

IQDBT105

DVB-T2 & DVB-T Monitoring Receiver

Ideal for continuous monitoring of DVB-T or DVB-T2 transmitters, featuring user-defined PID matching to trigger an alarm for payload and content problems.

The IQDBT105 from Grass Valley provides continuous off-air terrestrial reception of DVB-T and DVB-T2 RF signals, to be used as part of a rebroadcast transmitter system, for example, or for direct monitoring of a transmitter. The IQDBT105 is able to monitor input RF modulation parameters, including Modulation Error Ratio, and also compare the input with a template of modulation parameters stored within the unit to provide an alarm on error conditions.

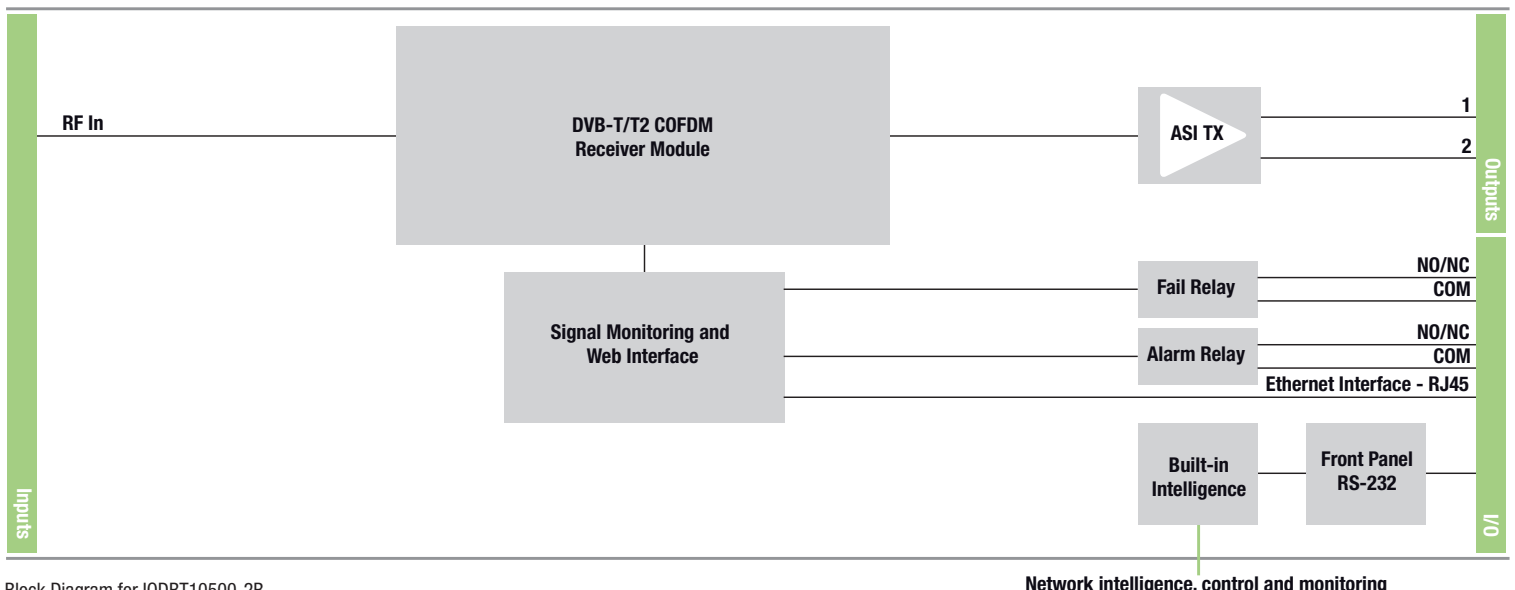
IQDBT105 can be used in conjunction with RollCall network management system for advanced alarm monitoring and control.

Why should you choose this module?

- Ideal as an off-air receiver to provide DVB-T and T2 RF monitoring
- Provides output monitoring for DVB-T or DVB-T2 transmitter sites to check signal parameters and quality
- User-defined PID matching allows transport streams to be monitored for payload and content problems
- Full RollCall and SNMP compatibility allows easy integration with Grass Valley or third-party network management systems, providing an all-inclusive monitoring and control solution

KEY FEATURES

- Receives DVB-T2 RF signals and converts to DVB-ASI output
- Monitors input level, Modulation Error Rate (MER) and lock status to ensure quality of service is maintained
- Able to monitor RF modulation parameters and compare with predefined templates to provide alarms on error conditions
- Seven fixed and eight programmable modulation parameter templates available
- Template parameters include: the FFT in use, Guard Interval, Constellation of PLP and L1 modulation, LDPC ratio of PLP and PAPR reduction in use
- Transport Stream Monitoring is included to monitor PAT conformance and PID presence against a user-defined list of expected PIDs
- Excellent adjacent channel performance (+10 dB), useful for difficult RF environments such as transmitter sites
- Receiver tuning and MER monitoring available via the RollCall Network Management system, with full access to templates and transport stream monitoring via on-board SNMP interface



