.8	5.3	5.8	6.3
7-2E862C8-WC	725499	0.9	1.1	1.3	1.5	4.8	5.5	6.1	6.6	7.3
7-2E862C9-WC	725175	1.1	1.3	1.6	1.8	5.5	6.2	6.9	7.6	8.3
7-2E862C10-WC	725668	1.3	1.5	1.8	2.1	6.2	7.0	7.8	8.5	9.3
7-2E862C11-WC	725754	1.5	1.7	2.1	2.4	6.9	7.8	8.6	9.4	10.3
7-2E862C12-WC	725682	1.7	2.0	2.3	2.7	7.6	8.6	9.5	10.3	11.3

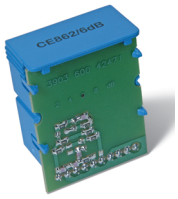
Passband Flatness: ±0.4dB
Return Loss I/O:
16/16dB (7-2E862C1 to C6)
15/15 dB (7-2E862C7 to C12)

Specification Document Number 871541

Table 94: CE862 Cable Equivalent Specifications



		Insertion Loss	
Model	**P/N**	**47 MHz**	**862 MHz**
CE862/2	725713	1	2
CE862/4	725182	1	4

Table 94: CE862 Cable Equivalent Specifications  (cont'd)

		Insertion Loss	
Model	**P/N**	**47 MHz**	**862 MHz**
CE862/6	725177	1	6
CE862/8	726308	1	8

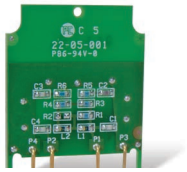
Table 95: PCS-1G Series Cable Simulators Specifications

		Insertion Loss in dB at Frequency (MHz)								dB of cable simulated at Frequency (MHz)							
Model	**P/N**	**50**	**70**	**80**	**550**	**750**	**806**	**862**	**1002**	**350**	**450**	**550**	**650**	**750**	**806**	**862**	**1002**
PCS-1G-02	725360	1.0	1.0	1.1	1.6	1.8	1.9	1.9	2.0	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
PCS-1G-03	725361	1.0	1.1	1.1	2.3	2.6	2.7	2.8	3.0	1.4	1.6	1.8	2.0	2.2	2.2	2.3	2.5
PCS-1G-04	725362	1.0	1.1	1.2	2.9	3.4	3.6	3.7	4.0	2.1	2.4	2.7	3.0	3.2	3.3	3.5	3.8
PCS-1G-05	725363	1.0	1.2	1.3	3.6	4.3	4.4	4.6	5.0	2.8	3.2	3.6	3.9	4.3	4.5	4.6	5.0
PCS-1G-06	725364	1.0	1.2	1.3	4.2	5.1	5.3	5.5	6.0	3.5	4.0	4.5	4.9	5.3	5.6	5.8	6.3
PCS-1G-07	725365	1.0	1.3	1.4	4.9	5.9	6.2	6.4	7.0	4.2	4.8	5.4	5.9	6.4	6.7	6.9	7.5
PCS-1G-08	725366	1.0	1.3	1.5	5.5	6.7	7.0	7.3	8.0	4.9	5.6	6.3	6.9	7.5	7.8	8.1	8.8
PCS-1G-09	725367	1.0	1.4	1.5	6.1	7.5	7.9	8.2	9.0	5.6	6.4	7.2	7.9	8.6	8.9	9.2	10.0
PCS-1G-10	725368	1.0	1.4	1.6	6.8	8.3	8.7	9.1	10.0	6.3	7.2	8.1	8.9	9.6	10.0	10.4	11.3
PCS-1G-11	778084	1.0	1.5	1.7	7.4	9.2	9.6	10.0	11.0	7.0	8.0	9.0	9.9	10.7	11.1	11.5	12.5
PCS-1G-12	778085	1.0	1.5	1.7	8.1	10.0	10.5	10.9	12.0	7.7	8.8	9.9	10.8	11.8	12.2	12.7	13.8

Passband Flatness: ±0.4dB
Return Loss I/O: 16/16dB min.

