



Alto series Dual 1+1 Redundant Amplifier with variable gain (75Ω 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

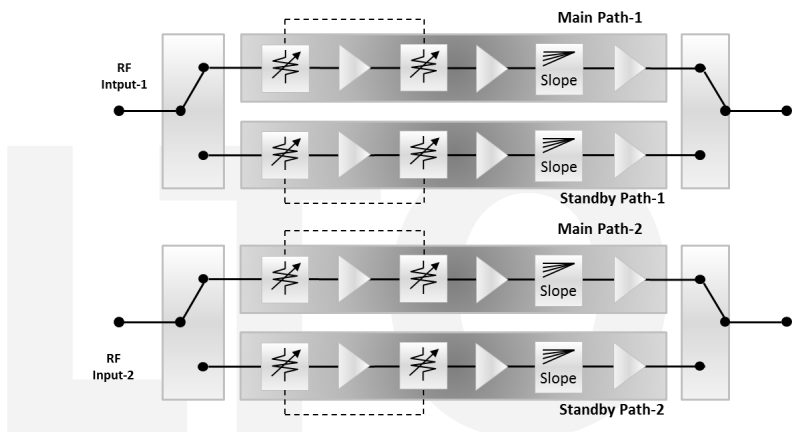
Chassis

 **Redundancy configuration** Dual 1+1 Redundancy


 **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 - 2250MHz & 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-C310-1U-x7x7
Dimensions	1U high x 450mm deep x 19" wide
Capacity	4 modules: Dual 1+1 redundancy
Impedance & RF Connectors	75 Ω BNC / F-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 50 °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-L1-020		ALT-R-F2-013	
Frequency Range (MHz)		850-2150		850-2150		850-2150		850-2150		850-2150		50-200	
Gain (dB)	Maximum	37.00	±1.5	27.00	±1.5	45.00	±2	45.00	±2	37.00	±1.5	39.00	±2
	Minimum	7.00	±1.5	4.00	±1.5	15.00	±2	15.00	±2	7.00	±1.5	9.00	±2
Gain Flatness (dB) pk-pk	full band	±	1.50	±	1.75	±	1.75	±	2.25	±	1.50	±	1.50
	36 MHz	±	0.35	±	0.35	±	0.35	±	0.45	±	0.35	±	0.45
Gain Steps (dB)		0.50	±0.1	0.50	±0.1	1.00	±0.15	1.00	±0.15	0.50	±0.1	1.00	±0.15
Input Return Loss (dB)	Typical	13.00		16.00		16.00		16.00		13.00		16.00	
	Minimum	9.00		11.00		10.00		10.00		9.00		10.00	
Output Return Loss (dB)	Typical	13.00		13.00		16.00		13.00		13.00		16.00	
	Minimum	9.00		9.00		10.00		10.00		9.00		10.00	
Slope Control (dB)	Range	0 to	6.00	0 to	6.00	0	6.00	0	6.00	0	to 6.00	N/A	
	Steps	1.00	±0.25	1.00	±0.25	1.00	±0.25	1.00	±0.25	1.00	±0.25	N/A	
Noise Figure (dB) (@ max gain)	Typical	9.50		10.50		9.50		5.00		9.50		8.50	
	Maximum	11.00		12.00		11.00		7.00		11.00		10.50	
1dB GCP (dBm) (@ max gain)	Typical	16.50		22.50		18.50		29.50		16.50		30.00	
	Minimum	14.50		20.50		16.50		27.50		14.50		28.00	
OIP3 (dBm) (@ max gain)	Typical	27.50		35.50		38.50		39.50		27.50		37.50	
	Minimum	24.50		32.50		35.50		36.50		24.50		34.50	
OIP2 (dBm) (@ max gain)	Typical	43.50		45.50		49.50		51.50		43.50		N/A	
	Minimum	39.50		41.50		45.50		47.50		39.50		N/A	
Isolation (dB)	Typical	60.00		60.00		60.00		60.00		60.00		80.00	
	Minimum	50.00		50.00		50.00		50.00		50.00		60.00	
Max total RF i/p power (dBm)		20.00		20.00		20.00		20.00		20.00		20.00	

