

IQSDA10/11

Reclocking SD-SDI Distribution Amplifier



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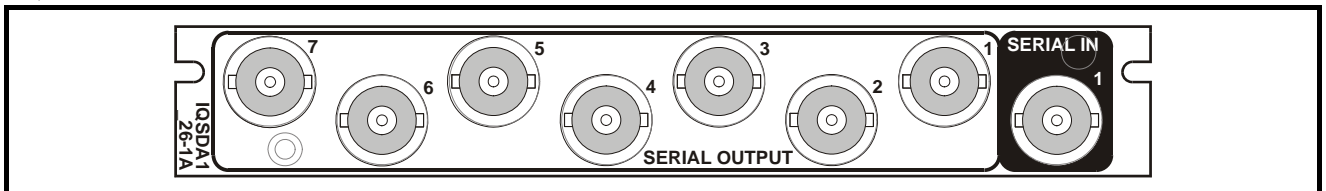
Module Description

The IQSDA10/11 provides up to fifteen re-clocked equalized outputs operating with 270 Mbit/s SDI signals, or seven non-inverting outputs suitable for

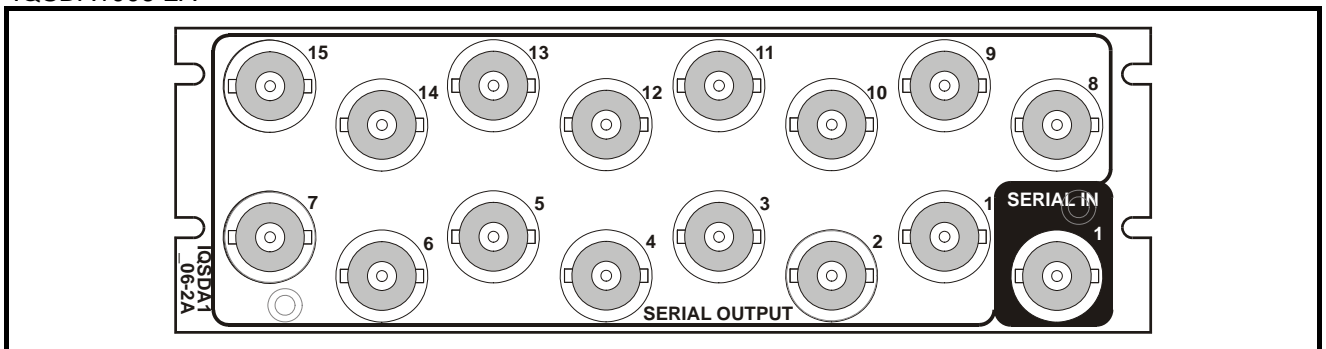
270 Mbit/s DVB-ASI signals. Dual channel version available with three outputs per input.