Specification 1503588

Table 96: SCS-1G Series Cable Simulators Specifications



		Insertion Loss in dB at Frequency (MHz)								dB of Cable Simulated at Frequency (MHz)							
Model	**P/N**	**50**	**70**	**80**	**550**	**750**	**806**	**862**	**1002**	**350**	**450**	**550**	**650**	**750**	**806**	**862**	**1002**
SCS-1G-02	724347	1.0	1.0	1.1	1.6	1.8	1.9	1.9	2.0	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
SCS-1G-03	724380	1.0	1.1	1.1	2.3	2.6	2.7	2.8	3.0	1.4	1.6	1.8	2.0	2.2	2.2	2.3	2.5
SCS-1G-04	724391	1.0	1.1	1.2	2.9	3.4	3.6	3.7	4.0	2.1	2.4	2.7	3.0	3.2	3.3	3.5	3.8
SCS-1G-05	724389	1.0	1.2	1.3	3.6	4.3	4.4	4.6	5.0	2.8	3.2	3.6	3.9	4.3	4.5	4.6	5.0
SCS-1G-06	724331	1.0	1.2	1.3	4.2	5.1	5.3	5.5	6.0	3.5	4.0	4.5	4.9	5.3	5.6	5.8	6.3
SCS-1G-07	724361	1.0	1.3	1.4	4.9	5.9	6.2	6.4	7.0	4.2	4.8	5.4	5.9	6.4	6.7	6.9	7.5
SCS-1G-08	724367	1.0	1.3	1.5	5.5	6.7	7.0	7.3	8.0	4.9	5.6	6.3	6.9	7.5	7.8	8.1	8.8
SCS-1G-09	724372	1.0	1.4	1.5	6.1	7.5	7.9	8.2	9.0	5.6	6.4	7.2	7.9	8.6	8.9	9.2	10.0
SCS-1G-10	724369	1.0	1.4	1.6	6.8	8.3	8.7	9.1	10.0	6.3	7.2	8.1	8.9	9.6	10.0	10.4	11.3
SCS-1G-11	724402	1.0	1.5	1.7	7.4	9.2	9.6	10.0	11.0	7.0	8.0	9.0	9.9	10.7	11.1	11.5	12.5
SCS-1G-12	724393	1.0	1.5	1.7	8.1	10.0	10.5	10.9	12.0	7.7	8.8	9.9	10.8	11.8	12.2	12.7	13.8
SCS-1G-13	724453	1.0	1.6	1.8	8.7	10.8	11.3	11.8	13.0	8.4	9.6	10.8	11.8	12.8	13.4	13.9	15.0
SCS-1G-14	724462	1.0	1.6	1.9	9.4	11.6	12.2	12.7	14.0	9.1	10.4	11.6	12.8	13.9	14.5	15.0	16.3
SCS-1G-15	724449	1.0	1.7	2.0	10.0	12.4	13.0	13.6	15.0	9.8	11.2	12.5	13.8	15.0	15.6	16.2	17.5
Passband Flatness: ±0.4dB Return Loss I/O: 18/16dB min.																*Specification 1500883*	

