



Snell
Advanced
Media

User Instruction Manual

IQDBT105

DVB-T/T2 Terrestrial Receiver & Monitor

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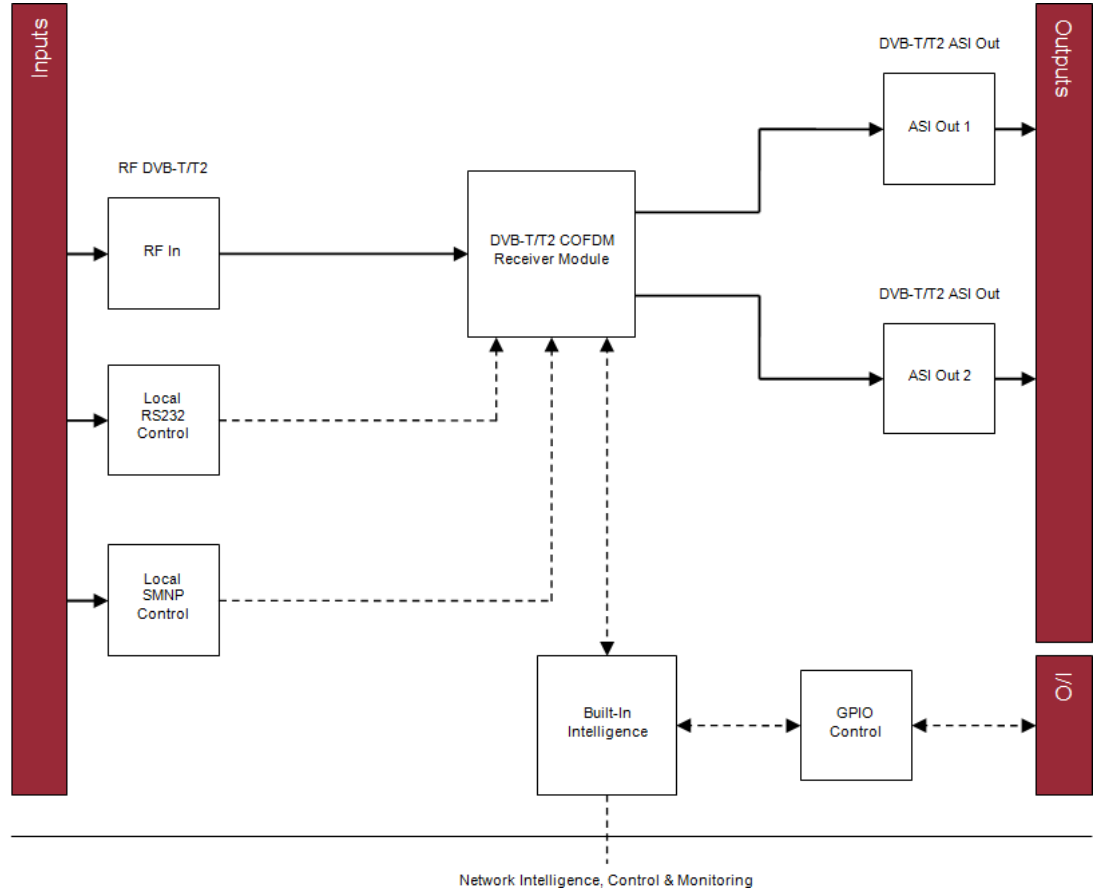
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1 Introduction

1.1 Module Description

The IQDBT105 is a DVB-T/T2 terrestrial receiver, demodulator and monitor. It is used to monitor modulation performance, including Modulation Error Ratio (MER), Low Density Parity Check (LDPC) and RF Input level.

1.2 Block Diagram



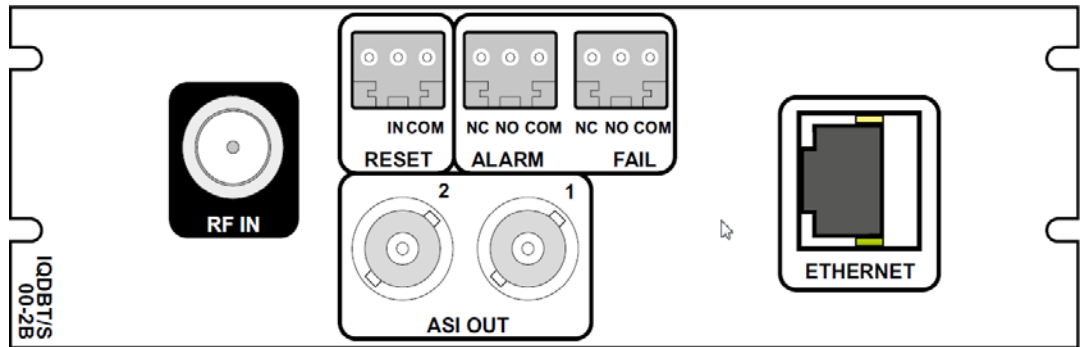
1.3 Order Codes

The following product order codes are covered by this manual:

IQDBT10500-2B Terrestrial DVB-T/T2 Receiver & Monitor

1.4 Rear Panel View

The following rear panel types are available:



IQDBT10500-2B

1.5 Enclosures

The IQDBT105 modules may be fitted only into the enclosures shown below:

Important:

Although IQ modules are interchangeable between enclosures, their rear panels are enclosure-specific. An IQH3B enclosure accepts modules with either “A” or “B” order codes. An IQH3A or IQH1A enclosure accepts modules with “A” order codes only.