Rear Panel View

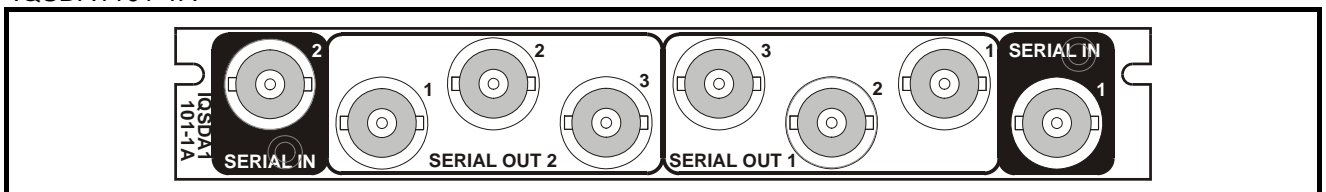
IQSDA1001-1A



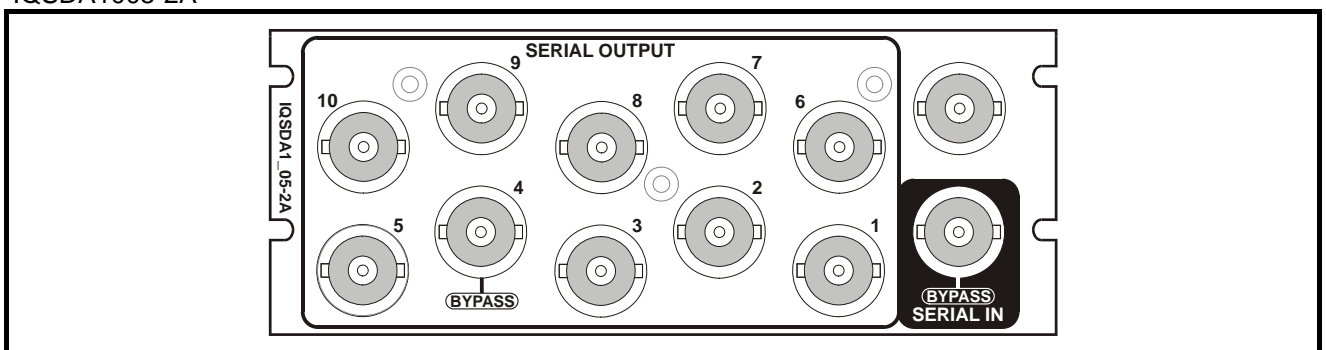
IQSDA1006-2A



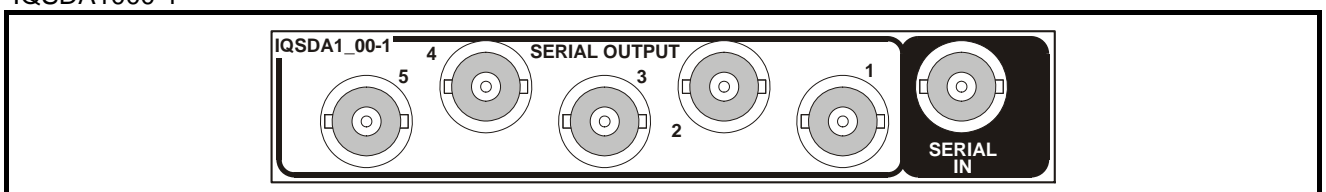
IQSDA1101-1A



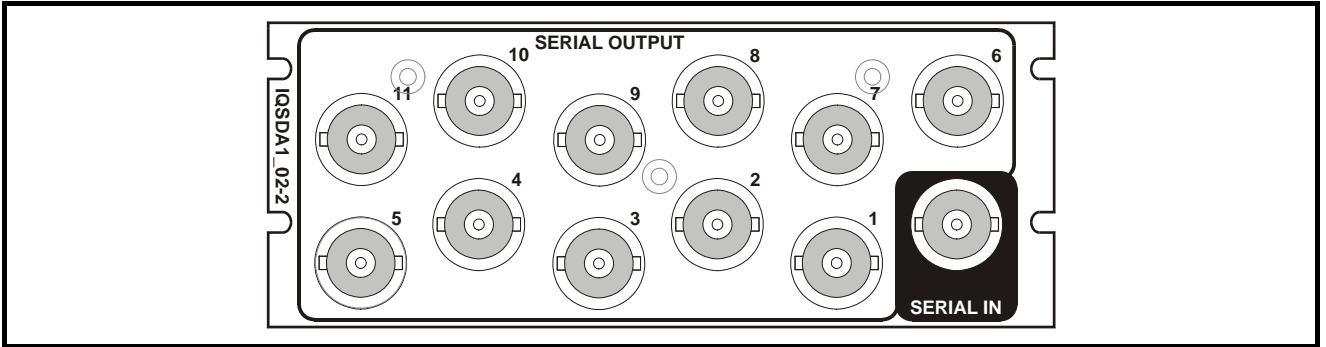
IQSDA1005-2A



IQSDA1000-1



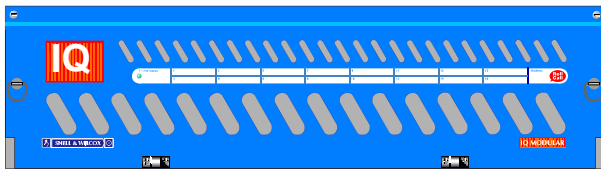
IQSDA1002-2



Note that there are two styles of rear panels available. They are not interchangeable between the two styles of enclosures. However, the cards may be fitted into any style of enclosure.

'A' Style Enclosure

Rear panels **with** the suffix A may only be fitted into the 'A' style enclosure shown below.



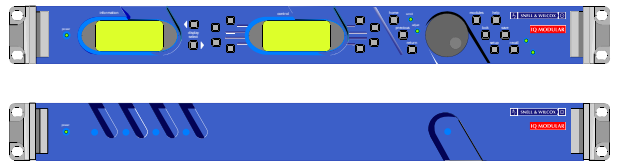
(Enclosure order codes IQH3A-E-0, IQH3A-E-P, IQH3A-0-0, IQH3A-0-P)



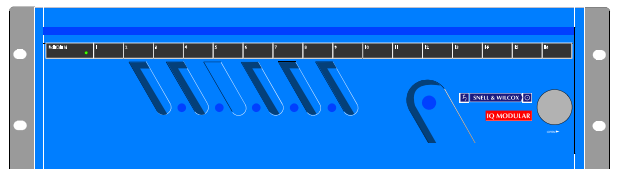
(Enclosure order codes IQH3A-S-0, IQH3A-S-P)

'O' Style Enclosures

Rear panels **without** the suffix A may only be fitted into the 'O' style enclosures shown below.



(Enclosure order codes IQH1S-RC-0, IQH1S-RC-AP, IQH1U-RC-0, IQH1U-RC-AP, Kudos Plus Products)



(Enclosure order codes IQH3N-0, IQH3N-P)



(Enclosure order codes IQH3U-RC-0, IQH3U-RC-P)

This manual covers the following products:

IQSDA1001-1A Reclocking SDI/DVB-ASI DA with RollCall control and monitoring. 1 SDI/DVB-ASI input, 7 SDI/DVB-ASI outputs

IQSDA1006-2A Reclocking SDI DA with RollCall control and monitoring. 1 SDI/DVB-ASI input, 15 SDI outputs (outputs 1–7 DVB-ASI compatible).

IQSDA1101-1A Reclocking SDI DA with RollCall control and monitoring. 2 SDI/DVB-ASI inputs, 3 SDI/DVB-ASI outputs per input

IQSDA1005-2A Reclocking SDI DA with RollCall control and monitoring. 1 SDI/DVB-ASI input, 10 SDI outputs (outputs 1–6 & 9 DVB-ASI compatible), relay bypass for input to output 4.

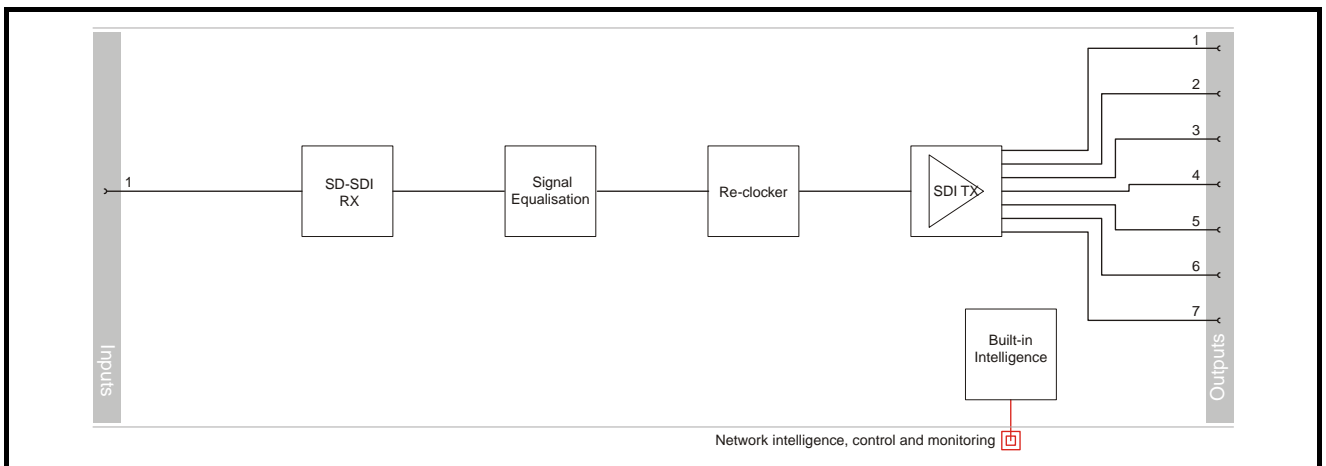
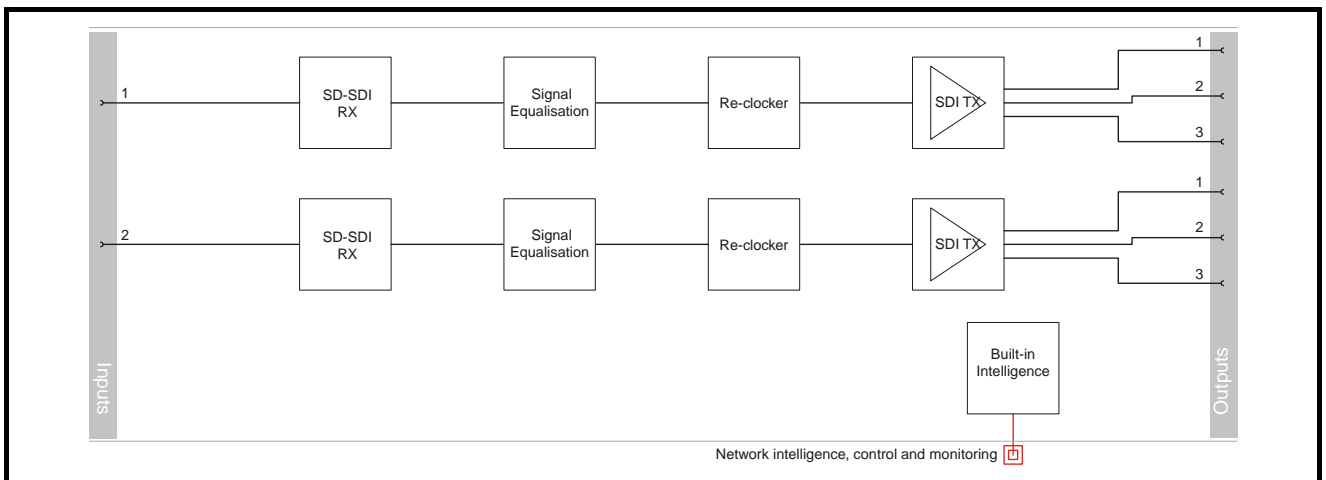
IQSDA1000-1 Reclocking SDI/DVB-ASI DA with RollCall control and monitoring. 1 SDI/DVB-ASI input, 5 SDI/DVB-ASI outputs.

