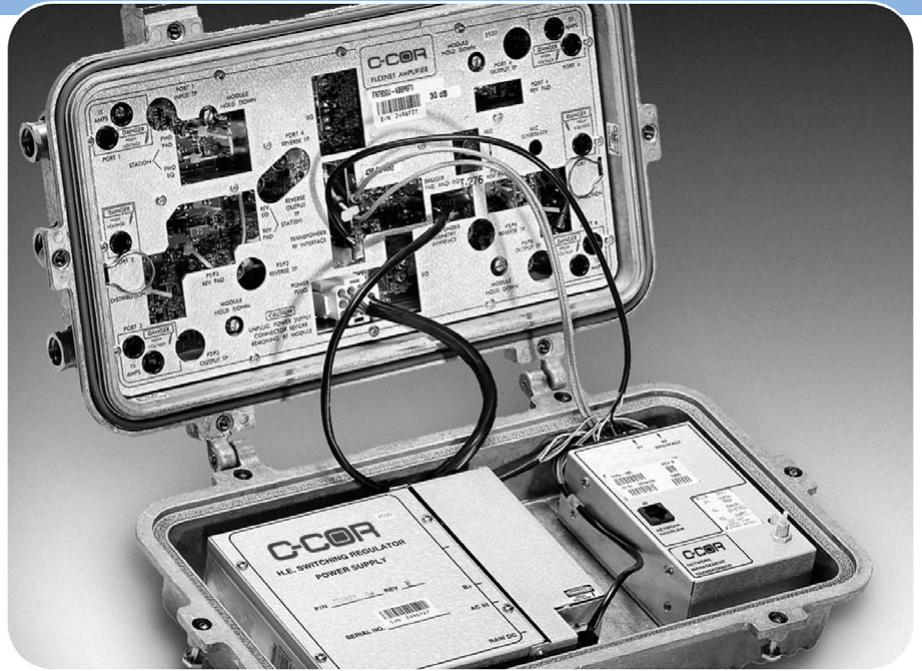


Flex Max900™

Bridger Amplifiers



- **Transfer linearization**
- **Node upgradability**
- **15A power passing**
- **Power doubling hybrids**
- **Reversible RF module allows the amplifier to open to roadside**
- **Upgradable to an optical node with our Flex Max Lid Upgrade**

C-COR Flex Max900 Bridger Amplifiers are the industry standard for RF distribution products. The forward gain and output configurations provided by Flex Max900 Bridger Amplifiers are designed to ensure cost-effective new designs and drop-in upgrades. The high gain of these amplifiers helps overcome the higher insertion losses of coaxial cable and passives at 750 and 862MHz. In addition, the 862MHz amplifier gain has been selected to allow the bridger modules to be used for drop-in upgrades of existing 750MHz designs.

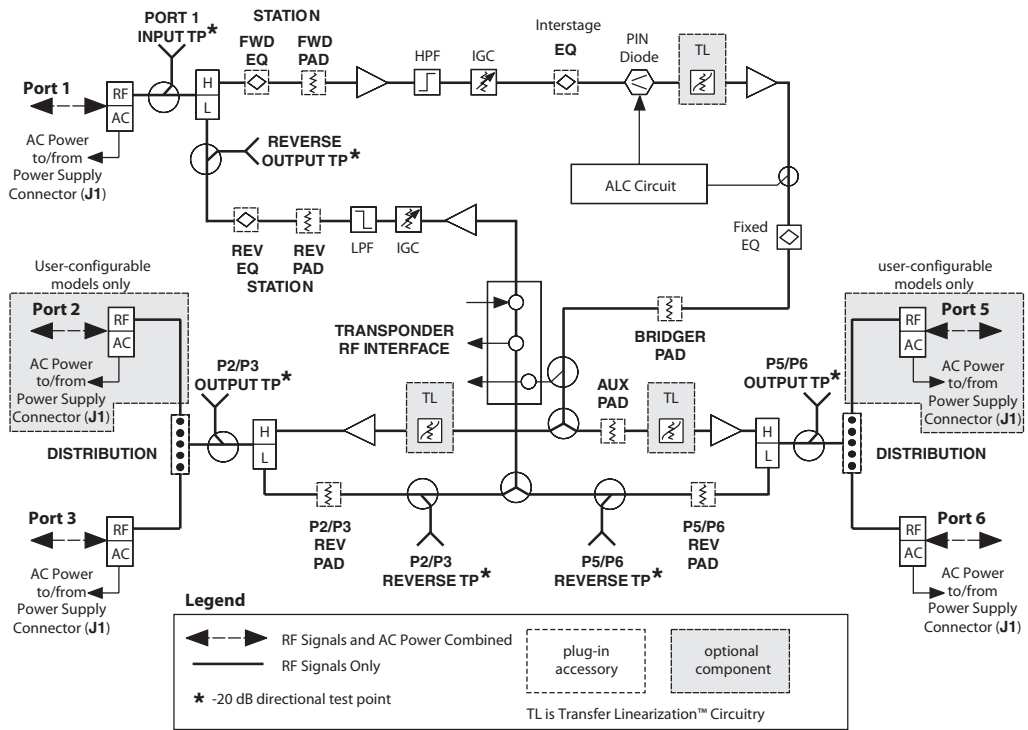
Flex Max900 Bridgers are available with Transfer Linearization technology, which improves the linear characteristics of standard, highly reliable silicon technology hybrids, thereby allowing for higher operating level capabilities and/or improved distortion performance, in addition to higher channel capacities and improved system level performance. TL enhanced products also translate into fewer active devices necessary in the HFC architecture, thus reducing maintenance, installation, and powering costs.

