Innovation in the
Multi-Screen World

User Instruction Manual

IQQSM00

3G/HD/SD-SDI Quad Split Monitor

Contents

1. About this Manual

This manual describes the IQQSM00 3G/HD/SD-SDI Quad Split Monitor.

If you have any questions regarding the installation and setup of your product, please refer to the Customer Service contact details (see section 1.1).

1.1 Contact Details

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2.   IQQSM00 Module

2.1   Module Description

The IQQSM00 provides both SDI and HDMI monitoring outputs for up to four multi-rate SDI inputs (3 Gbit/s, 1.5 Gbit/s or 270 Mbit/s). Generating quad-split format outputs at resolutions up to 1920x1080 enables convenient source monitoring on a single display with the option of feeding the SDI output into a router for remote monitoring applications. Designed as an easy to use entry level module, the IQQSM00 comes in a double width package with the added benefit of user definable on-screen captions for easy image identification.

2.2   Block Diagram
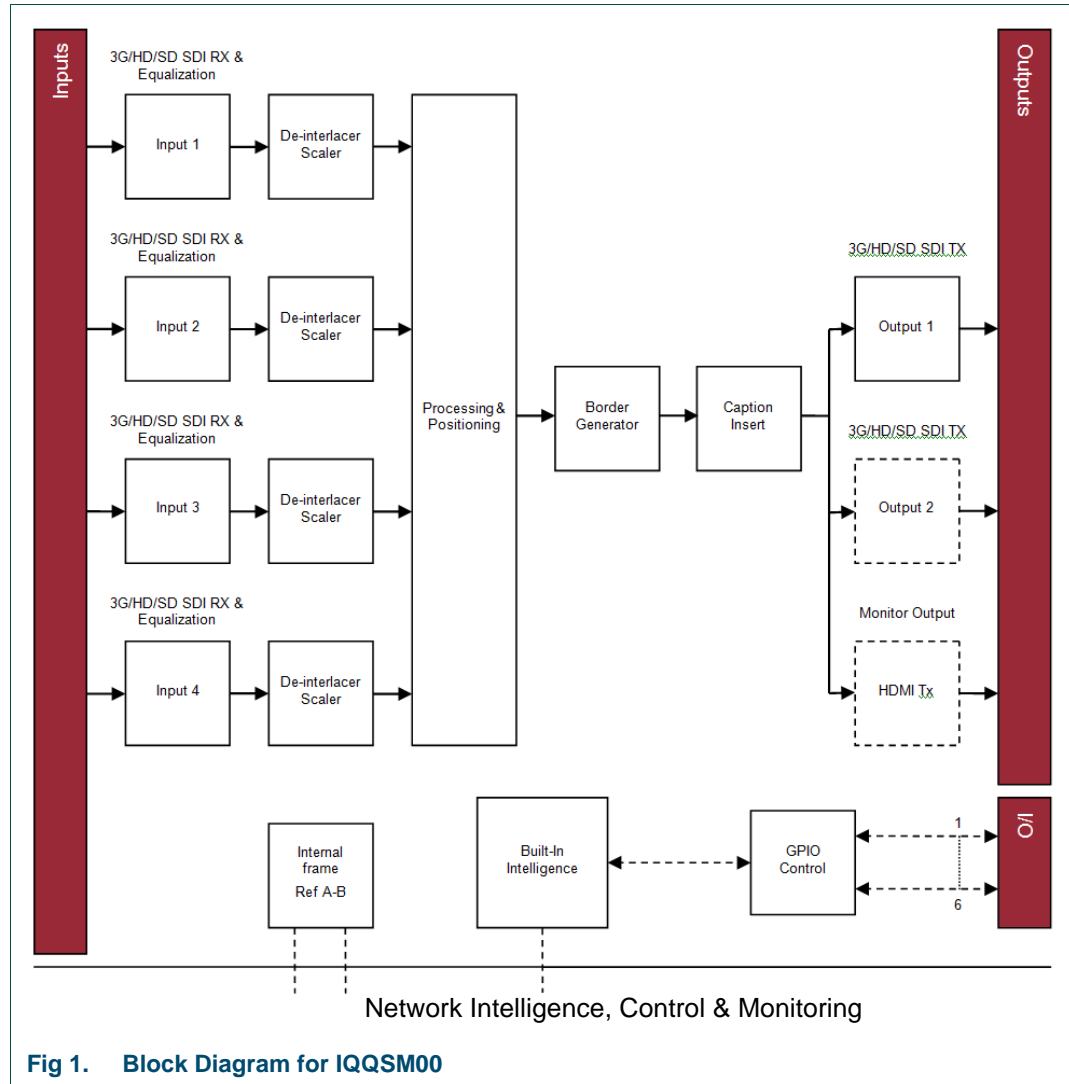
Fig 1.   Block Diagram for IQQSM00

2.3 Order Codes

The following product order codes are covered by this manual:

IQQSM0001-2A3   3G/HD/SD-SDI Quad Monitoring Module Double width for A-Frame

IQQSM0001-2B3   3G/HD/SD-SDI Quad Monitoring Module Double width for B-Frame

FC1-HDMI2   HDMI SFP + 2M CABLE

FC1-HDMI4   HDMI SFP + 4M CABLE

FC1-HDBT2   HD-BNC Dual Tx

FC1-13T1   Single 1310nm fiber Tx

FC1-13T2   Dual 1310nm fiber Tx

2.4 Rear Panel View

IQQSM0001-2A3
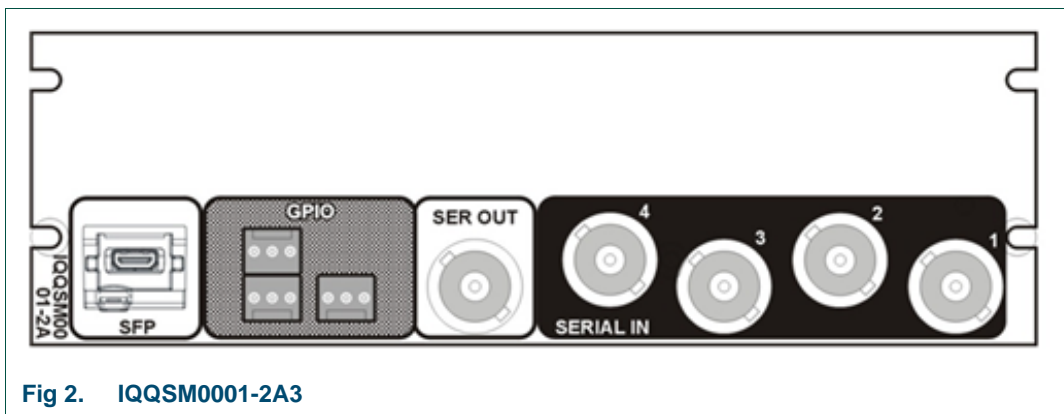
Fig 2.   IQQSM0001-2A3

IQQSM0001-2B3
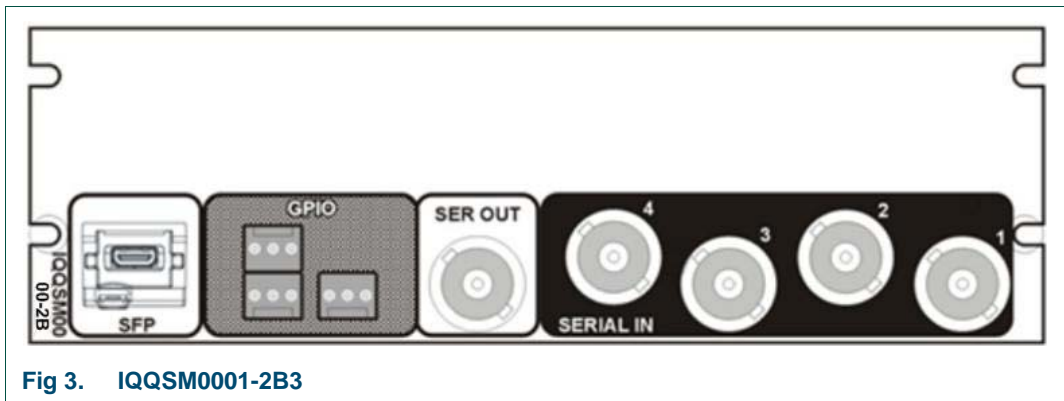
Fig 3.   IQQSM0001-2B3

2.5　Enclosures

The IQQSM00 Quad Split Monitor module can only be fitted into the enclosures, shown below.

Note:
- Although the IQQSM00 Quad Split Monitor module is interchangeable between enclosures, the 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. See page 6.

2.5.1　B-Style Enclosure

Enclosure order codes IQH3B-S-0, IQH3B-S-P

2.5.2　A-Style Enclosures

Enclosure order code IQH1A-S-P

Enclosure order codes IQH3A-S-0, IQH3A-S-P
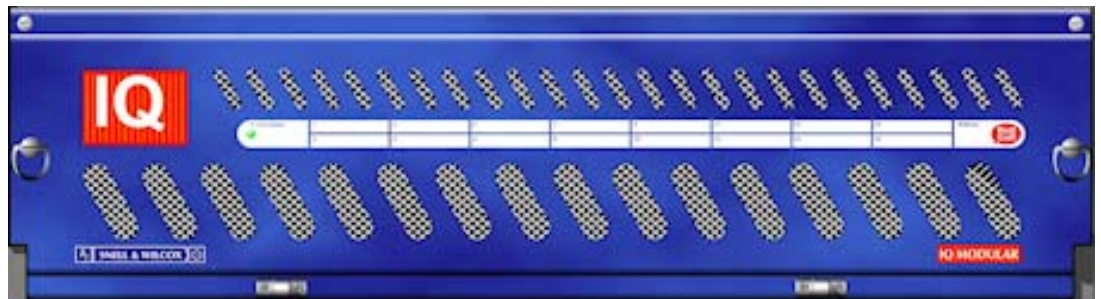
Enclosure order codes IQH3A-E-0, IQH3A-E-P, IQH3A-0-P