IQH3B-S-0, IQH3B-S-P



IQH1A-S-P

1.6 Feature Summary

The IQDBT Terrestrial DVB-T/T2 Receiver & Monitor provides the following features:

- DVB-T and DVB-T2 terrestrial COFDM to DVB-ASI demodulation with dual DVB-ASI outputs
- Covers the frequency bands 178MHz to 858MHz
- Measured parameters for alarms include:
 - RF level
 - Receiver lock status
 - MER
 - LDPC
 - TS bit rate
 - Frequency variation
- RollCall monitoring allows all signal paths to be managed remotely

It is used to monitor modulation performance, including Modulation Error Ratio (MER), Low Density Parity Check (LDPC) and RF Input level. Alarms can be raised if signal performance is out of range.

Status is indicated on the front panel, with advanced control, configuration and measurement functions available via RollCall, Web page or command line access via the serial interface.

1.7 Applications

- Transmitter Relay site monitoring
- DVB-T and DVB-T2 single and multi-service demodulation
- Digital turn-around (DTA) systems
- Signal acquisition for translating or transcoding platforms
- Off-air signal measurement and monitoring with user-defined alarm thresholds

2 Technical Specification

Inputs and Outputs		
Signal Inputs		
Inputs	1 of - RF Terrestrial Feed	
Connector/Format	75R F Type	
Electrical	+5v maximum	
Tuning Range	178 - 858 MHz	
Tuning Step	125KHz 7MHz channel 166.7KHz 8MHz channel	
Input Level	-20dbm - 80dbm	
Input Return Loss	6db typical	
Modulation DVB-T		
Standard	DVB-T in accordance with EN 300 744	
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 DVB-T2		
Standard	Burst or byte mode selectable (DVB-T only)	
Guard Interval	1/4, 19/128, 1/8, 1/32, 1/128, 1/16	
Code Rate	1/2, 2/3, 3/4, 5/6, 7/8, 3/5, 4/5	
Modulation	QPSK, 16QAM, 64 QAM, 256QAM	
FFT	1K, 2K, 4K, 8K, 16K, 32K	
Signal Outputs		
Standard	Burst or byte mode selectable (DVB-T only)	
Outputs	1 of (offered on x2 connectors)	
Electrical	75R, DVB-ASI compliant	
Connector/Format	BNC	
Control Interface		
Relay Output	Standard Snell Screw Terminal	
Electrical	N/O, N/C, COM	
Ethernet	RJ45	
RS232	9-way D-Type	
Indicators	Front Panel	Card Edge
Power	OK	Green
CPU	OK	Green flashing
Input Status	OK	Green
	Fail	Red
Alarm	Red	Lit = present
Locked	Yellow	Lit = unlocked

RollCall Features	
Monitor	Modulation properties and measurements
Configuration	Tuning and alarm configuration
User memories	Not supported
Logging	Inputs Alarms Misc
RollTrack Controls	On/off, Index, Source, Address, Command, Status, Sending
Setup	Versions, reset defaults, restart
Specifications	
Electrical	1 of RF 2 of DVB-ASI compliant transport stream
Connector format	F-Type 75R BNC Standard Snell screw terminal
Startup time	12 sec
Module power consumption	4.5 W max (A frames) 4.5 LU max (B frames)



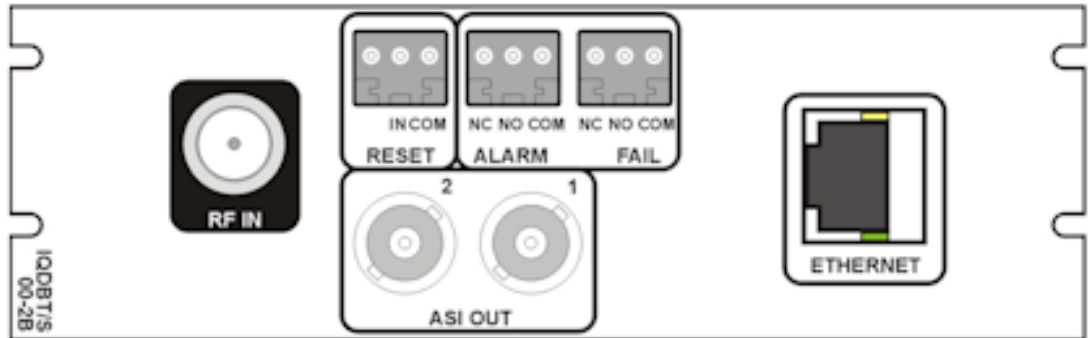
This equipment contains a lithium battery.

There is a danger of explosion if this is replaced incorrectly.

Replace only with the same or equivalent type. Dispose of used batteries according to the instructions of the manufacturer. Batteries should be replaced by trained service technicians only.

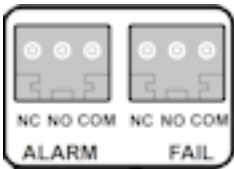
3 Connections

This section describes the physical input and output connections provided by the IQDBT.



3.1 IQDBT10500-2B

3.1.1 Relay Outputs



Screw terminal connectors are provided for the relay outputs. The interface is configured with both Normally Open (NO) or Normally closed (NC) contact arrangements.

Alarm

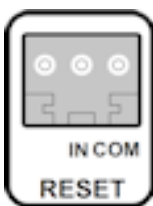
Alarm indicates a recoverable fault condition. There are two possible alarms:

- Alarm event which has been selected on the DVB and TS Configuration pages
- Power supply fault

Fail

Fail indicates a non-recoverable fault condition.