IQSDA1002-2 Reclocking SDI DA with RollCall control and monitoring. 1 SDI/DVB-ASI input, 11 SDI outputs (outputs 1–5 DVB-ASI compatible).

Product Comparison

Product	Inputs	Outputs	Bypass	Width & Style
IQSDA1001-1A	1	7 SDI/DVB-ASI compatible	No	Single A
IQSDA1006-2A	1	8 SDI, 7 SDI/DVB-ASI compatible	No	Double A
IQSDA1101-1A	2	3 per input SDI/DVB-ASI compatible	No	Single A
IQSDA1005-2A	1	3 SDI, 7 SDI/DVB-ASI compatible	Yes	Double A
IQSDA1000-1	1	5 SDI/DVB-ASI compatible	No	Single O
IQSDA1002-2	1	6 SDI, 5 SDI/DVB-ASI compatible	No	Double O

Block Diagrams



Features

- Performs equalization and reclocking of serial 4:2:2 and DVB-ASI signals
- Provides up to 15 buffered outputs for SDI signals and 7 for DVB-ASI signals
- Input equalizer and reclocking allows for use as a line receiver/distribution amplifier
- Input signal loss indicator
- Single and dual channel versions available
- RollCall remote control and monitoring
-

<h1 style="margin: 0;">Technical Profile</h1>

Signal Inputs

Standards.....SMPTE 259M-C-1997, DVB-ASI
 Connector/FormatBNC/75ohm panel jack on standard S&W connector panel

Standards.....SMPTE 259M-C-1997, DVB-ASI
 Connector / FormatBNC/75ohm panel jack on standard S&W connector panel

Note: Do not cascade more than 5 modules when using relay bypass rear panel version

Signal Outputs

Serial DigitalIQSDA1001-1A: 7 SDI/DVB-ASI
 IQSDA1006-2A: 15 SDI (1-7 DVB-ASI compatible)
 IQSDA1005-2A: 10 SDI (1-6 & 9 DVB-ASI compatible), relay bypass on output 4
 IQSDA1000-1: 5 SDI/DVB-ASI
 IQSDA1002-2: 11 SDI (1-5 DVB-ASI compatible)
 IQSDA1101-1A: 3 SDI/DVB-ASI per input

Functions Available via RollCall Only

Input Status.....Present, Loss
 LoggingInput Status
 RollTrack Controls.....On/Off, Index, Source, Address, Command, Status, Sending.
 RollTrack Outputs (1-16).....Unused
 Input OK
 Input Lost

Indicators

StatusOK (Green)
 Warning (Yellow)
 Error (Red)

Specifications

Input Return Loss.....better than 15 dB to 270 MHz
 Maximum Input cable Length
 220 m (up to 150m combined input and output cable length, relay bypass version)
 Output Return Loss.....better than 15 dB to 270 MHz
 Insertion Delay20 ns nominal
 SDI Output Level.....800 mV nominal

Power Consumption

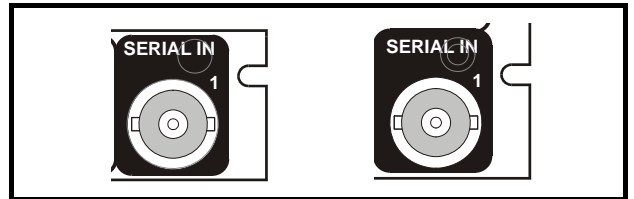
Module Power Consumption
 IQSDA10 – 3 W
 IQSDA10 relay bypass – 3.25 W
 IQSDA11 – 4 W

INPUT CONNECTIONS

Serial Inputs

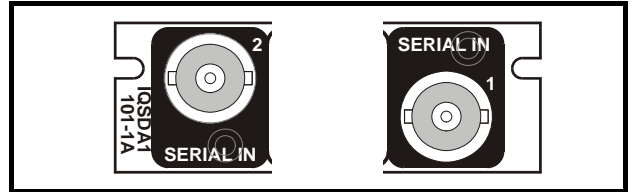
IQSDA1001-1A

The SDI/DVB-ASI input to the unit is made via this BNC connector which terminates in 75 Ohms.



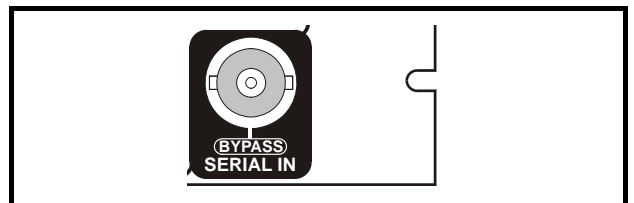
IQSDA1006-2A

The SDI input to the unit is made via this BNC connector which terminates in 75 Ohms.



