ETL Systems

Excelling in RF Engineering

Model Number:
ALT-S-S2-014 module
ALT-C200-1U / ALT-C201-2U / ALT-C202-2U / ALT-C203-2U / ALT-C204-2U chassis

Alto series S-band Amplifier Module

with 8-38 dB variable gain, 0-6 dB variable slope compensation, local & remote control & monitoring

The Alto series of amplifiers provide excellent RF performance with a wide range of functionality, in a compact chassis. The 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

S-band (850 - 2500MHz) operating frequency range

Variable gain & slope 8 to 38 dB variable gain, 0 to 6 dB variable slope compensation, allows system optimisation and equalisation

Chassis Options

Compact chassis options, which can house 4 to16 amplifier modules

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

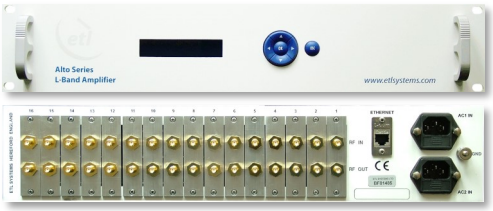
Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface & option with RS232 serial port

Local control & monitoring via front panel push buttons & display

External DC Power option

Model ALT-C200-1U

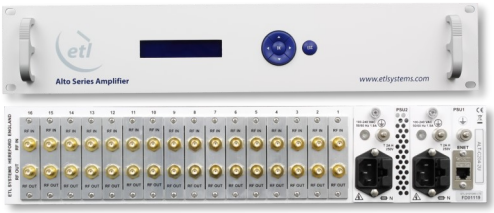
Model ALT-C201-2U



Model ALT-C202-2U

Model ALT-C203-2U

Model ALT-C204-2U



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Amplifier Module - RF Parameters						
Amp Module Model Number		ALT-S-S2-014-xxxx				
Frequency Range		850-2500 MHz (S-band)				
RF Connectors		50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-type
Gain Flatness	Full band	±0.9 dB	±1.0 dB	±1.1 dB	±1.25 dB	±1.5 dB
	Any 36MHz	±0.35 dB	±0.35 dB	±0.40 dB	±0.45 dB	±0.5 dB
Input Return Loss	Typical	18 dB	18 dB	14 dB	13 dB	13 dB
	Minimum	15 dB	15 dB	12 dB	10 dB	8 dB
Output Return Loss	Typical	18 dB	18 dB	14 dB	13 dB	13dB
	Minimum	15 dB	15 dB	12 dB	10 dB	8 dB
Gain (gain settings @ 2150 MHz pivot point)	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 ± 1 dB typical				
1dB Gain Compression @ max gain		15 dBm Typical, 12 Min				
Slope Compensation		Range: 0 to 6 dB Positive slope Settings: 1 ± 0.5 dB Mean slope				
OIP3 @ max gain		> 25 dBm 3rd order intercept point, output power				
OIP2 @ max gain		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 @ max gain		10 dB Typical, 12 dB Max				
In band, signal independent spurii		- 80 dBm max Very low level spurii 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				
Spec Version		1.1				

Chassis Options - Specification					
Amp Chassis Model Numbers	ALT-C200-1U	ALT-C201-2U	ALT-C202-2U	ALT-C203-2U	ALT-C204-2U
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)
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
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
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
Hot-swap PSU	No	No	Yes (from front)	-	Yes
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
Weight / Colour	6 kg / RAL9003 – White	10 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				

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