3.1.2 Reset Input



Screw terminal connectors are provided for the reset input. The reset input provides the facility to reset the receiver from an external source, e.g. a relay contact or switch.

3.1.3 RF Inputs



Provides RF signal input with a sensitivity of -20dBm to -80dBm, with a nominal 75R impedance.



The F-Type RF input connector must not be connected directly to an outdoor aerial or cable distribution system. Use a suitable lightning protection device.

3.1.4 ASI Outputs



DVB-ASI compliant transport stream output with nominal 75R impedance.

3.1.5 Ethernet Input



Direct Ethernet connectivity is provided by a standard RJ45 connector.

3.1.6 RS232



An RS232 interface is provided for using a standard D-Type connector with the following pin out:

1. N/C (not connected)
2. Transmit
3. Receive
4. N/C (not connected)
5. GND, signal ground
6. DTR, Data Transmit Ready
7. CTS, Clear To Send
8. RTS, Ready To Send
9. N/C (not connected)

Shell – Chassis ground

4 Operation

There are several methods of controlling the module:

- Connecting directly to the card's Ethernet interface
- Connecting directly to the card's serial interface
- Via RollCall

This allows the card to be deployed in many different ways.

4.1 Tuning & Checking the Receiver


The receiver must be configured in terms of frequency, bandwidth (7 or 8Mhz) and DVB mode (DVB-T or DVB-T2). Correct program content can then be verified using picture and audio monitors connected to a DVB MPEG 2/4 decoder fed from the receiver's ASI TS output.

Note:

If the channel has an offset, an adjustment to the frequency is made. For 8MHz channels, 166 kHz is added for an upper offset, and 166 kHz is subtracted for a lower offset. 125kHz offsets are used for 7MHz bandwidth.

5 Front Panel

The illustration below shows the front panel and its interface.

Front Panel	Indicator	Description
	Alarm	Red - alarm condition met
	Locked	Yellow - locked
	LED101	Green - power good
	LED102	Green (flashing) - processor running

6 RollCall Control Panel

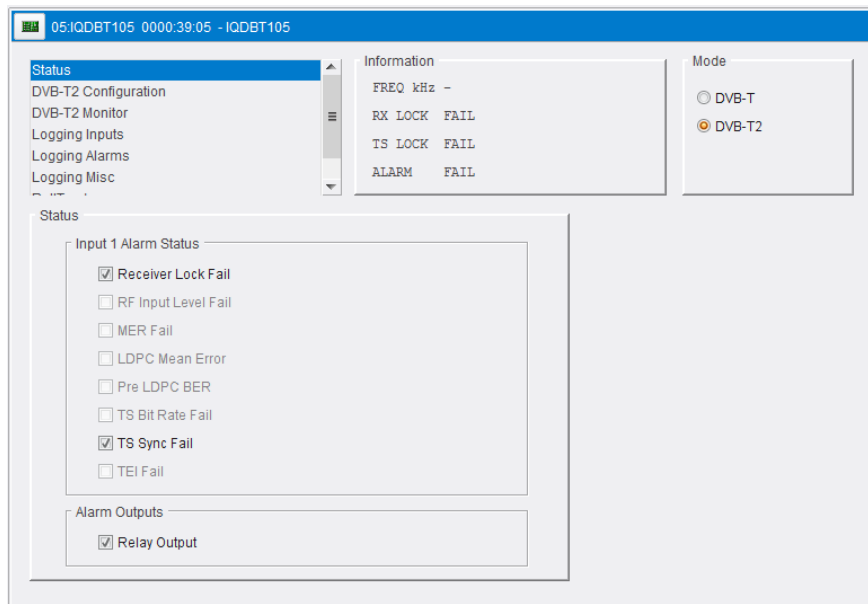
The RollCall Control Panel enables you to control IQ modules through various different screens.

See the *RollCall Control Panel Installation & Operator's Manual* for information about installation and setup of the RollCall Control Panel.

Note: The content and order of the screens shown in this section are for guidance and reference only, and may be slightly different to what you see with your module. The look and functions may also differ slightly from other modules in the range.

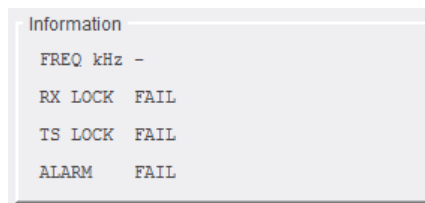
6.1 Information Window

The **Information Window** is displayed in the upper-right of each screen, and is used to select which basic information should be displayed in the Information Pane. The Information Pane displays the status of video inputs and outputs.



6.1.1 Information Pane

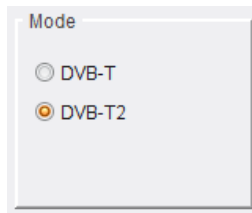
The **Information Pane** shows details of the chosen Frequency, Receiver and Transport Lock, and whether any alarm conditions are present.