IQSDA1101-1A

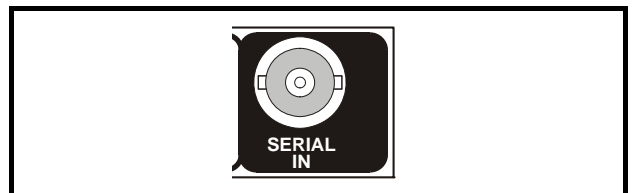
The two SDI/DVB-ASI inputs to the unit are made via these BNC connectors which terminate in 75 Ohms.



IQSDA1005-2A

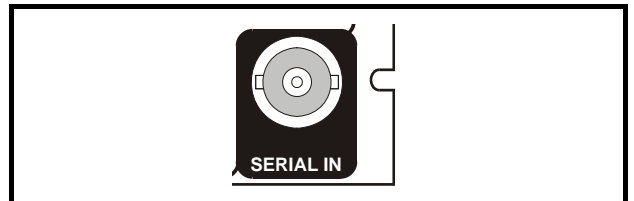
The serial digital input to the unit is made via this BNC connector which terminates in 75 Ohms.

Note that this module has a rear panel with a relay bypass function. If power is lost to the module or the module is removed from the enclosure the input will be routed to output 4.



IQSDA1001-1

The SDI/DVB-ASI input to the unit is made via this BNC connector which terminates in 75 Ohms.



IQSDA1002-2

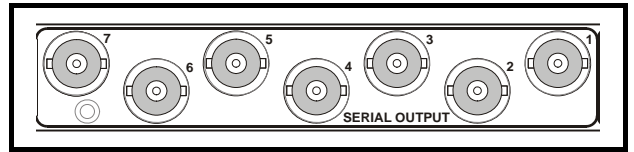
The SDI input to the unit is made via this BNC connector which terminates in 75 Ohms.

OUTPUTS

Serial Digital Video Outputs

IQSDA1001-1A

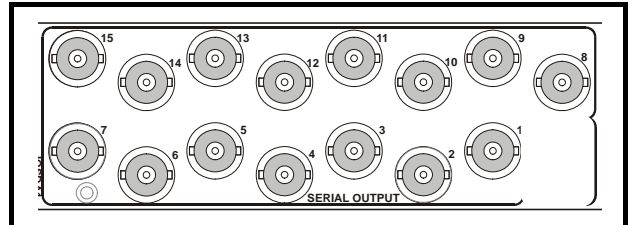
These are the seven SDI/DVB-ASI outputs of the unit via BNC connectors for 75 Ohms.



IQSDA1006-2A

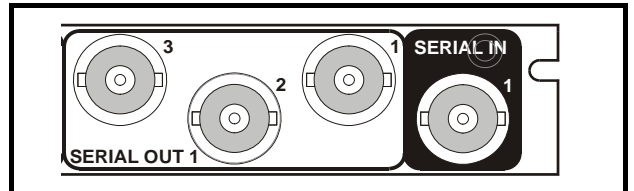
These are the fifteen SDI outputs of the unit via BNC connectors for 75 Ohms.

Note that outputs 1 to 7 are SDI/DVB-ASI compatible.



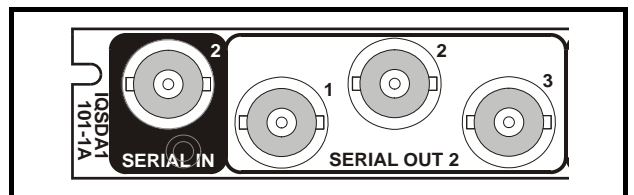
IQSDA1101-1A Serial Out 1

These are the three SDI/DVB-ASI outputs of Input 1 via BNC connectors for 75 Ohms.



IQSDA1101-1A Serial Out 2

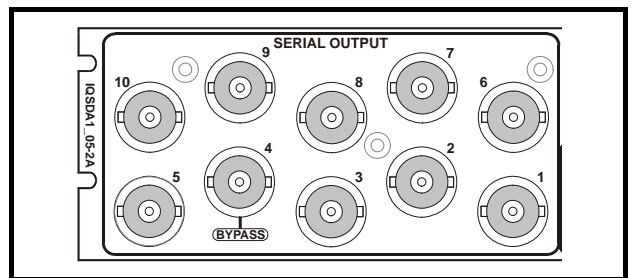
These are the three SDI/DVB-ASI outputs of Input 2 via BNC connectors for 75 Ohms.



IQSDA1005-2A

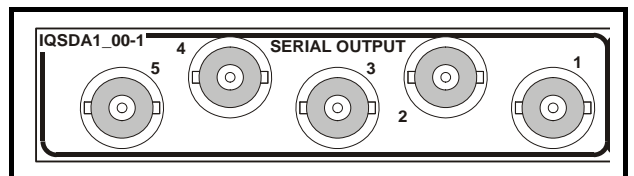
These are the ten SDI outputs of the unit via BNC connectors for 75 Ohms.

Note that this module has a rear panel with a relay bypass function. If power is lost to the module or the module is removed from the enclosure the input will be routed to output 4.



IQSDA1001-1

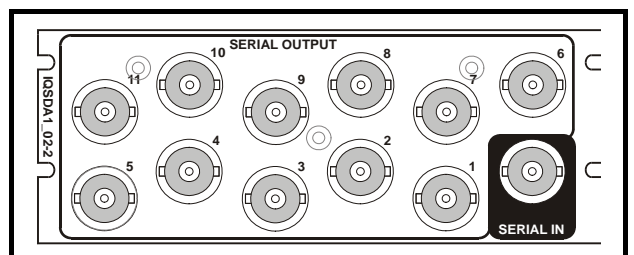
These are the five SDI/DVB-ASI outputs of the unit via BNC connectors for 75 Ohms.



IQSDA1002-2

These are the eleven SDI outputs of the unit via BNC connectors for 75 Ohms.

Note that outputs 1 to 5 are SDI/DVB-ASI compatible.



CARD EDGE INDICATORS

IQSDA1001-1A and IQSDA1006-2A

D1 OK (Green)

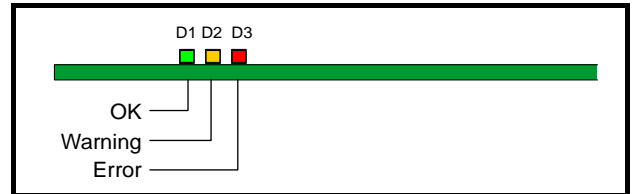
This LED will be illuminated when any digital signal is present.

D2 Warning (Amber)

This LED will be illuminated if the unit is not receiving an input signal.