In addition, Flex Max900 Bridgers can be upgraded to optical nodes with our Flex Max Lid Upgrade.

Features

- TL Technology for improved performance capabilities over standard silicon-based technology
- High efficiency, switching regulator power supply for 60 or 90 volt operation
- Die-cast, aluminum alloy housing with unique RFI and weather sealing for durability and protection of internal electronics; pressure tested to 12 psi
- Optional 90° access to corner ports for improved cost effectiveness in underground installations

Functional Block Diagram

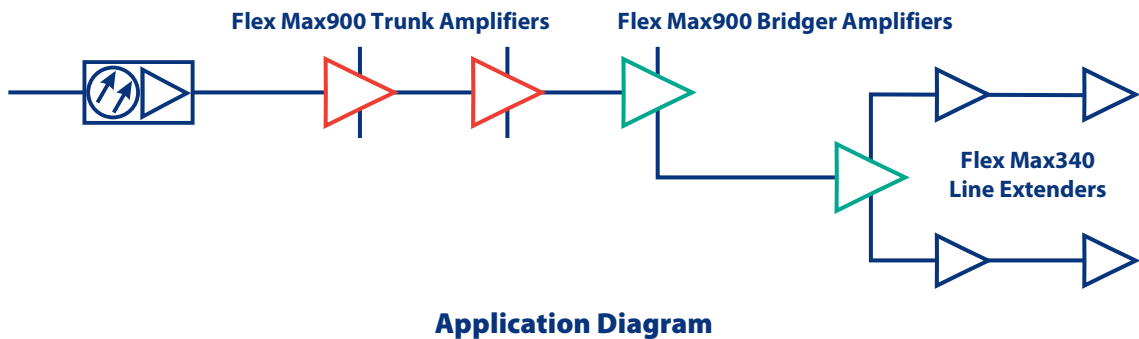


Flex Max900 Bridger Amplifier

Application

The Flex Max Trunk is a three active output station that provides one trunk level output and two distribution level outputs. The two active distribution or bridger ports can be configured in the field to provide four outputs. Flex Max Trunks provide a high performance trunk level output to "express" to other Flex Max Trunks in the cascade for maximum distortion performance.

The Flex Max Bridger is used at the end of the express line. The Flex Max Bridger provides two high-level distribution outputs, which can also be configured in the field to provide four outputs. These distribution ports can be independently configured for specific applications.



Flex Max900 Bridger Amplifier Sample Specifications

	Forward Bridger (ea)	Return Bridger (ea)
General		
Passband, MHz	54–862	5–42
Housing, MHz	1000	—
AC Current Passing, A		
Ports 1, 3, 6	15	15
Ports 2, 5	13	13
Typical Operating Conditions		
Operational Gain, dB (–0, +0.5) (Note 1, 2)	40	18
Channels, Number of NTSC (Note 3)	112/96/79	6
Operating Levels (recommended)		
Frequency, MHz	862/750/650/550/54	42/5
Input, dBmV, min. (Note 4)	11.5/11/10.5/10/11	17/17
Output, dBmV (Note 5)	51.5/49.5/48/46/37	35/35
Performance Specifications @ Recommended Levels		
Temperature Range: –40 to 60°C		
Carrier-to-Interference Ratio, dB (Note 2)		
Composite Triple Beat	67/72/77	89
Second Order Beat (F1 ± F2)	—	—
Cross Modulation (per NCTA std.) (Note 6)	62/65/68	78
Third Order Beat (F1 ± F2 ± F3)	—	—
Composite 2IM	59/62/73	82
Composite Intermodulation Noise CIN (Note 7)	65	—
Noise, 4 MHz, 75 Ohms	61/60.5/60.5/60/60.5	67.5
Noise Figure, dB (without EQ)	8.5/8.5/8/8/8.5	8.5
Full Gain, dB (without EQ and ALC)	45	19
Factory Alignment (with ALC Reserve, without EQ)		
Cable Loss, dB @ 862 MHz	18	—
Flat Loss, dB	23	19
Gain Slope, dB	–1.0 to +1.0	±0.5
Flatness (@ Gain Slope), ±dB	0.75	0.5
Return Loss, dB min., All Entry Ports	16	16.5
Powering Requirements, max./typ. (Note 8)		
AC Voltage, 60 Hz		With Active Return
		@ 90 V
		@ 60 V
AC Power, Watts		44/40
AC Current, mA		43/39
DC Current, mA @ 24 V ± 0.5 V		655/620
		790/720
		1590/1435
		1590/1435
Level Control		
Range, dB @ 862 MHz	± 4.0 dB	—
Accuracy (–40 to 60°C)	± 0.5 dB	—
Output Level Range (from nominal)	+2/–6 dB	—
Pilot Frequency Band (recommended)	439.25 MHz (Single Channel)	—