Parameter	Value	Description
FREQ kHz	Value in kHz	Selected lock frequency
RX LOCK	OK or FAIL	Receiver lock status
TS LOCK	OK or FAIL	Transport Stream lock status
ALARM	OK or FAIL	Overall alarm condition state

6.2 Mode Selection Pane

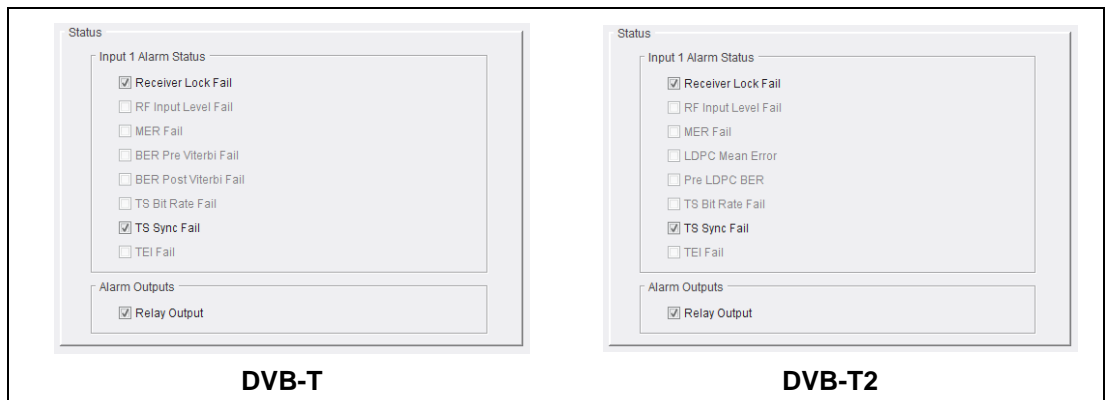
Provided the user has the correct permissions (Engineer or higher), a request can be placed onto the receiver to set the DVB mode using the **Mode Selection pane**. This pane also shows the current mode selected.



Radio Button Value	Description
DVB-T	Sets the receiver to DVB-T or DVB-T2 mode. Updates to reflect the mode currently selected
DVB-T2	

6.3 Status

The **Status** screen provides an overall view of Input and Alarm output status; the context of the pane will change depending on the current receiver mode.



There are two **Status** panes, one for the Alarm input and another for the Relay output. A combination of checkboxes and graying has been used to visually emphasize whether a fail condition is present or not.

Checkbox Property	Description
Grayed & checked	The alarm condition is present, but the alarm is disabled. As for all of the below, refer to the Configuration page (see Section 6.4 Configuration Page) for details on enabling and disabling alarms
Grayed & unchecked	Alarm condition is absent, but alarm is disabled
Enabled & checked	Alarm condition is present, and alarm is sounding
Enabled & unchecked	Alarm condition is present, and alarm is silent

If unchecked and grayed, the alarm is not present; if checked and highlighted, the alarm condition has been met and the alarm is sounding. Any of the alarms detailed below will cause the respective **Alarm LED** on the front panel to turn red.

6.3.1 Input 1 Alarm Status

Alarm	Mode	Description
Receiver Lock Fail	DVB-T, DVB-T2	Is receiver locked?
RF Input Level Fail	DVB-T, DVB-T2	Is RF input level within user-defined limits?
MER Fail	DVB-T, DVB-T2	Is the Modulation Error Ratio (MER) within user-defined limits?
TS Bit Rate	DVB-T, DVB-T2	Is the Transport Stream (TS) bit rate within user-defined limits?
TS Sync Fail	DVB-T, DVB-T2	Indicates loss of incoming transport stream.
TEI Fail	DVB-T, DVB-T2	When enabled, the Transport Error Indicator (TEI) will set an alarm whenever a TS packet is corrupted.
BER Pre Viterbi Fail	DVB-T	Is the Pre-Viterbi value within user-defined limits?
BER Post Viterbi Fail	DVB-T	Is the Post-Viterbi value within user-defined limits?
LDPC Mean Error	DVB-T2	Is the Low Density Parity Check (LDPC) Mean Error value within user-defined limits?
Pre LDPC BER	DVB-T2	Is the Pre-LDPC Mean Error value within user-defined limits?

Note: TEI is particularly relevant to relay sites, and gives early warning that the TS data is corrupted when input RF conditions become marginal. It is strongly recommended that TEI be monitored at a relay site. TEI is normally used in conjunction with MER and LDPC alarms. At a main transmitter site, TEI is not normally used.

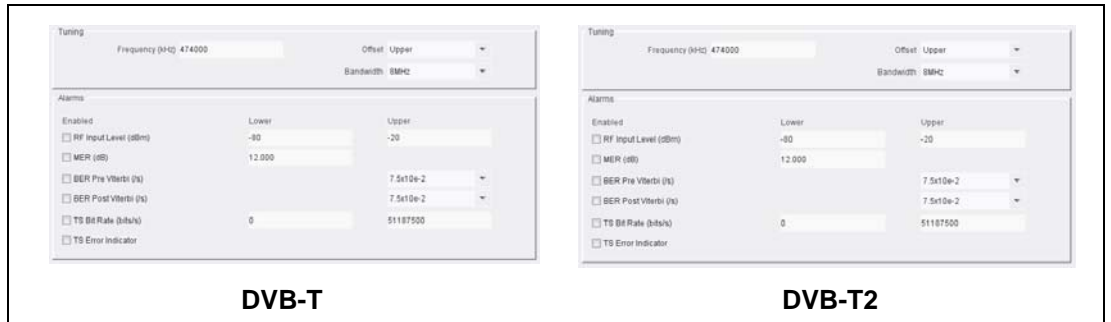
6.3.2 Alarm Output

These panes indicate status of the alarm relay output.

Alarm	Description
Relay	Indicates whether the respective relay is being driven due to an error condition.