D3 Error (Red)

This LED will be illuminated if an internal operating error occurs.



IQSDA1101-1A

D1 OK (Green)

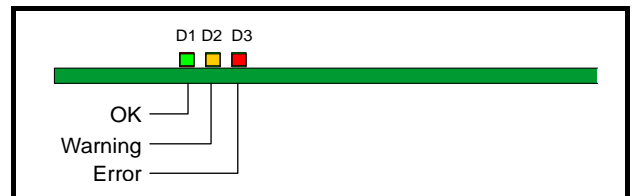
This LED will be illuminated if either input is present.

D2 Warning (Amber)

This LED will be illuminated if both inputs are missing.

D3 Error (Red)

This LED will be illuminated if an internal operating error occurs.



RollCall PC Control Panel Screens

Control

This function allows information to be sent, via the RollCall™ network, to other compatible units connected on the same network.

RollTrack Index

This item allows up to 16 (0 to 15) destinations to be selected.

RollTrack Source (SDA11)

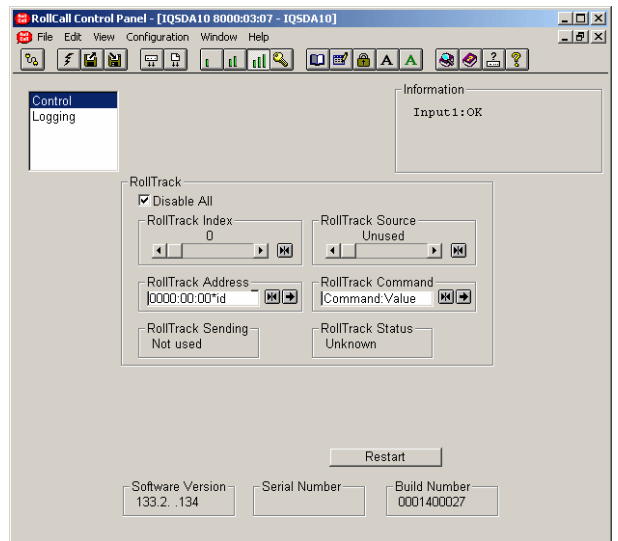
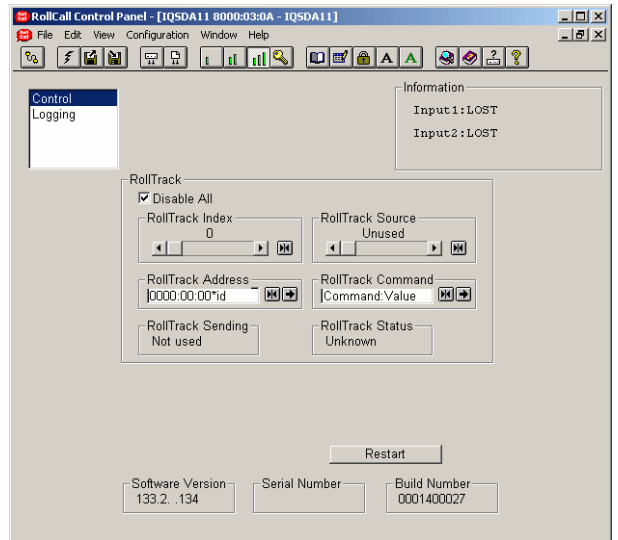
This allows the source of information that triggers the transmission of data to be selected. Options are:

Unused
Input 1 Present
Input 1 Missing
Input 2 Present
Input 2 Missing

RollTrack Source (SDA10)

This allows the source of information that triggers the transmission of data to be selected. Options are:


Unused
Input 1 Present
Input 1 Missing




Control (continued)

The destination for the information is set by the network code address as follows:

RollTrack Address This item allows the address of the selected destination unit to be set.

To change the address, type the new destination in the text area and then select  (return).

 (Preset) returns to the default destination

The full **RollTrack** address has 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 settable number that is a unique identification number for the destination unit in a multi-unit system. This ensures that only the correct unit will respond to the command. If left at 00 an incorrectly fitted unit may respond inappropriately.

RollTrack Command The full **RollTrack** command has two sets of numbers

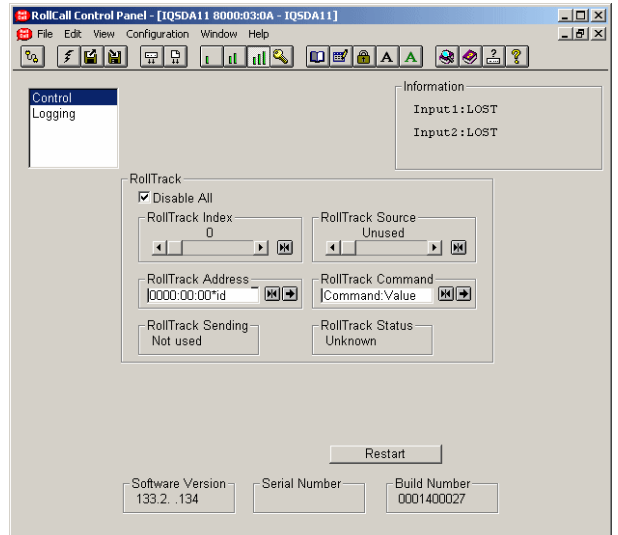
For example: 84*156

The first set (84) is the **RollTrack** command number

The second set (156) is the value sent with the **RollTrack** command number

Disable All

When this item is checked all RollTrack items will be disabled.



RollTrack Sending

This item shows when the unit is actively sending the RollTrack command.

This may show:

- Not Used The function is not being used.
- String A string value is always being sent.
- Number A number value is always being sent.
- No The message is not being sent.
- Yes The message is being sent.
- Internal Inconsistent behavior; please contact your local Snell & Wilcox agent.
- Type Error

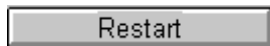
RollTrack Status

This item will show the status of the currently selected RollTrack index.

This may show:

- OK RollTrack message sent and received OK.
- Unknown Rolltrack message has been sent but it has not yet completed.
- Timeout RollTrack message sent but acknowledgement not received. This could be because the destination unit is not at the location specified.
- Error This indicates a broken RollCall state.
- Bad This indicates a broken RollCall packet.

Control (continued)



This will reboot the unit simulating a power-down power-up cycle restoring power-up settings.

Software Version

This item shows the version of the software fitted in the module.

Serial Number

This item shows the serial number of the module

Build Number

This will indicate the factory build number. This number defines all parameters of the unit (software versions, build level etc.) for identification purposes.