Table 97: SCS-862 Series Cable Simulators Specifications

		Insertion Loss in dB at Frequency (MHz)								dB of Cable Simulated at Frequency (MHz)					
Model	**P/N**	**54**	**70**	**80**	**222**	**550**	**750**	**806**	**862**	**300**	**450**	**550**	**750**	**806**	**862**
SCS-862-02	724785	1.0	1.0	1.0	1.3	1.7	1.9	2.0	2.0	0.7	0.8	1.0	1.2	1.2	1.3
SCS-862-03	724905	1.0	1.0	1.0	1.6	2.4	2.8	2.9	3.0	1.3	1.7	1.9	2.3	2.5	2.6
SCS-862-04	724825	1.0	1.1	1.2	1.9	3.2	3.8	3.9	4.0	2.0	2.6	2.9	3.5	3.8	3.9
SCS-862-05	724730	1.0	1.0	1.1	2.3	3.9	4.7	4.9	5.0	2.7	3.4	3.9	4.7	5.0	5.2
SCS-862-06	724887	1.0	1.0	1.2	2.6	4.6	5.5	5.8	6.0	3.3	4.2	4.8	5.7	6.2	6.4
SCS-862-07	724912	1.0	1.2	1.4	3.1	5.2	6.3	6.6	7.0	4.3	5.4	6.0	7.1	7.4	7.7
SCS-862-08	724938	1.0	1.3	1.4	3.3	6.0	7.3	7.6	8.0	5.0	6.2	6.9	8.2	8.6	8.9
SCS-862-09	724903	1.0	1.3	1.6	3.7	6.6	8.1	8.5	9.0	5.7	7.1	7.9	9.4	9.8	10.2
SCS-862-10	724902	1.0	1.4	1.6	3.9	7.3	9.0	9.4	10.0	6.4	8.0	8.9	10.6	11.1	11.5
SCS-862-11	725011	1.0	1.5	1.7	4.4	8.0	10.0	10.3	11.0	7.1	8.9	9.9	11.8	12.3	12.8
SCS-862-12	724971	1.0	1.5	1.7	4.8	8.7	10.9	11.4	12.0	7.9	9.8	11.0	13.1	13.6	14.1

Table 97: SCS-862 Series Cable Simulators Specifications  (cont'd)

		Insertion Loss in dB at Frequency (MHz)								dB of Cable Simulated at Frequency (MHz)					
Model	**P/N**	**54**	**70**	**80**	**222**	**550**	**750**	**806**	**862**	**300**	**450**	**550**	**750**	**806**	**862**
SCS-862-13	724959	1.0	1.5	1.8	5	9.5	11.9	12.4	13.0	8.6	10.7	12.0	14.3	14.8	15.4
SCS-862-14	725023	1.0	1.6	1.9	5.5	10.0	12.9	13.4	14.0	9.3	11.5	12.9	15.4	16.0	16.6
SCS-862-15	724967	1.0	1.7	2.0	5.9	10.6	13.7	14.3	15.0	10.0	12.4	13.9	16.6	17.3	17.9
Passband Flatness: ±0.4dB (SCS-862-02 to 13) ±0.6 dB (SCS-862-14 and 15) Return Loss I/O: 8/16dB (SCS-862-02 to 13) 16/16 dB (SCS-862-14 and 15)										*Specification Document Number 600662*					

Table 98: SCS-*-R Series Forward Cable Simulators Specifications 

Insertion Loss in dB at Frequency (MHz)																	
Model	**Part Number**	**40**	**45**	**50**	**72**	**108**	**150**	**211**	**250**	**300**	**350**	**400**	**450**	**550**	**750**	**870**	**1003**
SCS-1-R	531161-001-00	-1	-1	-1	-1.1	-1.1	-1.2	-1.3	-1.4	-1.5	-1.6	-1.6	-1.7	-1.8	-2	-2.1	-2.2
SCS-2-R	531161-002-00	-0.9	-1	-1	-1.2	-1.3	-1.5	-1.7	-1.8	-2	-2.1	-2.2	-2.4	-2.6	-3	-3.2	-3.5
SCS-3-R	531161-003-00	-0.9	-0.9	-1	-1.2	-1.4	-1.7	-2	-2.2	-2.5	-2.7	-2.8	-3	-3.4	-4	-4.3	-4.7
SCS-4-R	531161-004-00	-0.9	-0.9	-1	-1.3	-1.5	-1.9	-2.4	-2.7	-2.9	-3.2	-3.5	-3.7	-4.2	-5	-5.4	-5.9
SCS-5-R	531161-005-00	-0.8	-0.9	-1	-1.4	-1.6	-2.2	-2.7	-3.1	-3.4	-3.8	-4.1	-4.4	-5	-6	-6.5	-7.2
SCS-6-R	531161-006-00	-0.8	-0.9	-1	-1.4	-1.8	-2.4	-3.1	-3.5	-3.9	-4.3	-4.7	-5.1	-5.8	-7	-7.7	-8.4
SCS-7-R	531161-007-00	-0.7	-0.9	-1	-1.5	-1.9	-2.6	-3.4	-3.9	-4.4	-4.9	-5.3	-5.7	-6.5	-8	-8.8	-9.7
SCS-8-R	531161-008-00	-0.7	-0.9	-1	-1.6	-2	-2.9	-3.8	-4.3	-4.9	-5.4	-5.9	-6.4	-7.3	-9	-9.9	-10.9
SCS-9-R	531161-009-00	-0.7	-0.8	-1	-1.7	-2.2	-3.1	-4.1	-4.7	-5.4	-6	-6.5	-7.1	-8.1	-10	-11	-12.1
SCS-10-R	531161-010-00	-0.6	-0.8	-1	-1.7	-2.3	-3.3	-4.5	-5.1	-5.9	-6.5	-7.2	-7.8	-8.9	-11	-12.1	-13.4