Specification Document Number 601154 Rev D

Notes:

- Spacing at highest frequency with SEQ-862-XX installed. Reverse spacing includes losses due to housing, diplex filters, and MEQ-42-XX
- Distortion Performance is derated accordingly to take into account the influence of the digitally compressed channels operating 6 dB below equivalent video channels.
- NTSC video channels occupying the appropriate frequency spectrum per specified number of channels.
- Recommended minimum forward input level at 862 MHz including loss due to the equalizer.
- Recommended maximum reverse output level at 42 MHz including loss due to the equalizer.
- Cross Modulation specification number indicates typical cascade performance.
- Systems operating with digitally compressed channels or equivalent broadband noise from 550 to 750 MHz at levels 6 dB below equivalent video channels will experience a composite distortion (CIN) appearing as noise in the 54 to 550 MHz frequency spectrum.
- Powering requirements indicated are with the Model HEPS790-2.3 power supply 122027-04. See 333995-17 for additional information.
- Specifications are typical for Flex Max Bridgers with Transfer Linearization (TL) technology. Contact your C-COR sales representative for specifications for Flex Max Bridgers without TL technology and for Flex Max Trunks with and without TL technology.

Specifications subject to change without notice.

Model Options

			1	2	3	4	5	6	7	8	9	10	11	12
F	N	B	9	x	D	x	x	x	x	6	x	x	x	x

1 Series	
9	900 series <i>a) 15A current passing capability.</i>

2 Spacing	
A	40dB
7	40dB
<i>a) 18dB factory equalization.</i>	
<i>b) Available with 42/54 split only.</i>	
<i>c) Available with 55/70 or 65/80 split only.</i>	

3 Bandwidth	
D	862MHz

4 Frequency Split	
J	42/54MHz
Q	55/70MHz
N	65/80MHz

5 Module Designator	
-	Standard
T	Transfer linearization technology
<i>a) TL technology is currently not available in the 55/70 split.</i>	

6-7 Level Control	
KB	439.25 MHz TV
L0	499.25 MHz TV
KC	451.25 MHz TV
L4	495.25 MHz TV
<i>a) Only available with 42/54 or 65/80 splits.</i>	
<i>b) Only available with 55/70 split.</i>	

8 Return	
6	18dB gain active
<i>a) Includes internal return testpoints.</i>	

9 Output Configuration	
G	Two bridger outputs—user config. to 4 outputs with internal testpoints
N	Two bridger outputs—user config. to 4 outputs with external testpoints
<i>a) Select "C" or "K" in #10 block, Housing.</i>	
<i>b) Select "F", "L", or "P" in #10 block, Housing.</i>	
<i>c) Plug-in splitters and directional couplers must be ordered separately.</i>	
<i>d) -20dB testpoints.</i>	

10 Powering	
1	None
6	2.3A, 90V, 50/60Hz, H.E. transformerless
<i>a) Select "A" in #11 block, Housing. Required when ordering RF module only.</i>	
<i>b) 40-90 V operating range.</i>	

11 Housing	
A	None
C	6-Port Flex Max, 1 GHz, with internal testpoints
F	6-Port Flex Max, 1 GHz, with external testpoints
K	6-Port Flex Max, 1 GHz, with internal testpoints and four 90° access ports
L	6-Port Flex Max, 1 GHz, with external testpoints and four 90° access ports
P	6-Port Flex Max, 1 GHz, bypass housing with external testpoints
<i>a) Select "1" in #12 block, Housing Finish. Required when ordering RF module only.</i>	
<i>b) Forward testpoints only.</i>	
<i>c) Select "P" in #8 block, Output Configuration.</i>	

12 Housing Finish	
1	Standard (or N/A)
4	Corrosion protected
<i>a) Required when ordering RF module only.</i>	

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