6.4 Configuration Page

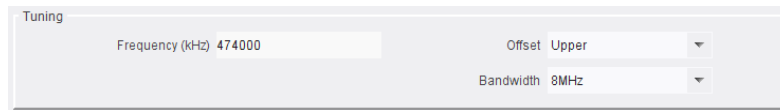
The **Configuration page** is used to configure the product's primary configuration parameters. Different pages are shown for DVB-T and DVB-T2 modes. The appropriate user permissions will be required in order to set the tuning parameters.



Note: The IQDBT does not support auto-tuning. The tuning parameters must be correctly set manually in order for the product to monitor the RF feed.

6.4.1 DVB-T Tuning

This group of controls set the tuning parameters for the receiver. The mode is set using the **Mode** control.



Parameter	Description
Frequency	Receiver frequency
Offset	If the channel has an offset, an adjustment to the frequency is made; for 8MHz channels, 166 kHz is added for an upper offset and 166 kHz is subtracted for a lower offset. 125kHz offsets are used for 7MHz bandwidth
Bandwidth	7 or 8Mhz

6.4.2 DVB-T Configuration

This group of controls allows alarm thresholds to be set, and alarms to be enabled or disabled.

Parameter	Lower	Upper
RF Input Level (dBm)	-80	-20
MER (db)	12.0	
BER Pre Viterbi	Selectable only	
BER Post Viterbi	Selectable only	
TS Bit Rate Indicator (Mb/s)	0	51.1875
TS Error Indicator		

6.4.3 DVB-T2 Tuning

This group of controls sets tuning parameters for the receiver. The mode is set using the **Mode** control.

Parameter	Description
Frequency	Receiver frequency
Offset	If the channel has an offset, an adjustment to the frequency is made; for 8MHz channels, 166 kHz is added for an upper offset and 166 kHz is subtracted for a lower offset. 125kHz offsets are used for 7MHz bandwidth.
Bandwidth	7 or 8Mhz
PLP	Physical Layer Pipe
MER Select	Modulation Error Ratio, Standard or L1-Post

6.4.4 DVB-T2 Configuration

This group of controls allows alarm thresholds to be set, and alarms to be enabled or disabled.

Alarms		
Enabled	Lower	Upper
<input type="checkbox"/> RF Input Level (dBm)	-80	-20
<input type="checkbox"/> MER (dB)	12.000	
<input type="checkbox"/> Pre LDPC BER		7.5x10e-2
<input type="checkbox"/> LDPC Mean Error		15
<input type="checkbox"/> TS Bit Rate (bits/s)	0	51187500
<input type="checkbox"/> TS Error Indicator		

Parameter	Lower	Upper
RF Input Level (dBm)	-80	-20
MER (db)	12.0	
Pre LDPC BER	Selectable only	
LDPC Mean Error	0	15
TS Bit Rate Indicator (Mb/s)	0	51.1875
TS Error Indicator		

6.5 Monitor Page

The **Monitor page** reports all monitored/measured values. There is a monitor page for each of the two modes. Only the current mode's page is shown.

DVB-T

DVB-T2

6.5.1 DVB-T Modulation Properties

Parameter	Values/Units	Description
FEC	1/2, 2/3, 3/4, 5/6, 7/8	Displays the High Priority Forward Error Correction protection scheme (code rate)
Modulation Index	QPSK, 16QAM, 64QAM	Displays the modulation index; often referred to as the constellation
Guard Interval	1/4, 1/8, 1/16, 1/32	Inter symbol gap
FFT Size	2k, 8k	FFT size (k=1,024)
Mode	DVB-T, DVB-T2	Will show DVB-T if the RF feed is DVB-T

6.5.2 DVB-T Measurements

Parameter	Values/Units	Description
RF Input Level	dBm	Reports actual RF input level
Pre-Viterbi BER		Pre-Viterbi decoder error rate
Post-Viterbi BER		Post-Viterbi decoder error rate
TS Bit Rate		Measured TS bit rate
MER (dB)	dB	Modulation Error Ratio
Freq (kHz)	kHz	Receiver frequency required to achieve lock
Freq Error (kHz)	kHz	Difference between the frequency currently set and that required to achieve lock
UCE	Integer	Uncorrected errors - Reed-Solomon errors
UCE Total	Integer	Count of UCEs since last Reset UCE

Note: **UCE Reset** allows the UCE Total count to be reset.

6.5.3 DVB-T2 Modulation Properties

Parameter	Values/Units	Description
FEC	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	Displays FEC code rate of the selected PLP
Modulation Index	QPSK, 16QAM, 64QAM, 256QAM	Displays the modulation index for the selected PLP; often referred to as the constellation
Guard Interval	1K, 2K, 4k, 8K, 16K, 32K	Inter symbol gap
FFT Size	2k, 8k	Displays the current FFT of the selected PLP
Mode	DVB-T, DVB-T2	Will show DVB-T if the RF feed is indeed DVB-T
Number of PLPs		The number of PLPs available

6.5.4 DVB-T2 Measurements

Parameter	Values/Units	Description
RF Input Level	dBm	Reports actual RF input level
Pre-LDPC BER		Reports Pre-LDPC BER
LDPC Mean Error		Reports Mean LDPC BER
TS Bit Rate		The measured TS bit rate
MER (dB)	dB	Modulation Error Ratio
Freq (kHz)	kHz	Receiver frequency required to achieve lock
Freq Error (kHz)	kHz	Difference between the frequency set and that required to achieve lock

