

BARL 



High-rate data receiver-demodulator

**TRITON HDR**

## Description

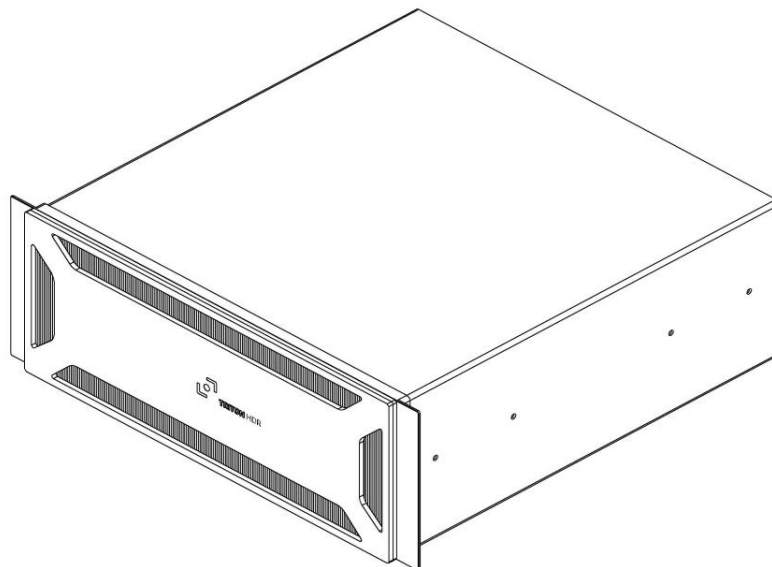
The Triton HDR receiver-demodulator is designed for broadband data reception via several channels at the central intermediate frequency (720 MHz).

This is a versatile device with an ergonomic interface allowing users to configure and store the required radio links parameters.

The Triton HDR software allows working with the receiver in automated mode without operator's participation.

Special software ensures working with the receiver in automatic mode without participation of the operator.

The device is based on a high-performance protected system unit to be mounted in a rack. A console with a monitor and a keyboard can be additionally supplied with the receiver.



# Capabilities

- Creation and saving any configuration
- Display of the signal spectrum
- Display of the signal vector diagram
- Measuring the signal power at the receiver's input
- Calculation of S/N and Eb/NO
- Automatic Doppler-effect compensation
- In-lock indication of carrier frequency, clock frequency, frame-based synchronization and operation of the decoders connected
- BER measuring (with the modulator supplied)
- Writing user-defined filters for post-processing of data received



# Technical Specifications

Parameter	Value
Input frequency band	520 – 720 MHz
Frequency tuning step	1 kHz
Spectrum inversion	Yes
Number of independent channels	One channel in basic configuration, optionally two channels
Types of modulation	BPSK, QPSK, OQPSK, UQPSK, 8PSK, 16APSK (adjusted constellation parameters)
Data reception rate	up to 300 MBd
Energy losses	< 0.5 dB at the rate up to 140 MBd < 0.8 dB at the higher rate
FEC decoders	Viterbi, RS, LDPC 7/8, TPC 4/5*
Frame synchronization	Synchronization word size – 32 bits Adjustable number of sync errors
Control interface	TCP/IP

\* - Viterbi and RS decoders corresponding to CCSDS recommendations

## Advantages

High-rate Triton HDR receivers-demodulators have been manufactured by BARL Research & Production Company since 2008. Currently, these devices are successfully operating both in Russia and abroad, including the regions with harsh climate. Triton HDR has been certified according to Federal System of Certification of Rocket and Space Technology for Scientific and Economic Purposes (FSC RCT) as a product of space technology.

The manufacturer has a full range of certified and time-tested measuring equipment, test programs and procedures.

If necessary, the agreed number and scope of tests can be performed for each device with the direct participation of the Customer.

Our company has engineering and production resources, which allow modifying demodulator's hardware and software, if it is needed for work with specific, non-standard high-rate radio links. Modifications can be made at the earliest convenience according to the agreed terms of reference.

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