



# Alto series L-band Amplifier Module

with 8-38 dB variable gain, LNB powering, local & remote control & monitoring

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

## Amplifier Module



**L-band (850 - 2150MHz) operating frequency range**



**Variable gain 8 to 38 dB** allows system optimisation and equalisation



**LNB Powering 18V** powering (switchable on/off)

## Chassis Options



**Compact** chassis options, which can house 4 to 16 amplifier modules



**Resilience** from options with dual redundant hot-swap power supplies, hot-swap amplifier modules



**Remote control & monitoring** via RJ45 Ethernet port with SNMP & web browser interface & option with RS232 serial port



**Local control & monitoring** via front panel push buttons & display



**External DC Power** option

Model ALT-C200-1U



Model ALT-C201-2U



Model ALT-C202-2U



Model ALT-C203-2U



Model ALT-C204-2U



Model ALT-C205-2U





Amplifier Module - RF Parameters						
Amp Module Model Number	ALT-S-L1-004					
Frequency Range	850-2150 MHz (L-band)					
RF Connectors & impedance	50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-type	
Flatness	Full Band	±0.75 dB	±0.75 dB	±0.85 dB	±0.85 dB	±1 dB
	Any 36MHz	±0.25 dB	±0.25 dB	±0.25 dB	±0.25 dB	±0.35 dB
Input Return Loss	Typical	18 dB	18 dB	18 dB	14 dB	14 dB
	Minimum	15 dB	15 dB	14 dB	10 dB	8 dB
Output Return Loss	Typical	18 dB	18 dB	18 dB	14 dB	14 dB
	Minimum	15 dB	15 dB	14 dB	10 dB	8 dB
Gain	Maximum	38 ± 1.5 dB	38 ± 1.5 dB	38 ± 1.5 dB	38 ± 1.5 dB	38 ± 2 dB
	Minimum	8 ± 1.5 dB	8 ± 1.5 dB	8 ± 1.5 dB	8 ± 1.5 dB	8 ± 2 dB
Gain steps	0.5 ± 0.1 dB (worst case 0.5 ± 0.25 dB)					
1dB Gain Compression	15 dBm					
Slope Compensation	Range: 0 to 8 dB Settings: 1 ± 0.5 dB					
OIP3	>25 dBm 3rd order intercept point, output power					
OIP2	40 dBm 2nd order intercept point, output power					
Isolation	> 60 dB With amplifiers set at the same gain level. Worst case isolation is between adjacent amps, isolation degrades dB - to - dB for different gain levels					
Reverse Gain	< - 40 dB typical					
Noise Figure	9 dB					
LNB Power	18VDC at 500mA switchable LNB power					
In band, signal independent spuri	<- 85 dBm max Very low level spuri from CPU clock, switch mode PSU and other control electronics inside the chassis.					
Maximum Input Level	+ 20 dBm for no damage, not operational.					
MTBF	> 250,000 hours MTBF of each amp module. These are hot swap					

Chassis Options - Specification						
Amp Chassis Model Numbers	ALT-C200-1U	ALT-C201-2U	ALT-C202-2U	ALT-C203-2U	ALT-C204-2U	ALT-C205-2U
Capacity	Up to 8 modules (4 modules with N-type connectors)	Up to 16 modules (8 modules with N-type connectors)	Up to 16 modules (8 modules with N-type connectors)	Up to 16 modules (8 modules with N-type connectors)	Up to 16 modules (8 modules with N-type connectors)	Up to 16 modules (8 modules with N-type connectors)
Dimensions	1U high x 350mm deep x 19" wide	2U high x 350mm deep x 19" wide	2U high x 450mm deep x 19" wide	2U high x 450mm deep x 19" wide	2U high x 350mm deep x 19" wide	2U high x 450mm deep x 19" wide
Local control & monitoring	Via front panel push buttons & display					
Remote control & monitoring	RJ45 Ethernet, 10BaseT/100BaseTx, ETL TCP/IP protocol, SNMP & Web Browser Interface					
	-	-	RS232/485 serial	-	-	-
Temperature Monitoring	Each amplifier module, CPU board & equipment chassis. As provided by the module.					
PSU Status	Each PSU individually monitored & reported					
Fan Status	-	-	Taco equipped fans, speed monitored	-	-	-
LNB Power	18VDC at 500mA switchable—with suitable module	None	None	18VDC at 500mA switchable—with suitable module	None	18VDC at 500mA switchable—with suitable module
AC Power	85-264Vac 50/60 Hz, Fused 2A					
PSU	Dual redundant, Diode OR	Dual redundant, Diode OR	Dual redundant, Diode OR	External 18V DC	Dual redundant, Diode OR	Dual redundant, Diode OR
Hot-swap PSU	No	No	Yes (from front)	-	Yes	No
Power Consumption	< 100W all channels, LNB off < 200W all channels LNB on	< 100W all channels, LNB off	< 100W all channels, LNB off	< 50W all channels LNB off < 200W all channels LNB on	< 100W all channels, LNB off	TBD
Weight / Colour	6 kg / RAL9003 – White	10 kg / RAL9003 – White	8 kg / RAL9003 – White	8 kg / RAL9003 – White	8 kg / RAL9003 – White	8 kg / RAL9003 – White
Temperature	Operating: 0 to 55 °C / Storage: -20 to +75 °C					
Humidity / Location	20% to 90% non-condensing / Indoor use only					