6.6 Memories

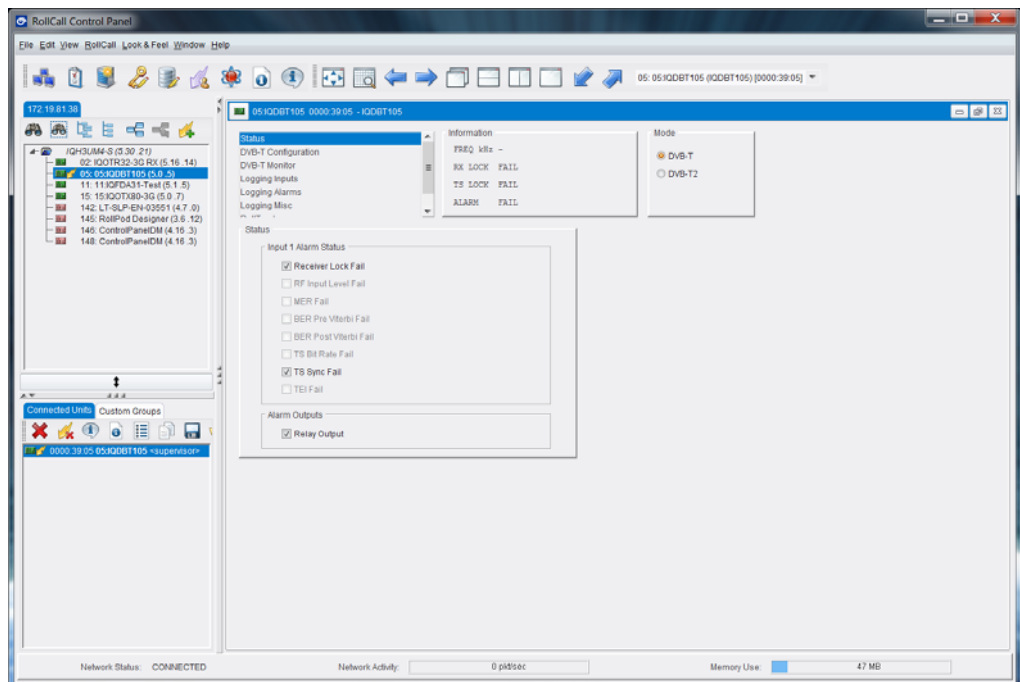
Memories are not available for this product; **Savesets** should be used instead.


6.7 Savesets

Savesets allow the user to save predetermined RollControl fields' product settings to file. These can then be used to either transfer the settings to another card, or used as a backup.


6.7.1 Saving a Saveset

The **Saveset** feature is available via the RollCall Control Panel client.



From the **Connected Units** pane (lower left on the illustration above), select the  icon; choose to save to a file or save to a local Saveset.

6.7.2 Restoring a Saveset

From the **Connected Units** pane (lower left on the illustration above), select the  icon; select either a local Saveset or a saved file to restore.

Note: Restoring a Saveset for this product will take a little time. The time required is dependant on the number of differences between the product's current settings, and those of the Saveset being recalled. A progress bar is provided as an indicator of time remaining.

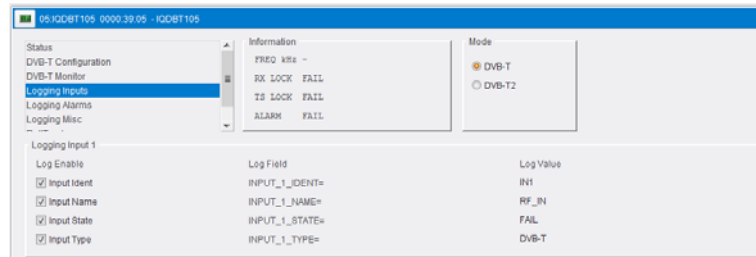
6.8 Logging

Information on several parameters can be made available to a logging device connected to the RollCall network. Each logging screen comprises three columns:

- **Log Enable** - select the checkboxes that correspond to the parameters for which log information should be collected.
- **Log Field** - displays the name of the logging field.
- **Log Value** - displays the current log value.

6.8.1 Logging Inputs

The **Logging Inputs** screen is used to select which fields should be enabled for the each of the two inputs.



Log Field *	Description
INPUT_N_IDENT=	A system defined identifier for the input, based on the rear ID
INPUT_N_NAME=	The name of the input, as defined by the user on the Setup screen
INPUT_N_STATE=	OK - good input signal FAIL - input signal not detected
INPUT_N_TYPE=	DVB-T - DVB-T mode selected DVB-T2 - DVB-T2 mode selected

* Where N is the input number

6.8.2 Logging Alarms

The **Logging Alarms** screen is used to select the fields to be enabled for each of the two inputs. This is the same information as presented for the inputs on the **Status** page. There are both shared and specific logging fields for DVB-T and DVB-T2 modes.

Log Enable	Log Field	Log Value
<input checked="" type="checkbox"/> Rx Lock Alarm	INPUT_1_ALARM_RX_LOCK=	FAIL
<input checked="" type="checkbox"/> RF Level Alarm	INPUT_1_ALARM_RF=	OK
<input checked="" type="checkbox"/> MER Alarm	INPUT_1_ALARM_MER=	OK
<input checked="" type="checkbox"/> TS Bit Rate Alarm	INPUT_1_ALARM_TSBITRATE=	OK
<input checked="" type="checkbox"/> TS Sync Alarm	INPUT_1_ALARM_TSSYNC=	FAIL
<input checked="" type="checkbox"/> TEI Alarm	INPUT_1_ALARM_TEI=	OK
<input checked="" type="checkbox"/> Relay Alarm	INPUT_1_ALARM_RELAY=	FAIL
Logging DVB-T Input 1 Alarms		
Log Enable	Log Field	Log Value
<input checked="" type="checkbox"/> BER Post Viterbi Alarm	INPUT_1_ALARM_POSTVIT=	OK
<input checked="" type="checkbox"/> BER Pre Viterbi Alarm	INPUT_1_ALARM_ALARM_PREVIT=	OK
Logging DVB-T2 Input 1 Alarms		
Log Enable	Log Field	Log Value
<input checked="" type="checkbox"/> LDPC Mean Error Alarm	INPUT_1_ALARM_ALARM_LDPCMEAN=	-
<input checked="" type="checkbox"/> Pre LDPC BER Alarm	INPUT_1_ALARM_LDPCPRE=	-