Block Diagram for IQDBT10500-2B

SPECIFICATIONS

Inputs and Outputs

Signal Inputs

RF:

DVB-T2 (single PLP (mode A) and multi PLP (mode B) to EN 302 755)

DVB-T (EN 300 744)

Return loss: 6 dB typical

Tuning range: 178 MHz to 858 MHz

Input level: -20 dBm to -80 dBm

Tuning step: 125 kHz 7 MHz channel, 166.7 kHz 8 MHz channel

Connector: F-type

DVB-T2 Features

Modulation

Guard interval: 1/4, 19/128, 1/8, 1/32, 1/128, 19/256, 1/16

Code rate: 1/2, 2/3, 3/4, 5/6, 7/8, 3/5, 4/5

Modulation: QPSK, 16QAM, 64QAM, 256QAM

FFT: 1k, 2k, 4k, 8k, 16k, 32k

Modulation status (tested with template):

Selected PLP, Pilot pattern, Constellation, Guard interval, FFT, FEC, Rotation, PAPR, Extended carrier, L1 post signaling, No of T2 frames/superframe, Time interleaving blocks/frame, No of data symbols/T2 frame, FEC blocks/interleaving frame, FEC block length

Modulation status: PLPs present

Modulation ident: Cell ident, T2 system ident, network ident

Measurement and Alarms

Measured parameters:

Input level (dBm), MER (dB), Lock status, Frequency (kHz), Frequency offset, Frequency error (kHz), TS bit rate, Pre LDPC BER, Pre BCH BER, LDPC error ratio, LDPC instantaneous iterations, LDPC error total/period, LDPC samples/period, LDPC mean error rate, Tuner temperature (°C)

Alarm parameters:

TS sync loss, PAT repetition, PID presence against user defined list (up to 6 PIDs checked), Tuned, Alarm relay (summary), RF input level (upper and lower) RF input level, MER (lower), Frequency error (upper and lower), T2 template error; LDPC mean error (upper), LDPC warning (upper), LDPC iteration (upper), Pre LDPC BER (lower), Pre BCH BER (lower), TS bit rate (upper and lower), Receiver lock, Tuner temperature (upper and lower)

DVB-T Features

Modulation

Guard interval: 1/4, 1/8, 1/16, 1/32

Code rate: 1/2, 2/3, 3/4, 5/6, 7/8

Modulation: QPSK, 16QAM, 64QAM

FFT: 2k, 8k

Modulation status: Constellation, COFDM mode, Guard interval, Hierarchy, HP FEC, LP FEC

Measurement and Alarms

Measured parameters:

Input level (dBm), MER (dB), Lock status, Frequency (kHz), Frequency offset, Frequency error (kHz), TS bit rate, BER pre viterbi, BER post viterbi, UCE, UCE total, Tuner temperature (°C)

Alarm parameters:

TS sync loss, PAT repetition, PID presence against user, defined list (up to 6 PIDs checked), Tuned, Alarm relay (summary), RF input level, MER (lower), Frequency error (upper and lower), TS bit rate (upper and lower), BER pre viterbi, BER post viterbi, Receiver lock, Tuner temperature (upper and lower)

Signal Outputs

Serial data: 2 ASI (270 Mb/s)

Power Consumption

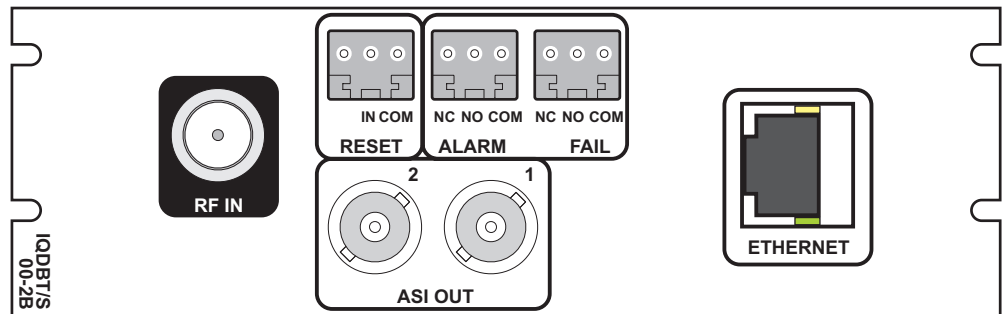
Module power consumption: 4.5 PR (IQH3B Frame)

ORDERING

IQDBT10500-2B

DVB-T2 Terrestrial Receiver. 1 RF input, 2 ASI outputs

For more details on enclosure types please refer to the IQ Modular Enclosures datasheet.



GVB-2-0850A-EN-DS



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