ATC Broadcast ™ Series

Active Products

Today's broadband services require high-quality headend infrastructure that offers excellent performance, reliability and design flexibility. Furthermore, your infrastructure solution should maximize the uptime of carrier-class services like VoIP, VOD and business-class HSD as applications evolve and your network changes.

Leveraging over a decade of RF amplifier design experience, **ATC Broadcast ™** Series amplifier has been engineered to meet these demanding service requirements. Featuring operation from 50 MHz to 1 GHz, the amplifier offers excellent performance and reliability. SignalOn Series amplifiers and associated power supplies can be housed in the same chassis as the SignalOn Series passive products for increased design flexibility. And with its electronically variable gain and slope controls, you can adjust signal levels in your network with no service downtime.

ATC Broadcast ™ Series

Introduction

Leveraging over a decade of RF Worx amplifier design experience, **ATC Broadcast ™** Series amplifier features 50 MHz to 1 GHz operation with excellent performance. The non-serviceaffecting
gain and slope controls, along with the patented make-before-break attenuator pad design of the splitters and combiners, allow for "hitless" RF signal adjustment - critical for today's carrier-class broadband service applications.

Amplifier Features

- Operation from 50 MHz to 1 GHz
- GaAs technology with near-100% surface mount design for high performance and reliability
- Digitally variable gain and slope control for non-service-affecting signal level adjustments
- Convenient front panel controls
- 20 dB monitor points on both input and output signals for testing and troubleshooting
- "Blind-mate" power bus connector with gold-on-gold contacts; requires no cabling
- Chassis-mounted AC-DC and DC-DC power supply options
- Redundant powering with dual load shared power supplies for increased availability
- External +24VDC powering option

