

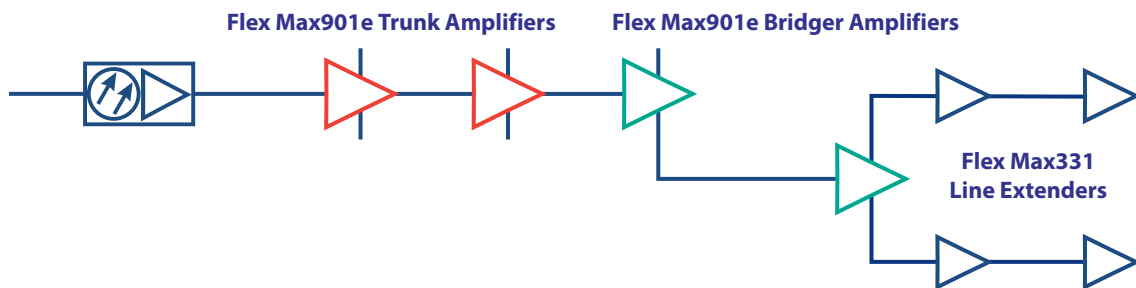


Flex Max901e 1 GHz Bridger Amplifiers Technical Specification

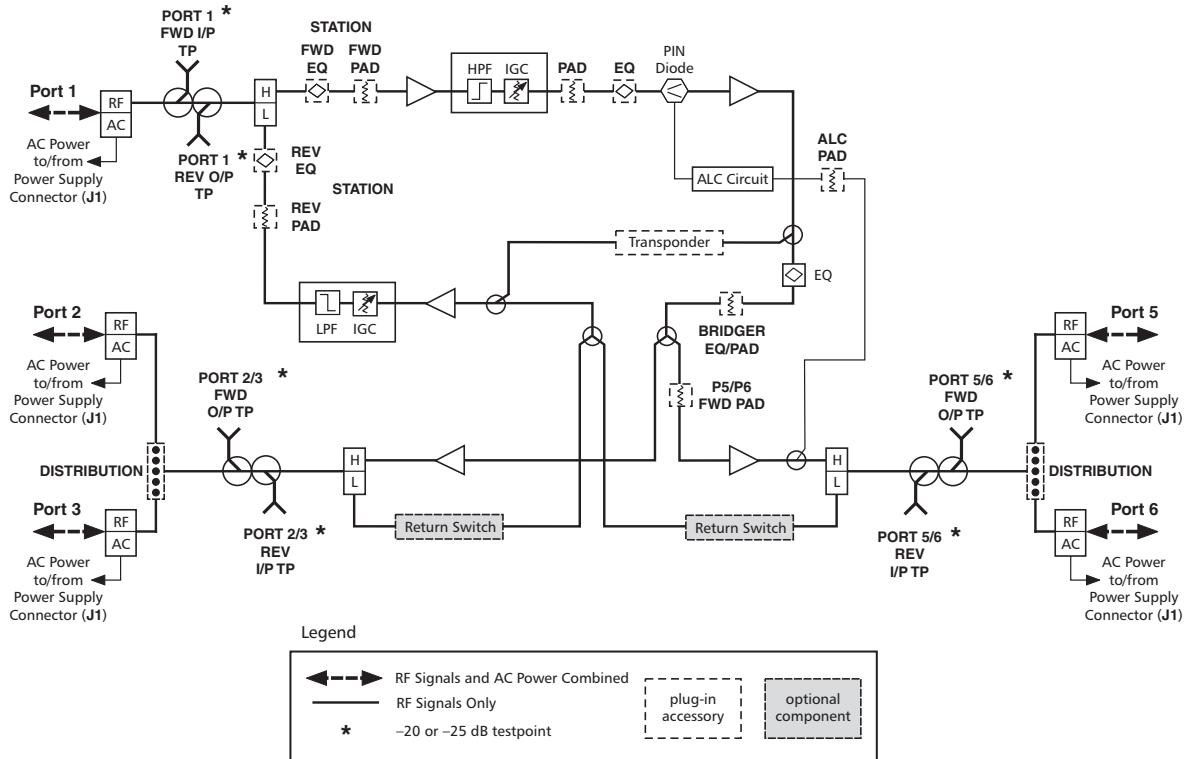
Application

The Flex Max901e 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 Max901e Trunks provide a high performance trunk level output to "express" to other Trunks in the cascade for maximum distortion performance.

The **Flex Max901e Bridger** is used at the end of the express line. The Flex Max901e 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.



Functional Block Diagram



Flex Max901e Bridger Amplifier

Flex Max901e Bridger Amplifier Sample Specifications

	Forward Bridger (ea)	Return Bridger (ea)
General		
Passband, MHz	54–1002	5–42
Housing, MHz	1002	—
AC Current Passing, A—Ports 1, 3, 6	15	15
AC Current Passing, A—Ports 2, 5	13	13
Typical Operating Conditions		
Operational Gain, dB (–0, +0.5) (Note 1,2)	43	18
Channels, Number of NTSC (Note 3)	79	6
Operating Levels (recommended)		
Frequency, MHz	1002/870/750/550/54	42/5
Input, dBmV, min. (Note 4)	9.0/8.1/7.8/7.4/10.1	17/17
Output, dBmV (Notes 5 and 6)	52/49.5/47.5/44/35	35/35
Performance Specifications @ Recommended Levels		
Temperature Range: –40 to 60°C		
Carrier-to-Interference Ratio, dB (Note 7)		
Composite Triple Beat	75	80
Second Order Beat (F1 ± F2)	—	—
Cross Modulation (per NCTA std.) (Note 8)	67	74
Third Order Beat (F1 ± F2 ± F3)	—	—
Composite 2IM	73	82
Composite Intermodulation Noise CIN (Note 9)	73	—
Composite Intermodulation Noise CIN (Note 10)	79	—
Noise, 4MHz, 75Ohms (Note 2)	59/58.1/57.8/58.4/59.1	64
Noise Figure, dB (without EQ) (Note 11)	8/8/8/7/9	12

