

HZ920

Intelligent satellite receiver for DVB-T/H networks

Horizon Product Family

Newtec

horizon

Description

The HZ920 is a professional satellite receiver used in mobile television and terrestrial television networks where the content is distributed to the transmission towers via satellite.

The HZ920 integrates a satellite demodulator, a DVB-S/S2 filtering module and an optional Local Drop module.

The HZ920 receivers are compact units to be installed in each of the remote transmission towers. Each unit integrates all the building blocks necessary to receive one satellite carrier transporting one or several television multiplexes, extract one of these multiplexes and remove other unnecessary TV channels in order to generate one local DVB-T or DVB-H multiplex.

The HZ920 offers the possibility to work in Multistream mode, an advanced feature of the DVB-S2 standard. This technology allows the operator to distribute multiple multiplexes on the same satellite carrier. This Multistream functionality does not affect the content of the multiplexes and is therefore fully compatible with SFN operation. Unlike multiple carrier configurations, this mode of satellite transmission allows operating near transponder saturation and therefore optimizes the bandwidth efficiency.

The integrated Local Drop functionality (option) allows the operator to distribute all local and national content on the same satellite carrier and to arrange the content of the terrestrial multiplexes locally. Without this feature each local multiplex would need to be assembled centrally and distributed separately, increasing the satellite bandwidth cost dramatically.

The HZ920 can be connected directly to terrestrial COFDM modulators via an ASI output.

Key features

- Compliant with DVB-S2 and DVB-S/DSNG
- Compliant with DVB-T and DVB-H
- Operation in MFN and SFN
- Multistream Operation
- Integrated Local Drop function (option)
- Remote management

Main advantages

- Compact and cost-efficient design
- Highest satellite bandwidth efficiency
- Fast and uniform network deployment
- Highest efficient local content distribution
- Easy installation and maintenance
- Easy upgrade to Local Drop

Applications

The core application of Horizon unit is the primary distribution of TV signals to terrestrial towers in mobile TV or Terrestrial TV networks. The HZ920 unit is designed for applications where the COFDM modulator is integrated with the amplifier. It supports the following operation modes:

- Primary distribution of national and regional content
- Distribution of DVB-T or DVB-H services together with other services sent on the same satellite carrier
- Deployment in towers where the multiplex regenerated by the local drop function is fed to a transmitter or to another device.

This product can be installed in any transmission site, from high-power towers to smaller gapfillers.

Related products

AZ810 – Stream Aggregator

HZ914 – Multistream Satellite Receiver

HZ410 – Satellite to terrestrial transceiver for DVB-T/H networks

HZ420 – Intelligent satellite to terrestrial transceiver for DVB-T/H networks

DVB-S2 link budget calculator (free download)

Related documents

Application note - Multistream

White paper - Multistream



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Demodulator part

Max baudrates

- DVB-S2 0,256 - 30 Mbaud (optional up to 45Mbaud)
- DVB-S/DSNG 1- 30 Mbaud (45 Mbaud option)

Supported modcods

- DVB-S2: QPSK, 8PSK, 16APSK (option)
- DVB-S/DSNG: QPSK, 8PSK, 16QAM (option)

Roll-off factor

- 20% - 25% - 35%

L-band input: dual input

- frequency range 950-2150 MHz
- return loss > 79 dB (75 Ohm-MCX(F))
- level signal -25 to -65dBm + 10 log(f) f= Baudrate in Mbaud
- adjacent signal <(Co+7) dBm/Hz, Co=signal level density

LNB power and control

- max. current: 350 mA (on selected L-band input)
- 11.5-14 V (vertical), 16-19 V (horizontal), 22 KHz ± 4 kHz ,DiSeqC

Performance

Performance in DVB-S2:
Measured performance for PER 1E-5 (BER ~ 5E-8), normal frames

Config	Minimum Es/No
QPSK- 1/3	-0.7
QPSK- 2/5	0.2
QPSK- 1/2	1.4
QPSK- 3/5	2.8
QPSK- 2/3	3.6
QPSK- 3/4	4.3
QPSK- 4/5	5.1
QPSK- 5/6	5.5
QPSK- 8/9	6.6
QPSK- 9/10	6.7

Config	Minimum Es/No
8PSK- 3/5	6.3
8PSK- 2/3	7.1
8PSK- 3/4	8.4
8PSK- 5/6	9.7
8PSK- 8/9	11.1
8PSK- 9/10	11.3
16APSK- 2/3	9.6
16APSK- 3/4	10.5
16APSK- 4/5	11.5
16APSK- 5/6	12.1
16APSK- 8/9	13.3
16APSK- 9/10	13.6

Multistream operation

- Compliant with DVB-S2 Multistream CCM or VCM (Optional)
- Extraction of one stream on ASI output

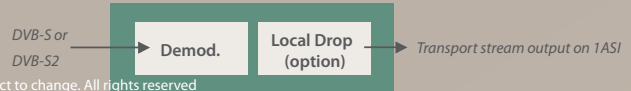
(This feature is only available in DVB-S2 mode.)

Data Interfaces

- 1 ASI output with the stream produced by the local drop module

Local Drop (option)

- Processing of one multiplex per unit
- PID selection and filtering
- TS bit rate adaptation
- SI/PSI table, delta and Time-slicing regeneration
- SFN synchronization



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Generic

Monitor and control interfaces

- Web server GUI (HTTP) via web browser interface: Ethernet 10base-T on RJ-45
- RMCP version 2 interface: 9-pins SUB-D Female
- RMCP v2 (TCP/IP) and SNMP (UDP) interface: Ethernet 10base-T on RJ-45

Alarm interface

- 9-pins SUB-D Female interface
- Output: Generic device and Interface alarms
- Input: separate reset and output muting control

Mechanical

- 1RU, width 19", depth 15,3", 5kg
- Power Supply
- 90-130 and 180-260 Vac, 80VA

Environmental

- Temperature: - Operation 5° to +35°C, - Storage -40° to +70°C
- Humidity: 5% to 85% non-condensing
- CE Label

Ordering information

HZ920 INTELLIGENT SATELLITE RECEIVER		Order n°
Default Configuration		
DVB-S/DSNG/S2 Demodulator, ASI output, Dual L-Band input (950-2150 MHz), CCM Single-Stream, SNMP Modulation & Baud rate: QSPK-8PSK 30Mbaud Local Drop: Ready		HZ920
Configuration options		
Category Max. 1 option per category		
Modulation & Baud rate	QSPK-8PSK 30Mbaud	Default
	QSPK-8PSK 45Mbaud *	HA-02
	QSPK-8PSK-16APSK/16QAM 30Mbaud *	HA-03
	QSPK-8PSK-16APSK/16QAM 45Mbaud *	HA-04
Local Drop	No local drop	Default
	Local Drop DVB-H*	HC-02
	Local drop for DVB-T*	HC-03
	Local drop install after unit delivery (extra)	HC-04
Additional options		
Multistream	CCM, Single Stream	Default
	VCM, Multistream*	HB-02

(*) upgradeable via license key