Information

The information window will display abbreviated information about the status of the module.

Input 1 and Input 2 (SDA11)

This will show the status of the two inputs. It may show:

Input 1(2): OK The unit is receiving an input signal.

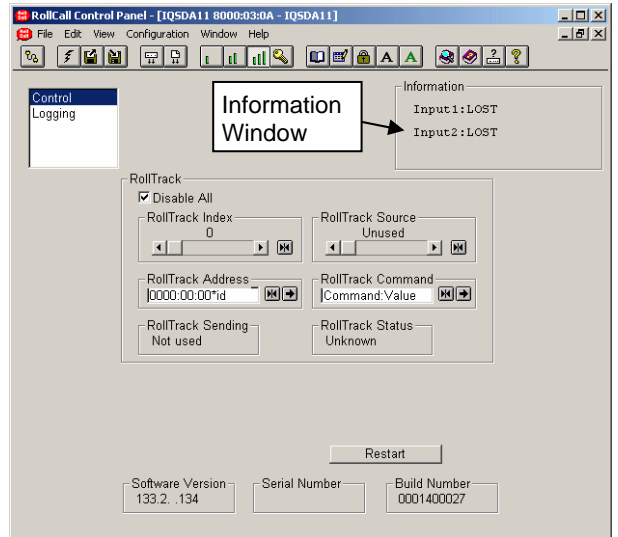
Input 1(2): Lost The unit is not receiving an input signal.

Input 1 (SDA10)

This will show the status of the input. It may show:

Input 1: OK The unit is receiving an input signal.

Input 1: Lost The unit is not receiving an input signal.

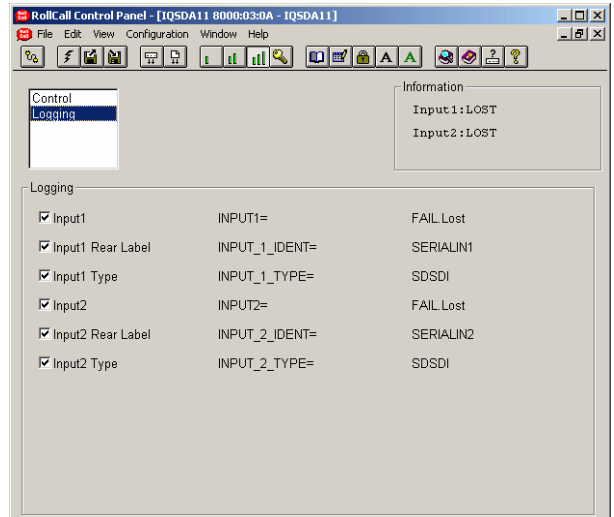


Logging

Information about various parameters can be made available to a logging device that is attached to the RollCall™ network by checking the appropriate box.

The status is shown to the right of the item.

Any of the items may be selected from the list.



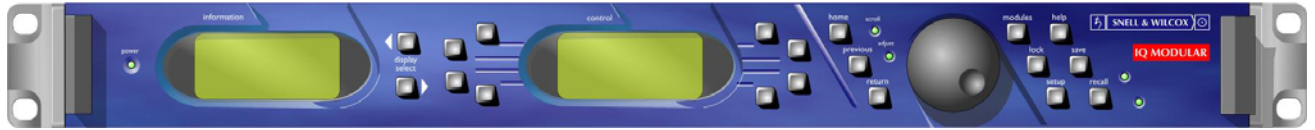
ROLLCALL LOG FIELDS

(where applicable)

Log Field	Log Value	Description
INPUT1=	OK FAIL LOST	Valid input signal Input signal lost
INPUT_1_IDENT =	SERIALIN1	Input rear label
INPUT_1_TYPE =	SDSDI	Type of signal the module processes
INPUT2=	OK FAIL LOST	Valid input signal Input signal lost
INPUT_2_IDENT =	SERIALIN2	Input rear label
INPUT_2_TYPE =	SDSDI	Type of signal the module processes

Operation from an Active Control Panel

The card may be operated from an active control panel via the RollCall™ network.



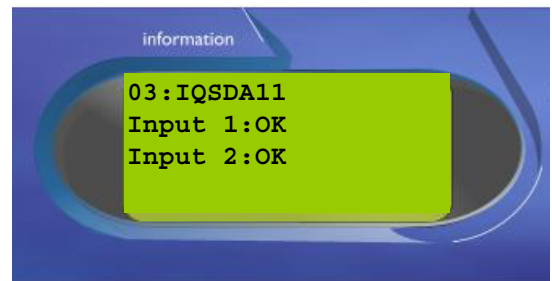
All operational parameters and selections are made using a system of menus displayed in two LCD windows.

Operational details for the remote control panel can be found in the Modular System Operator's Manual.

Information Window

The Information window has four lines of text indicating the current state of the unit.

For details of the abbreviations used please see page 12.

