AZ930
WAN Satellite Demodulator
Azimuth Product Family

Description

The AZ930 is a state-of-the-art satellite demodulator designed for applications where two parts of a Wide Area Network (WAN) are connected over satellite using routers with HSSI interfaces. The AZ930 can be used in conjunction with the WAN Satellite Modulator AZ130.

The AZ930 has a dual L-band input (950-2150 MHz). The active input is selected by the user and can provide DC power and frequency band selection signals compatible with most professional and commercial LNBs. Optionally, one L-band input can be replaced by an IF (50-180 MHz) input.

At the output of the demodulator, the signal is available on an HSSI interface with bit rates up to 52 Mbit/s (standard HSSI) or 110 Mbit/s (extended HSSI).

This demodulator is fully compliant with the DVB-S and DVB-S2 standards and provides exceptional performance and bandwidth efficiency.

The AZ930 is equipped with an adaptive equalizer to compensate linear distortion of the transmission channel.

The integrated Noise & Distortion Estimator tool provides an accurate reading of the satellite link margin even in presence of non-linear distortion and allows the user to find the optimum input back-off setting very easily for 16APSK or 32APSK operation, whether or not non-linear predistortion is applied.

Key features

- DVB-S2 and DVB-DSNG/S compliant
- QPSK, 8PSK, 16APSK and 32APSK
- HSSI interface
- Max data rates up to 52 or 110 Mbit/s
- Adaptive equalizer
- Noise & Distortion Estimator (NoDE) tool
- Optional 10 MHz reference input/output

Main advantages

- Lower operational costs thanks to highest bandwidth efficiency
- High compactness
- Easy integration with standard routers
- Fully compatible with the satellite DVB standards

Applications

- Satellite interconnection of routers
- High speed satellite links

Related products

AZ130 WAN Satellite modulator
AZ290 1+1 Demodulator Redundancy switch
AZ200 Universal Switching system
AZ7x0 Frequency converters

Related Documents

Care Pack Brochure

Related Products

AZ130 WAN Satellite modulator
AZ290 1+1 Demodulator Redundancy switch
AZ200 Universal Switching system
AZ7x0 Frequency converters

Care Pack Brochure
Input interface

**Dual L-band input (default)**
- Connector: 2 x F-type (F), 75 ohms
- Return loss: > 7 dB
- Frequency: 950 - 2150 MHz
- Level: -65 to -25 dBm
- Adjacent signal < (Co + 7) dBm/Hz
  where Co = signal level density

**IF-band input (optional, replaces one L-band input)**
- Connector: BNC (F) - 75 ohms
- Return loss: > 15 dB
- Frequency: 50 - 180 MHz
- Level: -55 to -15 dBm
- Adjacent signal < (Co + 7) dBm/Hz
  where Co = signal level density

**LNB power and control**
- Max. current: 350 mA (on selected IFL input)
- Voltage: 11.5 - 14 V (Horizontal polarization)
- Voltage: 16 - 19 V (Vertical polarization)
- Max. current: 350 mA (on selected IFL input)
- 10 MHz reference input / output (optional)

**Demodulation**

Supported modulation schemes and FEC
- **DVB-S/DSNG:**
  - Outer/Inner FEC: Reed Solomon / Viterbi
  - MODCODs:
    - QPSK: 1/2, 3/4, 5/6, 7/8
    - BPSK: 2/3, 5/6, 8/9
    - 16QAM: 3/4, 7/8
- **DVB-S2:**
  - Outer/Inner FEC: BCH / LDPC
  - MODCODs:
    - QPSK: 1/4, 1/3, 1/2, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
    - 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
    - 16APSK: 2/3, 4/5, 5/6, 8/9, 9/10;
    - 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10

**Baud rate range**
- **DVB-S2**
  - QPSK/BPSK/16APSK: 0.256 – 45 Mbaud
  - 32 APSK: 1-33 Mbaud
- **DVB-S/DSNG**
  - QPSK/BPSK/16QAM: 1-45 Mbaud

**Frame length**
- **DVB-S2 Short Frames**: 16200 bit
- **DVB-S2 Normal Frames**: 64800 bit
- **DVB-S/DSNG**: 188 byte

**Roll-off factor**
- 20% - 25% - 35%

**Specifications - AZ930(R6)**

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<tr>
<th>Short Frames</th>
<th>Normal Frames</th>
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<tbody>
<tr>
<td><strong>DVB-S2</strong></td>
<td><strong>DVB-S2</strong></td>
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<tr>
<td>QPSK 1/2</td>
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<tr>
<td>BPSK 5/6</td>
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<td>BPSK 7/8</td>
<td>8PSK 13/14</td>
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<tr>
<td>BPSK 9/10</td>
<td>8PSK 15/16</td>
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<tr>
<td>16APSK 3/4</td>
<td>16APSK 5/6</td>
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<tr>
<td>16APSK 7/8</td>
<td>16APSK 9/10</td>
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| **DVB-S2**   | **DVB-S2**   |
| QPSK 1/2    | QPSK 3/4    |
| QPSK 5/6    | QPSK 7/8    |
| QPSK 9/10   | QPSK 11/12  |
| QPSK 13/14  | QPSK 15/16  |
| BPSK 1/2    | BPSK 3/4    |
| BPSK 5/6    | BPSK 7/8    |
| BPSK 9/10   | BPSK 11/12  |
| 16APSK 3/4  | 16APSK 5/6  |
| 16APSK 7/8  | 16APSK 9/10 |

**Ordering information**

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**Specifications - AZ930(R6)**

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**Output interface**

**HSSI interface**
- Connector: sub-D (F)
- Rate: 0.05 - 110 Mbit/s
- Output levels: ECL-10 kV (330 ohms; -5 V)
- Input levels: 0.15 - 7 dBm (diff. 110 ohms)

**10 MHz reference input / output (optional)**
- Connector: BNC (F) - 50 ohms
- Input level: -3 dBm up to 7 dBm
- Output level: +7 dBm

**Internal Reference frequency**
- High Stability (optional)
  - Stability: ± 5 x 10^-8 over 0°C to 70°C
  - Ageing: ± 15 ppb/day
  - Very High Stability (optional)
    - Stability: ± 2 x 10^-9 over 0°C to 65°C
    - Ageing: ± 0.5 ppb/day
  - Stability: ± 5 x 10^-9 over 0°C to 70°C
  - Ageing: ± 15 ppb/day

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