



SignalOn[®] Series

Active Amplifiers & RF Switches Amplifiers



5RU Chassis
(front view)

Features

- Headend driver amplifiers with bandwidth options of 50-1002, 50-1218 or 5-205 MHz
- Available with high precision F or BNC connectors (1.2 GHz "H" version in F only)
- Use with active 20-position or 8-position chassis
- Front access -20 dB input and output monitor ports, as well as pushbuttons for gain/tilt adjustment with no discontinuity of signal

D3.1/CCAP™
Compliant

1.2 GHz

Specifications

Forward Path Amplifier	20 dB FORWARD AMPLIFIER	30 dB FORWARD AMPLIFIER	30 dB FORWARD AMPLIFIER
BANDWIDTH	50-1002 MHz	50-1002 MHz	50-1218 MHz
MINIMUM RF INPUT⁽¹⁾	+20 dBmV per Channel	+10 dBmV per Channel	+10 dBmV per Channel
MINIMUM FULL GAIN	20 dB	30 dB	30 dB
GAIN FLATNESS	+/- 0.4 dB from 50-870 MHz +/- 0.5 dB from 870-1000 MHz	+/- 0.45 dB from 50-870 MHz +/- 0.65 dB from 870-1000 MHz	+/- 0.45 dB from 50-870 MHz +/- 0.65 dB from 870-1218 MHz
RETURN LOSS, INPUT & OUTPUT PORTS	-19 dB from 50-870 MHz -16.5 dB from 870-1000 MHz	-18 dB from 50-870 MHz -15 dB from 870-1000 MHz	-16 dB from 50-1218 MHz
NOISE FIGURE	7.3 dB from 50-870 MHz 7.6 dB from 870-1000 MHz	5.7 dB from 50-870 MHz 6.2 dB from 870-1000 MHz	6.2 dB from 50-870 MHz 6.7 dB from 870-1218 MHz
GAIN/TILT ADJUSTMENT RANGE	10 +/- 1 dB @ 50 MHz in 0.5 dB Steps	10 +/- 1 dB @ 50 MHz in 0.5 dB Steps	10 +/- 1 dB @ 50 MHz in 0.5 dB Steps
CTB/CSO⁽²⁾	-73/-81 dB		
MONITOR PORTS	-20 +/-1 dB Test Point for both RF Input and RF Output		
OPERATING VOLTAGE/POWER DISSIPATION	24 VDC +/- 5%, 17W (max)		
POWER CONNECTOR	Gold-on-Gold, Slide-on Contacts		
THERMAL SHOCK	Meets MIL-STD-202 Method 107		
OFFICE VIBRATION	Meets GR-63-Core Section 5.4.2		
MECHANICAL SHOCK	Meets MIL-STD-202 Method 213		
ACCELERATED AGING	Meets MIL-STD-202 Method 108		
CERTIFICATIONS	FCC Class A, U/L, NEBS Level 3		

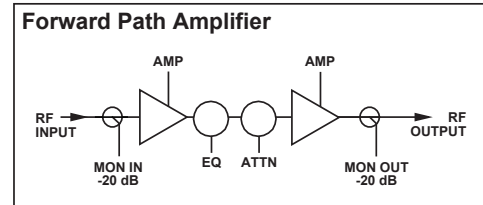
NOTES:

(1) Analog channel input level, regardless of channel load.

(2) Measured with 110 channel loading and optimum RF input level at full gain and no tilt. Specifications are typical worst-case numbers across the given frequency range, unless otherwise noted.

Ordering Information

Part Number	Description
1.218 GHz Forward Path Amplifier Module	
N-MAF30FAH	F Connector, 30 dB, 1.218 GHz
1 GHz Forward Path Amplifier Modules	
N-MAF20FA	F Connector, 20 dB, 1 GHz
N-MAF30FA	F Connector, 30 dB, 1 GHz
N-MAB20FA	BNC Connector, 20 dB, 1 GHz
N-MAB30FA	BNC Connector, 30 dB, 1 GHz



Functional Schematic

Specifications

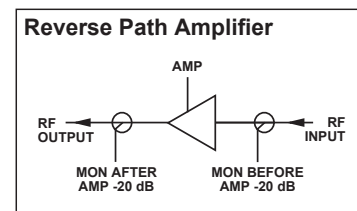
Reverse Path Amplifier

ELECTRICAL (Typical Values Reflected Below)	
MAXIMUM RF INPUT POWER⁽¹⁾ (Before Damage)	+65 dBmV
MAXIMUM RF INPUT POWER⁽¹⁾ (Before Distortion Limits are Exceeded)	+27 dBmV
POWER CONSUMPTION	5.5W (not to exceed 6W)
BANDWIDTH	5-200 MHz 5-250 MHz
IMPEDANCE	75 Ω
RF GAIN	> 22 dB
GAIN FLATNESS	+/- 0.25 dB (from 5-200 MHz) +/- 0.4 dB (from 5-250 MHz)
RETURN LOSS, ALL PORTS	-18 dB
MONITOR LEVEL	-20 dB, +/- 1 dB
NOISE FIGURE	< 5.0 dB
DISTORTION	CTB/CSO⁽²⁾ -69/-67 dBc
ENVIRONMENTAL	
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)
STORAGE TEMPERATURE	-40°C to +70°C (-40°F to +158°F)
OPERATING HUMIDITY	20-55% (without condensation)
STORAGE HUMIDITY	5-95% (without condensation)

NOTES:

(1) Composite RF power level.

(2) Measured with 22 carriers spaced 6 MHz with power out = 49 dBmV per carrier.



Functional Schematic

Specifications

Common Amplifier

COMMON MODULE

PHYSICAL	
DIMENSIONS	8.55"H x 1.67"W x 7.9"D (21.72H x 4.24W x 20.07D cm)
WEIGHT	2.69 lbs (1.22 kg)
ENVIRONMENTAL	
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)
STORAGE TEMPERATURE	-40°C to +70°C (-40°F to +158°F)
OPERATING HUMIDITY	20-55% (without condensation)
STORAGE HUMIDITY	5-95% (without condensation)

Ordering Information

Part Number	Description
Reverse Path Amplifier Modules	
N-MAF22RA	22 dB Fixed Gain, F Connectors
N-MAB22RA	22 dB Fixed Gain, BNC Connectors

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