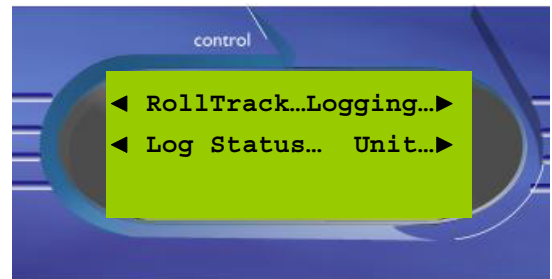


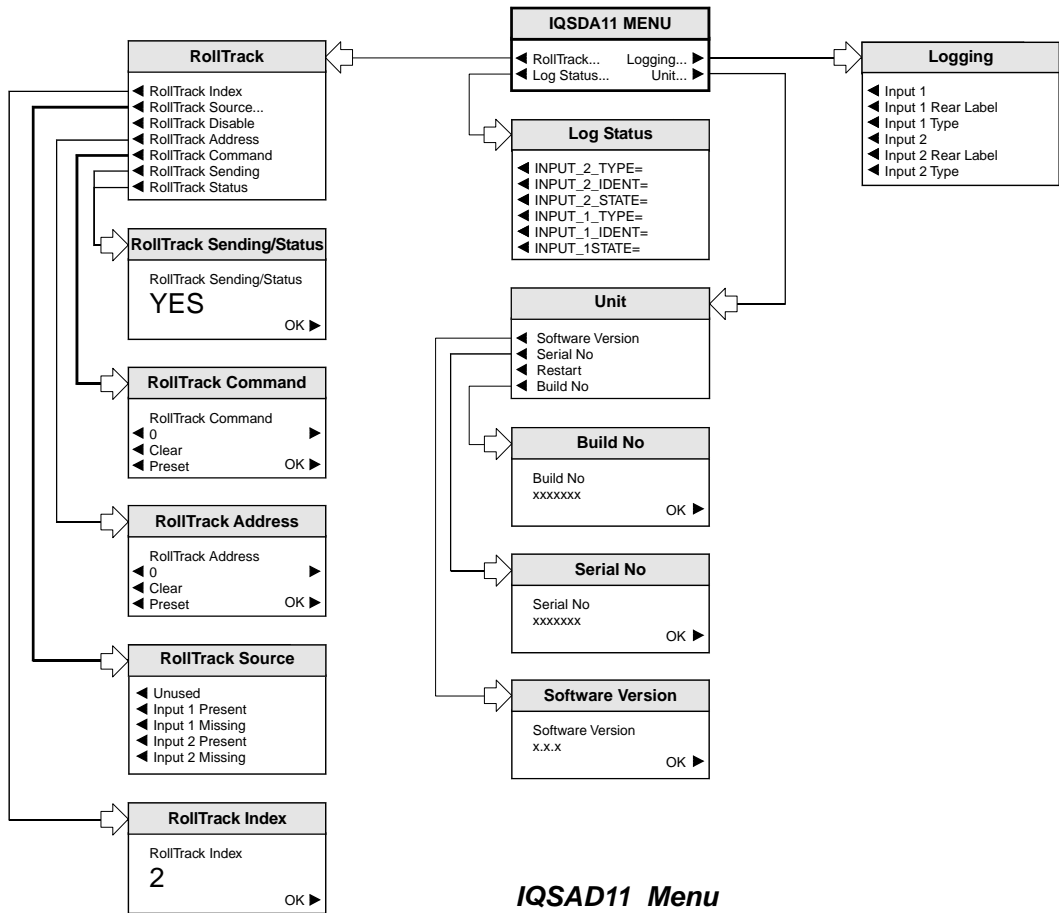
Control Window

The **Control** window displays all Selection Menus and sub-menus.

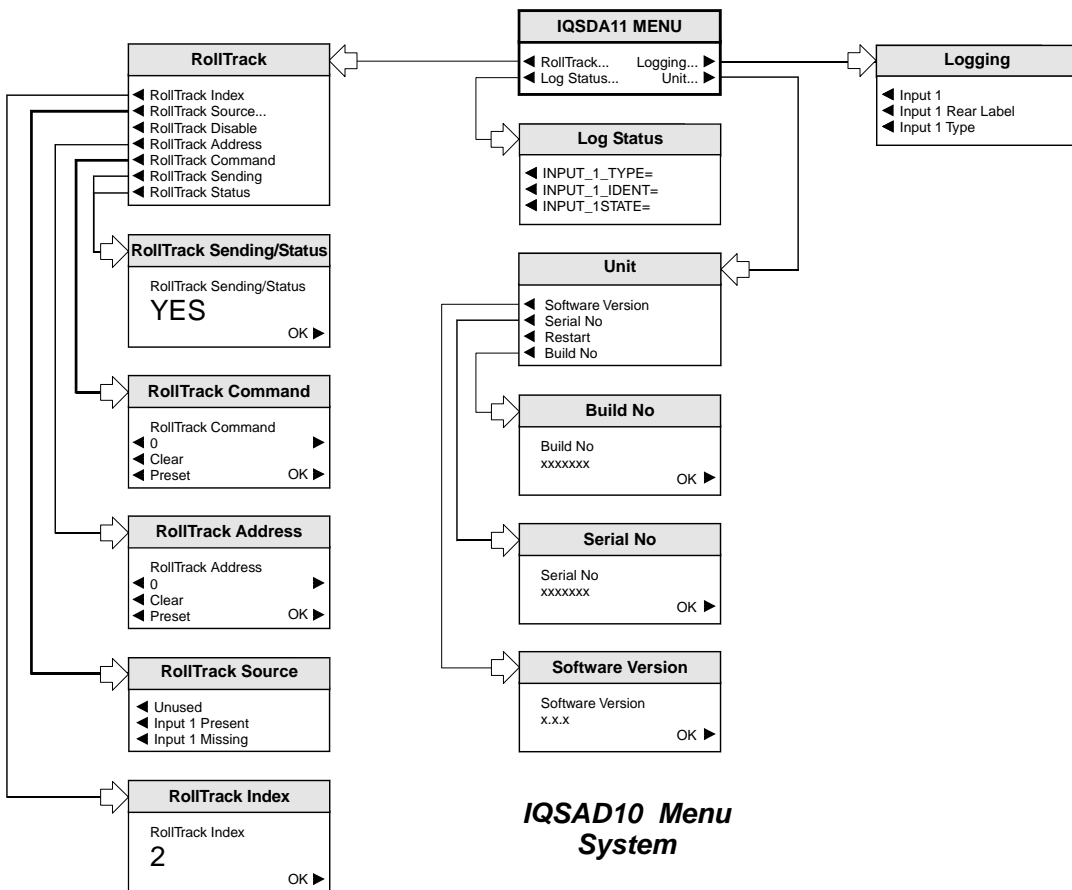
The selection is made by pressing the button adjacent to the required item.

The menu structure is detailed in the following pages.





IQSDA11 Menu System



IQSDA10 Menu System

MENU DETAILS

(see IQSDA Menu System on previous pages)

MAIN MENU

The main or top level menu allows various sub-menus to be selected by pressing the button adjacent to the required text line.

Note that where a menu item is followed by three dots (...) this indicates that a further sub-menu may be selected.

Whenever a menu item is selected the parameters of that selection will be displayed in the Information window of the front panel.

Where the selection is purely a mode selection and does not enable a sub-menu, the text will become reversed (white-on-black) indicating that the mode is active. If the mode is not available for selection the text will remain normal.

RollTrack Index
RollTrack Index
2

When a mode selection is made, the text will become reversed (white-on-black) indicating that the mode is active. If the mode is not available for selection the text will remain normal.

Also refer to the block diagram on page 5 for more information.

MAIN MENU

IQSDA11 MENU	
◀ RollTrack... Logging... ▶	
◀ Log Status... Unit... ▶	

IQSDA10 MENU	
◀ RollTrack... Logging... ▶	
◀ Log Status... Unit... ▶	

RollTrack

This function allows information to be sent, via the RollCall™ network, to other compatible units connected on the same network.

RollTrack	
◀ RollTrack Index	
◀ RollTrack Source...	
◀ RollTrack Disable	
◀ RollTrack Address	
◀ RollTrack Command	
◀ RollTrack Sending	
◀ RollTrack Status	

RollTrack Index

This item is used to select which RollTrack Index is set up using the RollTrack Source, RollTrack Address and RollTrack Command functions.