Table 99: T-CS-*-Q Series Cable Simulators Specifications

Specification	Frequency (MHz)	T-CS-2-Q	T-CS-4-Q	T-CS-6-Q	T-CS-8-Q	T-CS-10-Q	T-CS-12-Q	T-CS-15-Q	T-CS-18-Q	T-CS-21-Q
Cable Simulator Value (dB nominal)	1218	2.0	4.0	6.0	8.0	10.0	12.0	15.0	18.0	21.0
Drop Insertion Loss* (dB max.)	5 50 85 104 300 450 550 750 870 1000 1218	0.1 0.1 0.2 0.2 0.6 1.0 1.3 1.7 1.9 2.1 2.3	0.1 0.1 0.2 0.3 1.4 2.2 2.7 3.4 3.8 4.1 4.4	0.1 0.2 0.3 0.5 1.9 3.0 3.7 4.9 5.5 6.1 6.7	0.1 0.2 0.3 0.5 2.2 3.7 4.7 6.5 7.5 8.3 9.3	0.1 0.3 0.5 0.7 3.1 5.1 6.3 8.4 9.3 10.2 11.0	0.1 0.3 0.6 0.8 3.3 5.4 6.8 9.2 10.5 11.7 12.7	0.1 0.3 0.6 1.0 3.9 6.5 8.1 11.3 13.3 1.2 1.1	0.1 0.3 0.7 1.1 4.5 7.4 9.4 13.2 15.7 18.2 19.0	0.1 0.4 0.9 1.3 5.3 8.6 11.0 16.0 18.8 21.0 21.5
Forward Response Flatness (dB max.)	—	± 0.5	± 0.5	± 0.5	± 0.5	± 0.7	± 0.7	± 0.7	± 0.8	± 0.8

*The insertion loss specifications shown are in addition to the tap value loss.

Input Configuration Modules and Output Distribution Accessories Specifications

Directional couplers, also known as TAPs, split the RF signal into unequal portions, routing the low loss and high loss signals to different legs of the plug-in location. By rotating SDC8, SDC12, 7-DC-8, and 7-DC-12 180°, the signal flow is reversed. Splitters deliver half the RF signal to each leg of the plug-in location. The SPB-0 and NPB-0 are throughput plug-ins that do not effect the signal.

Table 100: D-Series Splitters and Directional Couplers (TAPs) Specifications

Model	P/N	Description	Insertion Loss
7-DC-4-5-1000-WC	724247	Splitter	4/4 dB
7-DC-8-5-1000-WC	724754	Directional coupler (TAP)	8/2.6 dB (±0.5 dB)
7-DC-12-5-1000-WC	724771	Directional coupler (TAP)	11.9/1.8 dB (±0.5 dB)