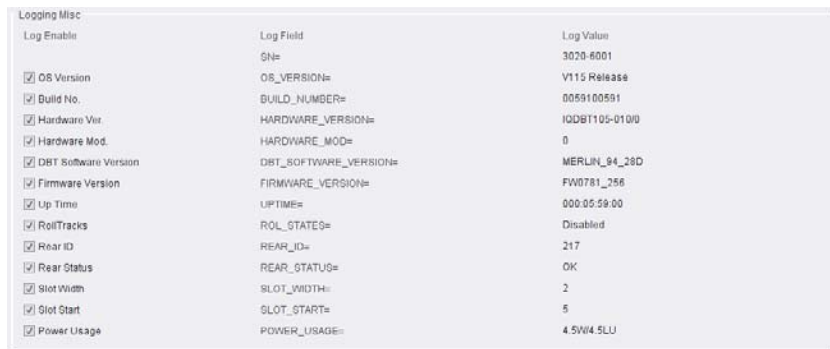
Log Field *	Description
INPUT_N_ALARM_RECEIVER_LOCK= INPUT_N_ALARM_RF= INPUT_N_ALARM_MER_FAIL= INPUT_N_ALARM_TSBITRATE= INPUT_N_ALARM_TSSYNC= INPUT_N_ALARM_TEI= INPUT_N_ALARM_RELAY= INPUT_N_ALARM_POSTVIT= INPUT_N_ALARM_PREVIT= INPUT_N_ALARM_LDPCMEAN= INPUT_N_ALARM_LDPCPRE=	Alarms are as previously described for the Input Status (see section 6.3.1). Alarms will indicate Fail if the parameter is outside of the alarm range, but will only be acted upon if the alarm is enabled in the appropriate Modes configuration page. OK - alarm is silent FAIL - alarm is sounding

* Where *N* is the input number

Note: Turning off an alarm on the **Configuration** page prevents both monitoring and logging of the alarm.

6.8.3 Logging Misc

The **Logging Misc** screen is used to select the fields to be enabled for miscellaneous items.



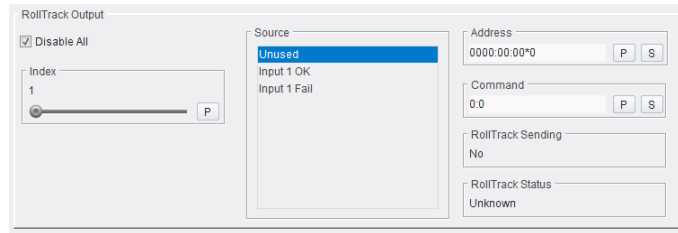
Log Field	Description
SN=	Displays module serial number, which consists of an S followed by eight digits (Note - cannot be deselected)
OS_VERSION=	Displays operating system name and version. For example, KOS V115
BUILD_NUMBER=	Displays build number
HARDWARE_VERSION=	Displays hardware version number
HARDWARE_MOD=	Displays hardware modification level
DBT_SOFTWARE_VERSION=	Displays DBT controller software version
FIRMWARE_VERSION=	Displays controller firmware version
UPTIME=	Displays the time since last restart, in the format ddd:hh:mm:ss

Log Field	Description
ROL_STATES=	OK, Disabled, or FAIL: <RollTrack index>
REAR_ID=	Displays the rear panel type number
REAR_STATUS=	Displays status of the rear panel
SLOT_WIDTH=	Displays the slot width
SLOT_START=	Displays the slot start number
POWER_USAGE=	Displays the power rating for the module. Note this is not a live power reading, rather a maximum rating

6.9 RollTrack

The **RollTrack** screen allows information to be sent via the RollCall™ network to other compatible units connected to the same network.

The **Source window** lists the RollTrack sources:



6.9.1 Disable All

When checked, all RollTrack items are disabled.

6.9.2 RollTrack Index

This slider enables up to 16 distinct RollTrack outputs to be set up. Dragging the slider selects the RollTrack Index number, displayed below the slider. Clicking the **P** button selects the default preset value.

6.9.3 RollTrack Source

Use this slider to select the information source which will trigger data transmission.

Dragging the slider selects the RollTrack source, displayed below the slider. Clicking the **P** button selects the default preset value. When no source is selected, **Unused** is displayed.

RollTrack Source	Description
Unused	No RollTracks sent
Input 1 OK	Input 1 is good
Input 1 Fail	Input 1 is bad

6.9.4 RollTrack Address

This item enables the address of the destination unit to be set.

The address may be changed by typing the new destination in the text area, and then selecting the **S** button to save the selection. Clicking the **P** button returns to the default preset destination.