RollTrack Source (SDA11)

RollTrack Source	
◀ Unused	
◀ Input 1 Present	
◀ Input 1 Missing	
◀ Input 2 Present	
◀ Input 2 Missing	

This allows the source of information that triggers the transmission of data to be selected. Options are:

Unused
Input 1 Present
Input 1 Missing
Input 2 Present
Input 2 Missing

RollTrack Source (SDA10)

RollTrack Source
◀ Unused
◀ Input 1 Present
◀ Input 1 Missing

This allows the source of information that triggers the transmission of data to be selected. Options are:

Unused
Input 1 Present
Input 1 Missing

RollTrack Disable

When this item is selected all RollTrack items will be disabled.

The destination for the information is set by the network code address.

RollTrack Address

This item allows the address of the selected destination unit to be set.

RollTrack Address
RollTrack Address
◀ 0 ▶
◀ Clear ▶
◀ Preset ▶ OK ▶

To compile/edit the text the right ▶ and left buttons adjacent to the upper text line in the menu should be used to select the character position in the text and the spinwheel used to select the character.

The **Clear** function blanks the selected character.

The **Preset** function loads the default address.

O.K. ▶ saves the address and returns to the main menu.

The full **RollTrack** address has four sets of numbers

For example: 0000:10:01*99

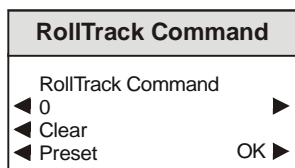
The first set (0000) is the network segment code number

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 settable number that is a unique identification number for the destination unit in a multi-unit system. This ensures that only the correct unit will respond to the command. If left at 00 an incorrectly fitted unit may respond inappropriately.

RollTrack Command



The full **RollTrack** command has two sets of numbers

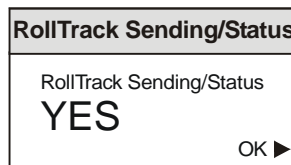
For example: 84*156

The first set (84) is the **RollTrack** command number.

The second set (156) is the value sent with the **RollTrack** command number.

RollTrack Sending

This item shows when the unit is actively sending the RollTrack command.



This may show:

- String A string value is always being sent.
- Number A number value is always being sent.
- No The message is not being sent.
- Yes The message is being sent.
- Internal Inconsistent behavior; please contact your local Snell & Wilcox agent.
- Type Error

RollTrack Status

This item will show the status of the currently selected RollTrack index.

This may show:

- OK RollTrack message sent and received OK.
- Unknown Rolltrack message has been sent but it has not yet completed.
- Timeout RollTrack message sent but acknowledgement not received. This could be because the destination unit is not at the location specified.
- Error This indicates a broken RollCall state.
- Bad This indicates a broken RollCall packet.

Logging

Information about various parameters can be made available to a logging device that is attached to the RollCall™ network by selecting the appropriate item.

SDA11

Logging
<ul style="list-style-type: none"> ◀ Input 1 ◀ Input 1 Rear Label ◀ Input 1 Type ◀ Input 2 ◀ Input 2 Rear Label ◀ Input 2 Type

SDA10

Logging
<ul style="list-style-type: none"> ◀ Input 1 ◀ Input 1 Rear Label ◀ Input 1 Type

Any of the items may be selected from the list.

Log Status

SDA11

Log Status
<ul style="list-style-type: none"> ◀ INPUT_2_TYPE= ◀ INPUT_2_IDENT= ◀ INPUT_2_STATE= ◀ INPUT_1_TYPE= ◀ INPUT_1_IDENT= ◀ INPUT_1STATE=

SDA10

Log Status
<ul style="list-style-type: none"> ◀ INPUT_1_TYPE= ◀ INPUT_1_IDENT= ◀ INPUT_1STATE=

When an item is selected in this menu the logging status for that item will shown in the display window.

ROLLCALL LOG FIELDS

(where applicable)

Log Field	Log Value	Description
INPUT1=	OK FAIL LOST	Valid input signal Input signal lost
INPUT_1_IDENT =	SERIALIN1	Input rear label
INPUT_1_TYPE =	SDSDI	Type of signal the module processes
INPUT2=	OK FAIL LOST	Valid input signal Input signal lost
INPUT_2_IDENT =	SERIALIN2	Input rear label
INPUT_2_TYPE =	SDSDI	Type of signal the module processes

Unit

Unit
◀ Software Version
◀ Serial No
◀ Restart
◀ Build No

Software Version

This item reveals a display showing the version of the software fitted in the module.

Software Version
Software Version x.x.x
OK ▶

Select OK to return to the Setup Menu.

Serial No

This item reveals a display showing the serial number of the module.

Serial No
Serial No xxxxxxx
OK ▶

Select OK to return to the Setup Menu.

Restart

This will reboot the unit simulating a power-down power-up cycle restoring power-up settings.

Build No

This will indicate the factory build number. This number defines all parameters of the unit (software versions, build level etc.) for identification purposes.

Build No
Build No xxxxxxx
OK ▶

Select OK to return to the Setup Menu.

IQSDA11 RollCall Commands

Supervisor Level

Command No.		Command Name	Values
Hex	Dec		
0001	1	Serial No	Static Display (no control)
0002	2	Software Version	Static Display (no control)
0004	4	<RETURN>	l=Restart
0005	5	Build No	Static Display (no control)
0446	1094	Input1	clear=0 set=1 (toggle=2)
0447	1095	Input2	clear=0 set=1 (toggle=2)
0452	1106	RollTrack	clear=0 set=1 (toggle=2)
05D7	1495	RollTrack Index	min=0 max=15 Step=1
05D8	1496	RollTrack Source	min=-1 max=8 Step=1
05D9	1497	RollTrack Address	Edit String
05DA	1498	RollTrack Command	Edit String
05E7	1511	RollTrack Status	Static Display (no control)
05E9	1513	RollTrack Disable	clear=0 set=1 (toggle=2)
05EA	1514	RollTrack Sending	Static Display (no control)

Manual Revision Record

Date	Version No.	Issue No.	Change	Comments
3-Apr-06	1	1		First issue released
7-Apr-06	1	2	Techspec and block diagrams	New issue released
4-Oct-06	1	3	New logging for Software version number 133.2. .134	New issue released
25-Jan-07	1	4	1005-2A, 1002-2 and 1001-1 rear panels added	New issue released
28-Jul-08	1	5	1005-2A rear panel information updated.	New Issue released.