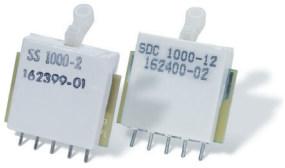


Table 101: S-Series Distribution Accessories Specifications

			Insertion Loss in dB at Frequency (MHz)									
Model	**P/N**	**Description**	**5**	**40**	**54**	**70**	**80**	**222**	**550**	**750**	**862**	**1002**
NPB-0	NPB-xxx	jumper	0	0	0	0	0	0	0	0	0	0
SPB-0	162260-00	jumper	0	0	0	0	0	0	0	0	0	0
SS-1000-2	723993	splitter	3.5	3.3	3.3	3.3	3.3	3.5	3.7	3.8	4.0	4.2
SDC-1000-8	724186	directional coupler	1.7 8.2	1.4 8.1	1.4 8.1	1.4 8.1	1.5 8.1	1.6 8.2	1.8 8.2	2.0 8.2	2.6 8.5	2.7 8.6
SDC-1000-12	724268	directional coupler	0.9 12.3	0.7 12.3	0.7 12.3	0.7 12.3	0.7 12.3	0.8 12.3	1.0 12.3	1.3 12.3	1.7 12.4	1.8 12.5
Passband Flatness: 0.5 dB, P–V The recessed groove indicates the high loss leg. These accessories are reversible.									*Specification Document Number 600613*			

Table 102: SP/DC-120 Distribution Accessories Specifications

Model	Description	Port	Passband (MHz)	Insertion Loss Typical (dB)
SP120	Splitter	Common	5-1218	4.7@1000 MHz 5@1218 MHz
		Through	5-1218	4.7@1000 MHz 5@1218 MHz
DC120/8	8 dB Directional Coupler	Input	5–1218	3.3 (Input to Output, 1000MHz, 1218 MHz)
		Output	5–1218	—
		Coupled	5–1218	8.5 (Input to Coupled, 1000 MHz) 9.0 (Input to Coupled, 1218 MHz)
DC120/10	10 dB Directional Coupler	Input	5–1218	3.3 (Input to Output, 1000MHz, 1218 MHz)
		Output	5–1218	—
		Coupled	5–1218	10.5 (Input to Coupled, 1000MHz, 1218 MHz)

Table 102: SP/DC-120 Distribution Accessories Specifications (cont'd)

Model	Description	Port	Passband (MHz)	Insertion Loss Typical (dB)
DC120/12	12 dB Directional Coupler	Input	5–1218	2.2 (Input to Output, 1000MHz, 1218 MHz)
		Ouptut	5–1218	—
		Coupled	5–1218	12.5 (Input to Coupled, 1000MHz, 1218 MHz)

Table 103: FDX Distribution Accessories Specifications

Model	Description	Port	Passband (MHz)	Insertion Loss Typical (dB)
FDX-RF-SPLITTER	Two-way splitter for FDX amplifier	Common	5–1218	-5
		Through	5–1218	-5
FDX-RF-DC8	Directional Coupler 8 dB FDX amplifier	Input	5–1218	—
		Output	5–1218	-4
		Coupled	5–1218	-9
FDX-RF-DC10	Directional Coupler 10 dB FDX amplifier	Input	5–1218	—
		Output	5–1218	-3
		Coupled	5–1218	-11
FDX-RF-DC12	Directional Coupler 12 dB FDX amplifier	Input	5–1218	—
		Output	5–1218	-3
		Coupled	5–1218	-13

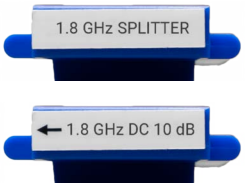


Table 104: MB180-SP/MB180-DC Distribution Accessories Specifications

Model	Description	Port	Passband (MHz)	Insertion Loss Typical (dB)
MB180-SP	Splitter	Common	10–1794	—
		Through 1	10–1794	3.5@1794 MHz
		Through 2	10–1794	4.2@1794 MHz
MB180-DC-8	8 dB Directional Coupler	Through Output	10–1794	2.5@1794 MHz
		Common Input	10–1794	—
		Coupled Path	10–1794	7.5@1794 MHz
MB180-DC-10	10 dB Directional Coupler	Through Output	10–1794	2.0@1794 MHz
		Common Input	10–1794	—
		Coupled Path	10–1794	8.8@1794 MHz
MB180-DC-12	12 dB Directional Coupler	Through Output	10–1794	1.5@1794 MHz
		Common Input	10–1794	—
		Coupled Path	10–1794	11.9@1794 MHz