Flex Max901e Bridger Amplifier Sample Specifications

	Forward Bridger (ea)	Return Bridger (ea)
Full Gain, dB (without EQ and ALC)	48	19
Factory Alignment (with ALC Reserve, without EQ)		
Cable Loss, dB @ 1002MHz	23	—
Flat Loss, dB	21	19
Gain Slope, dB	-1.0 to 1.0	—
Flatness (@ Gain Slope), dB (Note 12)	±1.0	±0.5
Return Loss, dB min., all entry ports	16	16
Powering Requirements, max./typ. (Note 13)		With Active Return
AC Voltage, 60Hz		@ 90V @ 60V
AC Power, Watts		45.5/41 45/40
AC Current, mA		670/630 820/740
DC Current, mA @ 24V ± 0.5V		1650/1475 1650/1475
Level Control		
Range, dB @ 1002 MHz	+4/-5 dB	—
Accuracy (-40 to 60°C)	±0.5 dB	—
Pilot Level Range (Note 14)	+5/-3 dB	—
Pilot Frequency Band (recommended) (Note 15)	499.25 MHz (single channel)	—

Specification Document Number 1502213 Rev D

Notes:

- Spacing at highest frequency with SEQ-1G-xx installed. Reverse spacing included losses due to housing, diplex filters and MEQ-42-xx.
- The specifications are based on the amplifier configured (with two SPB-0s) as a 2-output bridger with distribution outputs on Ports 3 and 6. When using distribution plug-ins (SS-1000-2, SDC-1000-8, or SDC-1000-12), levels should be derated accordingly based on the accessory specifications.
- NTSC video channels occupying the appropriate frequency spectrum per specified number of channels.
- Recommended minimum forward input level at 1002MHz including loss due to equalizer.
- Recommended maximum reverse output level at 42MHz including loss due to equalizer.
- At specified operational tilt the maximum output level for 870MHz or 1 GHz loading is 56.5dBmV @ HF.
- Distortion performance is derated accordingly to account for the influence of the digitally compressed channels 6dB below equivalent video channels.
- Cross Modulation specifications number indicates typical cascade performance.
- Systems operating with digitally compressed channels or equivalent broadband noise from 550 to 1002MHz at levels 6dB below equivalent video channels will experience a composite distortion (CIN) appearing as noise in the 54 to 550MHz frequency spectrum.
- Systems operating with digitally compressed channels or equivalent broadband noise from 550-870 MHz at levels 6 dB below equivalent video channels will experience a composite distortion (CIN) appearing as noise in the 54-550 MHz frequency spectrum.
- Noise figure and C/N specifications are typical within specified passband.
- Forward bridger port gain and flatness (Ports 2, 3, and 5 only) is 0 ± 1.0dB as referenced to Port 6. Return bridger port gain and flatness (Ports 2, 3, and 5 only) is 0 ± 0.5 dB as referenced to Port 6.
- Powering requirements indicated are with the Model HEPS790-2.3 power supply 122027-05. See 333995-17 for additional information. For 60VAC Powering: AC Power consumption in Watts divided by a factor of 43 = Amps required. For 90VAC Powering: For £ 67VAC, 1.03 x (AC Power consumption in watts divided by voltage) = Amps required. For 67 - 90VAC, AC Power consumption in watts divided by 65 = Amps required.
- ALC pilot level range is based on a nominal pilot level of 34 dBmV for pilot frequencies ≤ 499.25 MHz or 31 dBmV for pilot frequencies > 499.25 MHz. ARRIS recommends that if the pilot level, from a design standpoint, is more than +2/-1 dBmV from nominal, the ALC PAD should be changed to optimize the ALC pilot level range. This should alleviate any possible ALC setup and/or operation issues due to typical system level variations caused by system components flatness characteristics. See the Flex Max901e equipment manual (P/N 1502154) for correct selection of ALC PAD value to insure proper ALC setup and operation.
- For ALC pilot frequencies of ≤ 499.25 MHz, the ALC pilot filter is a single channel device. This means that the adjacent channels will have no effect on the RF power level that the RF detector is measuring. For ALC pilot frequencies > 499.25 MHz, the ALC pilot filter is not a single channel device. This means that the adjacent QAM channels will have an affect on the RF power level that the RF detector is measuring. ARRIS recommends that the adjacent QAM channels be present on the system before the ALC system of the amplifier station is balanced. This will avoid station re-balance in the future when those QAM channels would be added to the system.
- Specifications are typical for Flex Max901e Bridgers. Contact your ARRIS sales professional for Flex Max901e Trunk specifications.
- Specifications for 870 MHz bridger configurations are available on request (Specification document number 1502214).

Ordering Information

To configure a product that meets your specific needs, or for any questions, please contact your ARRIS Sales Professional. You may also use our Product Wizard, located at support.arrisi.com (User ID and password required). If you do not have a user ID and password or have forgotten your password, please use the Sign In Help section indicated.

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