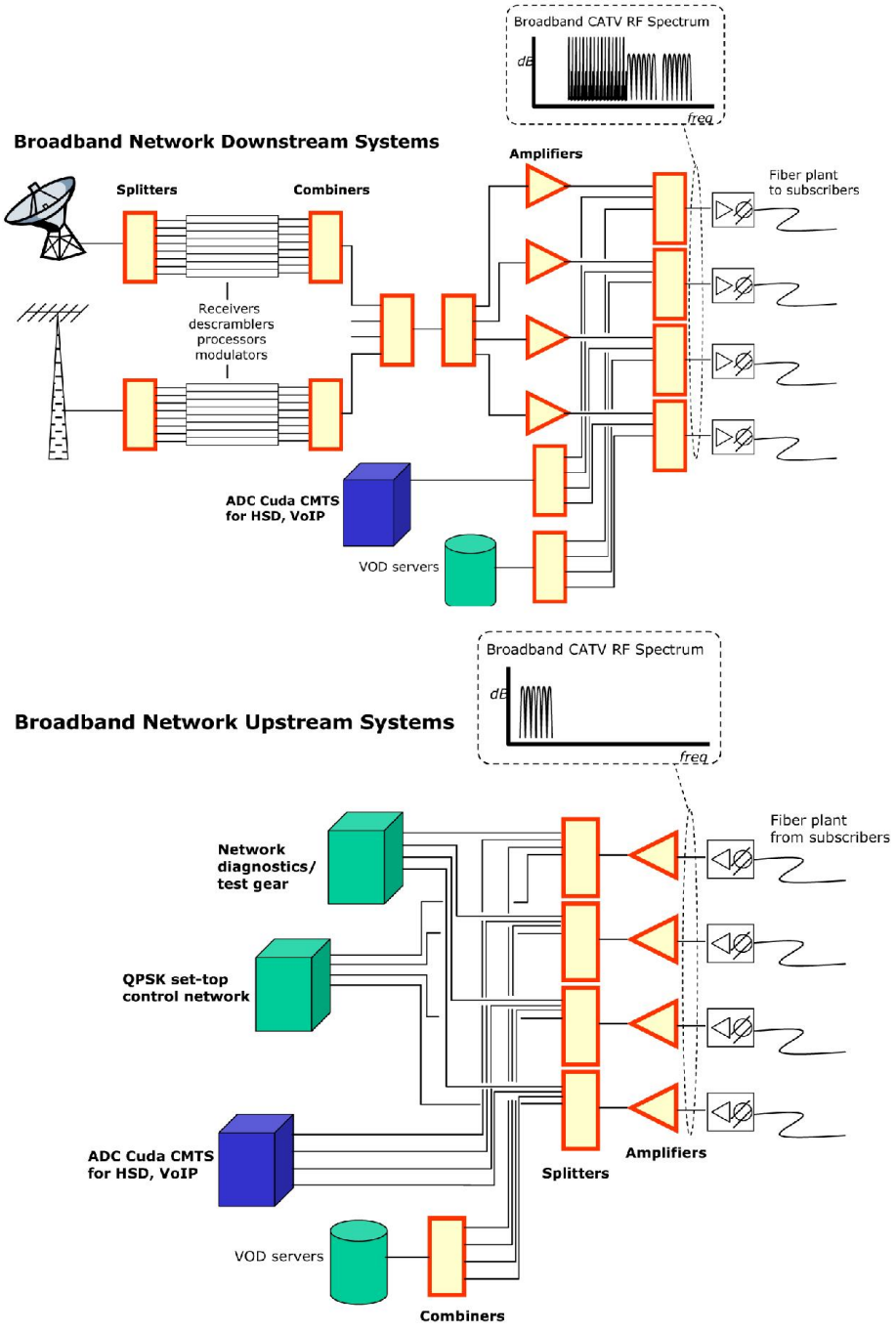
Amplifier, front view

3RU Chassis, front view

3RU Chassis, with active modules

ATC Broadcast ™ Series

Applications



ATC Broadcast ™ Series

Specifications

30dB Forward Path Amplifier Specifications

Performance Attribute	Specifications
Bandwidth	50-1000 MHz
Variable Gain	21-30 dB adjustable in 0.5dB steps
Variable Tilt	0-9 dB adjustable in 0.5dB steps
Gain Flatness	+/- 0.45dB from 50 to 870 MHz +/- 0.65 dB from 870 to 1000 MHz ---MGC00 + SLOPE 00
Return Loss	-18 dB from 50 to 870 MHz -15.0 dB from 870 to 1000 MHz ---MGC00 + SLOPE 00
Noise Figure	5.7 dB from 50 to 870 MHz 6.5 dB from 870 to 1000 MHz -- (MGC00 + SLOPE 00)
Input RF level	5 dBmV ~ 15dBmV each channel
CTB	-84 dBc@ 110 channels/40dBmV output
CSO	-78 dBc@ 110 channels/40dBmV output
XMOD	-78 dBc@ 110 channels/40dBmV output
CNR	60 dBc @ 110 channels/40dBmV output
Hum(Low Frequency Disturbance)	<0.2%
Connecter type	F-Connector
Impedance	75 Ohms
Input and output test	-20dB ±0.8dB
Power Dissipation	<16 Watts
Voltage	24VDC
Operating Temperature	0 –50 Degrees C
Dimensions	2.4cm W x 12.8cm H x 39.5cm D

ATC Broadcast ™ Series

Specifications

Power Supply Specifications

Performance Attributes	Specification	
	AC-DC	DC-DC
Input Voltage	85-264 VAC, 50/60 Hz	36 – 72 VDC nominal
Efficiency	86% nominal	84% nominal
Output Voltage	24 VDC +/- 1%	24 VDC +/- 1%
Output Power	300 Watts	300 Watts
Redundancy	Yes, dual load sharing	Yes, dual load sharing
Dimensions	4.8cm W x 12.8cm H x 39.5cm D (double-wide module)	4.8cm W x 12.8cm H x 39.5cm D (double-wide module)
Power Connector	gold-on-gold, slide-on contacts	gold-on-gold, slide-on contacts
Test Points	24 VDC output test points	24 VDC output test points
Fan	Field Replaceable Unit	Field Replaceable Unit
Alarm Relays	Fan Fail, Output Power Fail	Fan Fail, Output Power Fail

Power Supply, front view

ATC Broadcast ™ Series

Introduction

RF Switch Features

- Continuous monitoring of primary and secondary paths
- Wide power detector range:>50 dBm
- Detects both high and low power failures
- User-selectable switching threshold:±3dB～±10 dB
- Fail-over switching time<10ms
- Front-panel LED status and dual power level displays
- Alarm contact for remote failure monitoring
- Available in BNC and F-Connector configurations,
- Easily configured for redundancy or A-B switch applications.
- Front panel bar graph display provides indication of RF power and switching threshold.
- Indication of switch status provided by front panel LED and rear terminal block contacts.
- Easily configured switching threshold levels via rear DIP switch
- One-step calibration
- Auto switch-back feature to primary input
- Built-in delay to prevent from false switching
- Automatic or Manual modes of operation
- Latching relays in signal path preserves service in case of power failure

RF Switch, front view

ATC Broadcast ™ Series

Specifications

RF Swich Specifications

DESCRIPTION	PARAMETER
Power consumption	1.0 W Max
Impedance	75 Ohms
Frequency Range of operation	5MHz to 1GHz
Frequency Range of detection	50MHz to 1GHz
Operating input level	-18dBm to 12dBm
Insertion Loss	5MHz-870MHz<1.6dB/ 870MHz-1GHz<2.2dB
Flatness	<1dB
Return Loss	5MHz-870MHz>20dB/ 870MHz-1GHz>18.5dB
Switching Threshold	±3dB(±0.5dB)～±10dB(±0.5dB)
Isolation between signal paths	>60dB
Isolation between circuits(Dual unit)	>70dB
Alarm contact rating	1 Amp max
EMI(Near Field)	>90dBc,50 to 1000MHz
EMI-Radiated and conducted emissions CISPR22	Class A

Switch logic

RFSM CONFIGURATION	RELAY ACTION
User has manually selected Path-A	Never switched; always on A
User has manually selected Path-B	Never switched; always on B
Auto-mode: Path-A failure, Path-B is OK	Switched to B
Auto-mode: Path-A failure, Path-B failed	No change
Auto-mode: Path-B failure, Path-A is OK	Switch to A
Auto-mode: Path-B failure, Path-A failed	No change
Auto-mode: RFSM power recovery, Path-A is OK, Path-B no change	Select/Switch to A
Auto-mode: RFSM power recovery, Path-A failed, Path-B is OK	Select/switch to B
Auto-mode: RFSM power recovery, Path-A failed, Path-B failed	No change

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