Table 105: Splitter Specifications

Model	P/N
S3.5/3.5	724486
Bandwidth: 5-862MHz Insertion Loss: 2 x 3.8dB (max., 862MHz) Flatness: ±0.25dB Return Loss: >20dB (47MHz) to 1.5dB/oct. (>20dB (<47MHz)) Isolation (out 1–out 2): >20dB Dimensions L x H: 30 x 37.7mm	

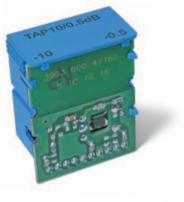


Table 106: TAPs Specifications

Model	P/N	Insertion Loss: Out 1/Out 2, dB
TAP10/1	724717	10.5/1.5
TAP1/10	725693	1.5/10.5
TAP8/1.5	724779	2/8.5
TAP16/1	724829	16.5/1
TAP1/16	725858	1/16.5
Bandwidth: 5-862MHz Flatness: ±0.25dB Return Loss: >20dB (47MHz) to 1.5dB/oct. (>20dB (<47MHz)) Isolation (out 1–out 2): >20dB Dimensions L x H: 30 x 37.7mm		

Diplex Filter Specifications

Diplex filters split the RF frequency, routing the low frequency to the return path and the high frequency to the forward path, with minimal signal loss. Select the diplex filter with the same frequency split as your network.

Table 107: 42/54 MHz Diplex Filters (p/n 1504997) Specifications

Specification	Forward	Return
Insertion Loss, dB (typical)	1.17@54 MHz 0.41@750 MHz 0.41@862 MHz 0.74@1002 MHz	1.3@42 MHz
Return Loss, dB (typical)	25.6@54–850 MHz 23.5@850–1002 MHz	26.6@5–42 MHz
Isolation, dB (typical)	40.2@42–54 MHz 55.1@54–250 MHz 47.2@250–555 MHz 37.7@555–750 MHz 32.6@750–1002 MHz	49.8@5–42 MHz

Table 108: 85/102 MHz Diplex Filters (p/n 1508618) Specifications

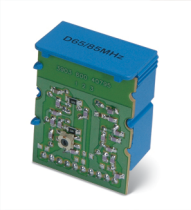
Specification	Forward	Value
Insertion Loss, dB (typical)	1.3@102 MHz 0.3@770 MHz 0.4@862 MHz 0.5@1002 MHz	1.2@85 MHz
Return Loss, dB (typical)	23@102–140 MHz 140–1002 MHz	22@5–50 MHz 18@50–85 MHz
Isolation, dB (typical)	31.5@85–105 MHz 52@102–195 MHz 48@195–600 MHz 41@600–770 MHz 36@770–1002 MHz	53@5–85 MHz

Table 109: 1508883 Series Diplex Filters Specifications

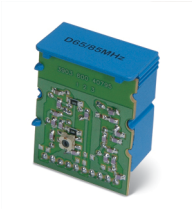
Specification	Forward	Return
1508883-001, 42/54 MHz Filter		
Bandwidth, MHz	54–1218	5–42
Insertion Loss @ cut off, dB	1.1 max.	1.1 max.
Insertion Loss@1.2 GHz, dB	0.95 max.	—
Flatness, dB	0.8@54–1218 MHz	0.6@5–42 MHz
Roll-off, Low, dB	0.8@54–85 MHz	0.85@27–42 MHz
Roll-off, High, dB	0.35@1002–1218 MHz	—
Return Loss, dB	–22@54–750 MHz –20@750–1218 MHz	–22@5–42 MHz
Floor Isolation, dB	50@54–600 MHz (min.) 45@600–1002 MHz (min.) 40@1002–1218 MHz (min.)	50@5–42 MHz (min.)
Crossover Isolation, dB	37@42–54 MHz (min.)	—
Group Delay, nSec	18@55.25–58.83 MHz (max.)	11@39–40.5 20@40.5–42
1508883-002, 65/85 MHz Filter		
Bandwidth, MHz	85–1218	5–65
Insertion Loss @ cut off, dB	1.0 max.	1.1 max.
Insertion Loss@1.2 GHz, dB	0.95 max.	—
Flatness, dB	0.7@85–1218 MHz	0.6@5–65 MHz
Roll-off, Low, dB	0.7@85–115 MHz	0.7@50–65 MHz
Roll-off, High, dB	0.35@1002–1218 MHz	—
Return Loss, dB	–22@85–750 MHz –19@750–1218 MHz	–22@5–65 MHz
Floor Isolation, dB	50@85–600 MHz (min.) 45@600–1002 MHz (min.) 40@1002–1218 MHz (min.)	50@5–65 MHz (min.)
Crossover Isolation, dB	37@65–85 MHz (min.)	—
Group Delay, nSec	9@62–63.5 14@63.5–65	4@112.25–116.68 MHz (max.)

