



Alto series 1+1 L-band Redundant Amplifier with RF monitor ports, variable gain & slope compensation module options (50Ω system)

The Alto series of amplifiers provide excellent RF performance with a wide range of functionality, in a compact chassis. They are designed with hot swap amplifier modules to enhance resilience and flexibility.

Other options in the Alto range: The Alto amplifier range is also available with additional features such as LNB Powering, 10MHz and DC pass, Auto Gain Control and Redundancy configurations up to 4+2.

Typical applications:

- Compensation for passive splitters/combiners and cable loss
- General satcoms – teleports, video head-ends, TVRO

Chassis

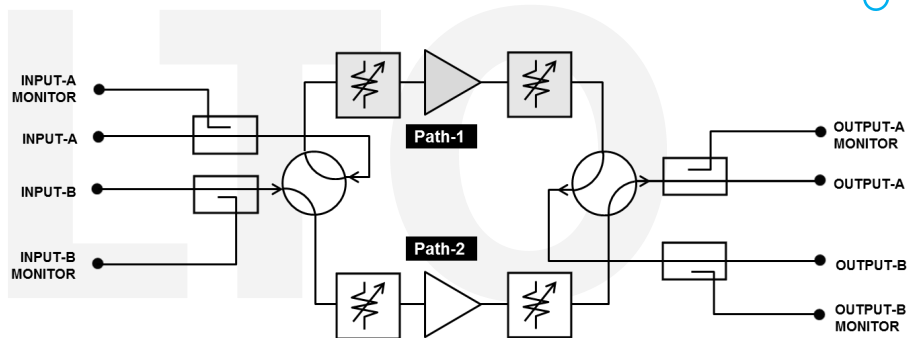
Redundancy configuration Dual 1+1 Redundancy

Monitor ports for input & output signal levels

Resilience from dual redundant hot-swap power supplies & hot-swap amplifier modules

Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface

Local control & monitoring via front panel push buttons & display



Amplifier Module Options

IF & L-band (850 - 2150MHz & 50 - 200MHz) operating frequency range options

Variable gain & slope compensation to balance input signals

Low Noise options for prime signal quality

High Linearity options ensures overall RF gain signal performance is optimised





Chassis - Specification

Model Numbers	ALT-C309-1U-x5x5	
Dimensions	1U high x 450mm deep x 19" wide	
Capacity	2 modules: 1+1 redundant with single input & dual output	
Impedance & RF Connectors	50 Ω BNC / SMA / N-type	
Weight	5 kg	
Colour	White 00-E-55 semi-gloss	
AC Power	85-264Vac 50/60 Hz, Fused 2A	
PSU	Hot-swap, dual redundant, Diode OR	
Power Consumption	< 50W steady state, all modules fitted. Total AC input.	
Local control & monitoring	Via front panel LCD and keypad	
Remote control & monitoring	Ethernet via RJ45, 10BaseT/100BaseTx, ETL TCP/IP protocol, SNMP & web browser interface	
Monitoring	Amplifier bias voltages, amplifier supply voltages, temperature monitoring & PSU status	
Operating Modes	Amplifier Tracking ON - Amplifier gain & slope control is common to all modules in the chassis Amplifier Tracking OFF: Each amplifier can be independently set by operator selected slope & gain setting Redundancy: Redundant amplifier can be set as hot or cold standby amplifier	
MTBF	119,714 hours	
Temperature	Operating: 0 to 45 °C	Storage: -20 to +75 °C Indoor use only
Humidity	20% to 90% non-condensing	Relative humidity

Amplifier Module Options - RF Parameters

Amp Module Model Numbers	ALT-R-L1-006	ALT-R-L1-008	ALT-R-L1-012	ALT-R-L1-019	ALT-R-L1-021	ALT-R-L1-023	ALT-R-L1-028	ALT-R-L1-032	
Frequency Range	850-2150 MHz (L-band)	850-2150 MHz (L-band)	850-2150 MHz (L-band)	850-2150 MHz (L-band)	850-2150 MHz (L-band)	850-2150 MHz (L-band)	850-2150 MHz (L-band)	850-2150 MHz (L-band)	
Gain	Maximum	33 ± 1.5 dB	25 ± 1.5 dB	43 ± 2 dB	43 ± 2 dB	34 ± 1.5 dB	45 ± 2 dB	39 ± 2 dB	
	Minimum	3 ± 1.5 dB	2 ± 1.5 dB	13 ± 2 dB	13 ± 2 dB	7 ± 1.5 dB	15 ± 2 dB	9 ± 2 dB	
Flatness	Full band	± 1 dB	± 1.25 dB	± 1.25 dB	± 1.75 dB	± 1 dB	± 1.5 dB	± 1.75 dB	
	Over 36MHz	± 0.25 dB	± 0.25 dB	± 0.25 dB	± 0.35 dB	± 0.20 dB	± 0.25 dB	± 0.25 dB	
Gain Steps	0.5 ± 0.1 dB	0.5 ± 0.1 dB	1 ± 0.15 dB	1 ± 0.15 dB	0.5 ± 0.1 dB	0.2 ± 0.1 dB	1 ± 0.2 dB	1 ± 0.15 dB	
Input Return Loss	Typical	13 dB	16 dB	16 dB	16 dB	18 dB	16 dB	16 dB	
	Minimum	9 dB	11 dB	10 dB	10 dB	15 dB	12 dB	10 dB	
Output Return Loss	Typical	13 dB	13 dB	16 dB	13 dB	16 dB	16 dB	13 dB	
	Minimum	9 dB	9 dB	10 dB	10 dB	10 dB	12 dB	10 dB	
Slope Control Range	Range: 0 to 7 dB Steps: 1 ± 0.5 dB	Range: 0 to 7 dB Steps: 1 ± 0.5 dB	Range: 0 to 7 dB Steps: 1 ± 0.5 dB	Range: 0 to 7 dB Steps: 1 ± 0.5 dB	-	Range: 0 to 7 dB Steps: 1 ± 0.5 dB	Range: 0 to 7 dB Steps: 1 ± 0.5 dB	Range: 0 to 7 dB Steps: 1 ± 0.5 dB	
Noise Figure	Typical	10.5 dB	11.5 dB	10.5 dB	6 dB	9.5 dB	3.3 dB	5.5 dB	
	Maximum	12 dB	13 dB	12 dB	7.5 dB	11 dBm	4.8 dB	7 dB	
1dB GCP	Typical	14.5 dBm	21.5 dBm	17.5 dBm	28.5 dBm	28.5 dBm	23 dBm	25.5 dBm	
	Minimum	12.5 dBm	19.5 dBm	15.5 dBm	26.5 dBm	27.5 dBm	21 dBm	23.5 dBm	
OIP3	Typical	26.5 dBm	34.5 dBm	37.5 dBm	38.5 dBm	39.5 dBm	34.5 dBm	37.5 dBm	
	Minimum	23.5 dBm	31.5 dBm	34.5 dBm	35.5 dBm	36.5 dBm	31.5 dBm	34.5 dBm	
OIP2	Typical	42.5 dBm	44.5 dBm	48.5 dBm	50.5 dBm	58.5 dBm	45.5 dBm	46.5 dBm	
	Minimum	38.5 dBm	40.5 dBm	44.5 dBm	46.5 dBm	54.5 dBm	41.5 dBm	42.5 dBm	
Isolation	Typical	60 dB							
	Minimum	50 dB							
Max total RF i/p power	20 dBm damage level, not operational				21.5 dBm damage level, not operational				