The RollTrack address consists of four sets of numbers, for example, **0000:10:01*99**:

- The first set (**0000**) is the network segment code number.
- The second set (**10**) is the number identifying the (enclosure/mainframe) unit.
- The third set (**01**) is the slot number in the unit
- The fourth set (**99**) is a user-defined number that is a unique identifier for the destination unit. This ensures that only the intended unit will respond to commands. If left at 00, an incorrectly fitted unit may respond inappropriately.

6.9.5 RollTrack Command

This item enables a command to be sent to the selected destination unit.

The command may be changed by typing a code in the text area and then clicking the **S** button to save the selection. Clicking the **P** button returns to the default preset command.

The RollTrack command consists of two sets of numbers; for example **84:156**:

- The first number (**84**) is the actual RollTrack command.
- The second number (**156**) is the value sent with the RollTrack command.

6.9.6 RollTrack Sending

When the unit is actively sending a RollTrack command, a status message is displayed:

Message	Description
No	Data is not being sent
Yes	Data is being sent

6.9.7 RollTrack Status

A message is displayed here to indicate the status of the currently selected RollTrack index. RollTrack Status messages are:

RollTrack Source	Description
OK	RollTrack message sent and received successfully
Unknown	RollTrack message sent but not yet completed
Timeout	RollTrack message sent but acknowledgement not received. This could be because the destination unit is not at the location specified
Bad	RollTrack message has not been correctly acknowledged at the destination unit. This could be because the destination unit is not of the type specified
Disabled	RollTrack sending is disabled

6.10 Setup

The **Setup** screen displays basic information about the module, such as the serial number and software versions. Use the functions on the screen to restart the module or return all settings to their default or factory values.

Item	Description
Product	Name of the module
Software Version	Currently installed software version number
Serial No	Module serial number
Build	Factory build number. This number identifies all parameters of the module
KOS	Operating system version number
PCB	Printed Circuit Board revision number
Rear Type	Rear panel type
DVB-T/T2 Decoder Software	Installed software version associated with the DVB-T/T2 decoder
DVB-T/T2 Decoder Firmware	Installed firmware version associated with the DVB-T/T2 decoder

6.10.1 Factory Settings

The **Factory Defaults** button allows module settings to be reset to their factory defaults.

6.10.2 Restart

The **Restart** button reboots the module.

6.10.3 Input Name

This is the input name displayed in **Logging Inputs**.

To change the input name, enter the new name into the text field and click **S**. To return the name to its factory default, click **P**.

7 Built-in Web Page

7.1 Ethernet Port Connection

The IQDBT105 can be connected to a PC using an Ethernet cable; it maybe necessary to use a crossover cable to do this, but most PCs nowadays can perform the crossover function internally.

7.2 PC Setup

The PC's Ethernet port must be set correctly. For first-time connection to the IQDBT105, proceed as follows:

1. Ensure that IPv4 has been installed on the PC, and is working correctly.
2. In the IPv4 properties, deselect **Obtain an IP address automatically** and select **Use the following IP address**. Enter **192.168.0.161**.
3. Set the Subnet mask to **255.255.255.0**.

If the default address has been changed, use that instead.

Note: In order to establish a connection, the IP address of the PC must be in the same subnet range as the IQDBT105.

If the IP address is not known, then reset it to its default of **192.168.0.161** by holding the IP reset switch down for more than 5 seconds. The IP Reset switch is located between the Reset status port and RS232 port on the front panel. The IP address can also be set using the RS232 port and the CLI.

7.3 Viewing the Page with a Browser

Enter the IP address of the IQDBT105 into your browser's address field. You will be asked for the user name and password, which are both set to the IQDBT105 by default. The user name and password can be changed using the RS232 port.

Note: In order to establish a connection, the IP address of the PC must be in the same subnet range as the IQDBT105.

8 Command Line Interface

8.1 Overview

The Command Line Interface (CLI) can be used for configuration, monitoring and control. It is provided to facilitate scripting and as an entry point for integration into existing software systems.

This manual considers only the RollCall interface in detail.

8.1.1 Jumpers

Behind the RS232 port mounted on the front panel are four jumpers; by default, these are set to the **RIGHT**, as shown:



If RS232 control is required when using the CLI, the jumpers must be set to the **LEFT**.

8.2 Troubleshooting

8.2.1 Unit Refuses to Lock to Incoming RF

- Ensure that the input RF signal is within specification (-20dBm to -70dBm).
- Check that the correct frequency has been selected.
- Check that the correct channel bandwidth been selected.
- Check that the channel is a DVB-T or DVB-T2 broadcast.
- Check that a valid PLP has been selected (DVB-T2).

If in doubt, go to the **Device Configuration** tab, select **DVB-T** and tune to a known working DVB-T channel.

8.2.2 Picture Blocking and Breakup (Decoder Connected to Receiver ASI Output)

Decoder blocking is frequently caused by a poor RF feed. Open the **T2 Status Summary** and check the following:

- Freq Error (kHz) > 30kHz: has the tuner has been tuned to the wrong frequency, or is an upper or lower offset (± 166 kHz) in use? Re-tune the IQDBT to the correct frequency.
- LDPC Iterations > 7: is the RF input signal low amplitude or subject to interference?
- LDPC > 15: the input RF is extremely poor and on the point of failure.
- MER < 20dB poor input signal: is the input level low?

8.2.3 General Reception Issues

Most reception issues are usually caused by poor RF inputs. Check the following:

- Is the antenna connected?
- Has the antenna feed been split too many ways?
- Is the antenna cable run too long?
- Is the antenna pointed at the transmitter?
- Does the antenna cable have > 5V DC on it?