Table 109: 1508883 Series Diplex Filters Specifications (cont'd)

Specification	Forward	Return
1508883-003, 85/102 MHz Filter		
Bandwidth, MHz	102–1218	5–85
Insertion Loss @ cut off, dB	1.2 max.	1.2 max.
Insertion Loss@1.2 GHz, dB	0.9 max.	—
Flatness, dB	0.9@102–1218 MHz	0.7@5–85 MHz
Roll-off, Low, dB	0.9@102–200 MHz	0.9@60–65 MHz
Roll-off, High, dB	0.3@1002–1218 MHz	—
Return Loss, dB	–22@102–750 MHz –19@750–1218 MHz	–22@5–85 MHz
Floor Isolation, dB	50@102–600 MHz (min.) 45@600–1002 MHz (min.) 40@1002–1218 MHz (min.)	50@5–85 MHz (min.)
Crossover Isolation, dB	37@65–85 MHz (min.)	—
Group Delay, nSec	14.5@103.25–106.85 5.5@112.25–116.68	8@82–83.5 MHz (max.) 11@83.5–85 MHz
1508883-004, 204/258 MHz Filter		
Bandwidth, MHz	258–1218	5–204
Insertion Loss @ cut off, dB	1.0 max.	1.0 max.
Insertion Loss@1.2 GHz, dB	0.9 max.	—
Flatness, dB	0.7@258–1218 MHz	0.6@5–204 MHz
Roll-off, Low, dB	0.8@258–285 MHz	0.7@170–204 MHz
Roll-off, High, dB	0.3@1002–1218 MHz	—
Return Loss, dB	–22@258–600 MHz –19@600–1218 MHz	–22@5–204 MHz
Floor Isolation, dB	50@258–600 MHz (min.) 45@600–1002 MHz (min.) 40@1002–1218 MHz (min.)	50@5–204 MHz (min.)
Crossover Isolation, dB	37@204–258 MHz (min.)	—
Group Delay, nSec	5@259.25–263.68	7@198–204 MHz (max.)

Table 110: Diplex Filter Specifications 

Model	P/N
D30/47	725171
D42/54	725483
D55/70	772506
D65/85	724120

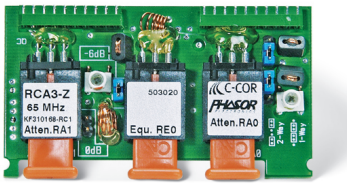
Table 111: Diplex Filter for FM401 Specifications 

Model	P/N
D30/47	761846
D42/54	761845
D55/70	761844
D65/85	725932
D85/105	791127

Active and Return Channel Amplifier Specifications

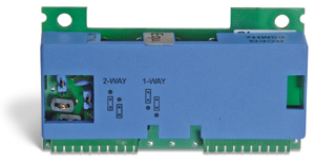
The module RCA3-Z is a universal reverse path amplifier for Flex Max 400 and Flex Max 500 amplifiers. The functional adjustment possibilities enable a universal usage in HFC networks. All adjustments can be performed by Amini PADs. A switchable attenuator enables a reduction of the gain by 6 dB. The roll off caused by the diplex filters is compensated by special circuitry, where the gain at the higher frequency is increased by 1.5 dB. The whole range from 5 MHz to 30/42/65 MHz can be used for reverse path signals.

