

AZ128

High Speed Telco Satellite Modulator

Azimuth Product Family

AZIMUTH

SERIES

Description

The AZ128 High Speed Telco Satellite Modulator is to be used in pair with the High Speed Telco Demodulator AZ928 to establish fixed rate 155.52 Mbit/s point-to-point satellite links.

The equipment interconnects seamlessly with standard terrestrial SDH / SONET networks via a STM-1 or OC-3 interface. The satellite transmission can be operated on 54 MHz or 72 MHz transponders.

The modulation is fully compliant with the DVB-S2 standard and provides exceptional power and bandwidth efficiency. When activated, the linear and non-linear predistortion option Equalink™ provides an additional link margin improvement of up to 2dB.

In standard configuration the AZ128 operates with a 16APSK modulation scheme.

At the output of the modulator, the signal is available on an IF-band (50–180 MHz) , L-band (950-1750 MHz) interface. Optionally, it is possible to deliver a 10MHz reference to an external upconverter. A programmable digital equalizer compensates for the external amplitude slope of the cable.

Key features

- 155 Mbit/s transmission on a 54 or 72 MHz satellite transponder
- 16 APSK modulation schemes
- Optional linear and non-linear predistortion (Equalink™)
- Electrical G.703 and optical interfaces
- Full remote control and monitoring capability that easily integrates with market leading network management systems

Main advantages

- Highest link availability: the AZ128 provides the most efficient link budget available on the market
- Lowest operational costs: full SDH/SONET link in a 54 MHz transponder
- Lowest infrastructure cost: the high power efficiency requires smaller antennas

Applications

- Cable restoration
- Cable back up
- Disaster recovery
- Business continuity
- Internet backbone
- WAN interconnection

Related products

AZ928 High Speed Telco Satellite Demodulator

AZ710 Upconverter

AZ730 Up & Downconverter

AZ210 1+1 Modulator Redundancy Switch

Related Documents

White paper "Equalizing and Predistortion: the Equalink concept"
Care Pack Brochure



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Specifications – AZ128_(R6)

Input interfaces

Electrical G.703

connector	BNC female @ 75 ohms
coupling	transformer
line coding	CMI
level	1 Vptp (nom.)

Optical multi mode

connector	SC
fiber	1300 nm multi mode
	62.5/125 mm
spectral width	58 nm rms (typ.)
transmit power	-14 dBm (max.)
	-20 dBm (min.)
received power	-14 dBm (max.)
	-30 dBm (min.)

Optical single mode

connector	SC
fiber	1300 nm single mode
spectral width	7.7 nm rms (max.)
transmit power	-8 dBm (max.)
	-15 dBm (min.)
received power	-8 dBm (max.)
	-31 dBm (min.)

Interface rate

155,52Mbit/s +/-20ppm

Modulation

Satellite baud rate

Modul.	FEC	Rate (Mbaud)
16APSK	8/9	44.14
16APSK	9/10	43.60

Output interfaces

L-band output (default):

- Connector SMA (F), 50 ohms
- Return loss > 10 dB
- Level -50/-7 dBm (+/- 2dB)
- Frequency 950 - 1750 MHz (50 Hz steps)

IF-band (optional):

- Connector BNC (F) - 75 ohms (intermateable with 50 ohms)
- Return loss 50 ohms : > 14 dB
75 ohms : > 20 dB
- Level -30/+5 dBm (± 3 dB)
- Frequency 50 - 180 MHz (50 Hz steps)

L-band monitoring output (default)

- Connector SMA (F), 50 ohms
- Return loss > 7 dB
- Level -45 dBm
- Frequency default: identical to L-band output with option AA-02: 1080 MHz

BUC reference frequency (optional)

- max. current 1,5 A
- voltage 24V
- frequency 10MHz
- stability ±5x10⁻⁸ over 0°C to 65°C

Spurious performance

- better than -65 dBc @ -10 dBm output level

10 MHz reference input / output (optional)

- Connector BNC (F) – 50 ohms
- Input level -3dbm up to 7dBm
- Output level +7dBm

Internal Reference frequency

- High Stability (optional)
Stability ±5x10⁻⁸ over 0°C to 70°C
Ageing: ± 15 ppb/day
± 300 ppb/year
- Very High Stability (optional)
Stability ±2x10⁻⁹ over 0°C to 65°C
Ageing: ± 0.5 ppb/day
± 500 ppb/10 year

Generic

Monitor and control interfaces

- Web based GUI
- Diagnostics report, alarm log
- RMCP over TCP-IP/UDP and RS232/RS485
- SNMP v2c

Alarm interface

- Electrical dual contact closure alarm contacts
- Connector 9-pin sub-D (F)
- Logical interface and general device alarm

Physical

- 1RU, width: 19", depth 51 cm, 6 kg
- Power supply: 90-130 & 180-260 Vac, 105 VA, 47-63 Hz
- Temperature
- Operational: 0°C to 40°C
- Storage: -40 to +70°C
- Humidity: 5% to 85% non-condensing
- CE label

Ordering information

AZ128 High Speed Telco Satellite Modulator		Order n°
Default Configuration		
DVB-S2 16APSK modulator with STM-1/OC-3 interface, SNMP Output interface: L-band (950-1750 MHz)		AZ128
Configuration options¹ Category Max. 1 option per category		
Output Interface	L-band (970-1750 MHz)	Default
	IF(50-180 MHz)	AA-02
	L-band + 10 MHz for BUC	AA-03
Additional options¹ Category Max. 1 option per category		
10 MHz reference In/Out	High stability	GR-01
	Very High stability	GR-02
Predistortion	Equalink [*]	AC-01
Services Category		
Assistance	Care Pack Basic	GA-06
	Care Pack Extended	GA-07

* Upgradeable via license key

¹ Other configurations and options such as RF output modules are available on request. Contact your sales representative for details (sales@newtec.eu).