



# Alto series L-band Amplifier Module

## Local control only, 0-30 dB variable gain & LNB Powering

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 AGC (automatic gain control), LNB powering, 10MHz and DC pass 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 0-30 dB**

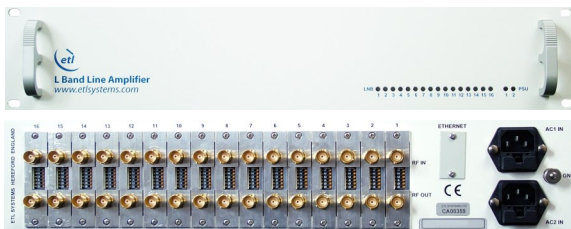


**LNB Powering 18V DC at 500 mA.** Only available with chassis ALT-C102-2U

### Chassis Options



Chassis Model ALT-C100-1U



Chassis Model ALT-C101-2U & Model ALT-C102-2U (with LNB powering)



**Compact** chassis options, which can house 8 to 16 amplifier modules



**Local control & monitoring** via module DIP switches & front panel LEDs



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



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## Amplifier Module Specifications

RF Parameters						
Frequency Range	850-2150 MHz (L-band)					
RF Connectors	50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-type	
Gain	Maximum	30 ± 1.5 dB	30 ± 1.5 dB	30 ± 1.5 dB	38 ± 1.5 dB	30 ± 2 dB
	Minimum	0 ± 1.5 dB	0 ± 1.5 dB	0 ± 1.5 dB	0 ± 1.5 dB	0 ± 2 dB
Flatness	850-2150MHz	±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
Gain Steps	1 ± 0.15 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
1dB Gain Compression	15 dBm (25 dB Gain)					
OIP3	> 25 dBm (25 dB Gain 3rd 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	Typical	7.5 dB (25 dB gain)				
	Maximum	9 dB (25 dB gain)				
In band, signal related spuri	- 85 dBc typical, -70 dBc minimum					
In band, signal independent spuri	- 80 dBm max (Very low level spuri from CPU clock, switch mode PSU and other control electronics inside the chassis)					
MTBF	> 250,000 hours MTBF of each amp module. These are hot swap					
Maximum input level	+20 dBm Absolute maximum					

Environmental	
Operating temperature	0 to 45° C
Location	Indoor use only
Storage temperature	-20° C to +75° C
Humidity	20 to 90% non-condensing

System Control	
Local Control	Via DIL switches on the module

Power	
LNB Power	18V DC at 500mA switchable on/off

RF connector & impedance options
Please add the relevant suffix to the model number to indicate your required connectors: BNC 50 Ω - B5B5 BNC 75 Ω - B7B7 F-type 75 Ω - F7F7 SMA 50 Ω - S5S5

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.

Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

## Chassis Options

Chassis Specifications			
Model Numbers	ALT-C100-1U	ALT-C101-2U	ALT-C102-2U
Dimensions	1U high x 350mm deep x 19" wide	2U high x 450mm deep x 19" wide	2U high x 450mm deep x 19" wide
Capacity	Up to 8 modules (up to 4 modules with N-type connectors)	Up to 16 modules (up to 8 modules with N-type connectors)	Up to 16 modules (up to 8 modules with N-type connectors)
Weight	6 kg Fully populated	8 kg Fully populated	8 kg Fully populated
Colour	White 00-E-55 semi-gloss		
AC Power	85-264Vac 50/60 Hz, Fused 2A		
PSU	Dual redundant, Diode OR. Monitored via front panel LEDs		
Hot-swap PSU	No		
Power Consumption	< 100W all channels		
LNB Power	N/A	N/A	18V DC at 500mA, switchable
Monitoring	Via front panel LEDs for power supplies & amplifier modules		