Table 112: RCA3-Z Active Return Channel Amplifiers Specifications



Model	P/N	Specification
RCA3-Z 25/65	724110	
RCA3-Z 25/55	772505	
RCA3-Z 25/42	725656	
RCA3-Z 25/30	725440	
Bandwidth		5–30 MHz
Gain (module input to output)		
Flatness		±0.25 dB
Combiner insertion loss		< 4.5 dB
Return Loss		≤ 20 dB
Noise Figure		< 6 dB
Attenuator		
Input/Output		Amini plug-in modules 0,1,2,...20dB
Interstage		(switchable with a Jumper) 0,6 dB
Equalizer (5-65 MHz)		Amini plug-in modules 0,1,2,...20dB
Power Consumption		< 1.5 W
Power Supply		24 VDC/60 mA
Operating Temperature		–20°C to 75°C
Dimensions L x H		75 x 42 mm

Table 113: RCEQ-Z Passive Return Channel Equalizer Specifications



Model	P/N	Specification
RCEQ-Z-2/65	725973	
Bandwidth		5–65 MHz
Return Loss		≤ 20 dB
Insertion Loss: 1 input/2 input config.		≤ 1.0 dB @ 65 MHz/≤ 5.0 dB @ 65 MHz
Slope: delta insertion loss (5–65 MHz)		Amini plug-in modules (1dB steps) 0–20 dB (measured in station Max-Amplif. incl. D65/85 MHz)
flatness:		≤ 0.25 dB
Attenuator		Amini plug-in modules (1dB steps)
Power Consumption		< 1.5 W
Input Splitter		on board 1 input/2 input config. via bridges
Dimensions L x H		75 x 42 mm

Appendix A

WARRANTY

ARRIS warrants from the date of shipment to customer that Product bearing the ARRIS or C-COR name will substantially conform to ARRIS or C-COR specification in effect as of the date of shipment and will be free from substantial defects in material and workmanship under normal use (within published specifications), given proper installation and maintenance, for the specified warranty period for the Product. ARRIS further warrants to Customer that all Services performed by ARRIS for customer will be provided in a workmanlike manner. Warranty of ARRIS Standard Software is set forth in the software license.

Customer must promptly notify ARRIS of any claimed defect in the Product and/or Services. ARRIS or its agent may inspect the Product or workmanship on Customer's premises. Product returned to ARRIS under warranty must be shipped prepaid by Customer.

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Other than as expressly stated, the ARRIS warranty shall not cover components subject to normal wear and tear, such as fuses, batteries except as otherwise provided herein, and lamps.

The warranty period for ARRIS' primary products is as noted in the following table.

Product Categories	Warranty Period from Shipment Date
Category F Products All ARRIS CHP Max5000® Converged Indoor Headend Platform and Omnistar® GX2 hardware products such as the CHP chassis, CHP, GX2 and FTTMax™ application modules, power supplies and platform hardware components, all CHP, GX2 and FTTMax standalone rack mount products, and optical passives.	Five (5) years (United States and Canada) Three (3) years outside the United States

Product Categories	Warranty Period from Shipment Date
Category G Products All ARRIS Opti Max™ nodes, SG series nodes, Flex Max® amplifiers, Starline® amplifiers and Trans Max™ Hardened Field Hub, MOTr Hardened Field Hub and Outdoor Optical Amplification hardware products, and hardware components, and field optical passives.	Five (5) years (United States and Canada) Three (3) years outside the United States

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a. The Hardware or Standard Software is operated with, or the error or defect is due to, any accessory, equipment, Firmware or part not approved or sold by ARRIS; or

b. The Product is operated with a battery pack not sold or approved by ARRIS; or

c. The Hardware or Standard Software was not installed, operated and maintained in accordance with ARRIS' instructions and Documentation; or

d. The Hardware or Standard Software has been repaired, altered or modified by someone other than ARRIS; or

e. You do not notify ARRIS in writing of the error or defect within the applicable Warranty Period with sufficient information for ARRIS to identify and reproduce such error or defect, or fail to return the defective Hardware or Firmware according to the terms of this Agreement; or

f. ARRIS demonstrates that the alleged error or defect in the Standard Software or Hardware does not exist or was caused by Your or any third party's misuse, neglect, improper installation or testing, or any other cause beyond the range of the intended use, or by accident, fire, lightening, terrorism or other hazard or act of God.

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