Enclosure order code IQH1A-S-P

2.6 Feature Summary

The IQQSM00 Quad Split Monitor provides the following features:

- Easy to use, quad-split multi-viewer
- Output - Support for HDMI (with DVI mode) at resolutions up to 1920 x 1080, and 3G/HD/SD-SDI
- Genlock reference to provide phase aligned output
  - Freerun
  - Internal frame Tri/Bi level sync (IQH3B Only)
- 32 user definable memories for storing and recalling image identifiers etc.
- Standard quad-split display with independent border and UMD control
- Full screen view of any input
- Image identification via user definable caption, 1 per image
- Standards supported:

  - 3G-SDI to SMPTE424M

  - HD-SDI to SMPTE292M

  - SD-SDI to SMPTE259M-C

- GPI control over output screen views; full screen or quad-split mode, input captions and borders
- GPO indication of input status
- Rear panel connection via micro HDMI interface with adapter cables for standard HDMI and DVI connections
- RollCall monitoring allows all signal paths to be managed

3. Technical Specification

3.1 Inputs and Outputs

Inputs and Outputs	
Signal Inputs	
Inputs	4
Electrical	3G/HD/SD-SDI
Connector/Format	BNC/75 Ohm
Conforms to	SMPTE 424M (3G level A)
	SMPTE 292M (HD)
	SMPTE 259M-C (SD)
Input cable length	Up to 100m Belden 1694A @ 3 Gbps
	Up to 190m Belden 1694A @ 1.5 Gbps
	Up to 350m Belden 1694A @ 270 Mbps
Return Loss	>-15 dB 10MHz to 1.5GHz, >-10 dB 1.5GHz to 3GHz
Signal Output	
Outputs	1 x BNC & 1 x SFP monitor out dual transmitter capable
Electrical	3G/HD/SD-SDI
Connector/Format	BNC/75 Ohm
Conforms to	SMPTE 424M (3G level A)
	SMPTE 292M (HD)
	SMPTE 259M-C (SD)
Return Loss	>-15 dB 10MHz to 1.5GHz, >-10 dB 1.5GHz to 3GHz
Control Interface	
GPI	6 (I/O Configurable)
Electrical	TTL-compatible, active-low driven
Connector/Format	3 x 3 pin Molex connectors (central pin ground)

Table 1.   **Inputs and Outputs**

3.2   Indicators

Indicators	Front Panel & Card Edge
CH1 to CH4 Input	No Input Present (Red) 3G Input Standard Present (Blue) HD Input Standard Present (Green) SD Input Standard Present (Yellow)
REF1 & REF2 (Frame Reference)	No Input (Red) HD Input (Green) SD Input (Yellow) Not Available (Off)
V+	OK (Green)
V-	OK (Green)
CPU	Working/Active (Green flashing)
Error	OK (Off) Booting, until SDI enabled (Red) Running, Board Fault (Red)
Warn	OK (Off or blinking Yellow) Operational Error Warning (Yellow Continuous)
Good	OK (Green)

Table 2.   Indicators

3.3   RollCall Features

RollCall Features	
SDI Input Status 1-4	Name, Status, Presence and Standard
SDI Output Status	Standard, Screen Configuration
Reference Status	State, Source and Standard
GPIO Status	State
Monitor output Status	Type, Standard and Configuration
System Fan Status	Check fan status indicator
System Temperatures	Temperatures and alarms
SDI Input Control 1-4	Valid Input Rules Input Caption Enable Input Name Input Border Enable
Video Output Control	SDI Output Standard Monitor Output Type: HDMI/DVI Configuration Quad/Full Screen Input 1-4
Reference control	Source: Freerun, Input 1-4/Reference
GPIO Control	Direction: Unused/Input/Output Invert GPI Input High Action GPI Input Low Action GPO Output Source
User memories	Name, save and recall 32 user memories
Information Window	Video Input/Output Summary Video Input Status Video Output Status
Factory Defaults	Resets all of the unit's settings to their factory defaults

Table 3.   RollCall Features

3.4　Logging

Logging	
Video	Input Name Input State Input Standard Output Monitor Type Output Standard Output SFP Status Output Config Reference Source Reference Standard Reference Type Reference State Genlock State
System	FPGA Temperature
RollTrack Controls	On/off, Index, Source, Address, Command, Status, Sending
RollTrack Outputs	

Table 4.　Logging

3.5　Specifications

Specifications	
Insertion delay	Asynchronous input/output, Max 1 input Frame
Start-up Time	10 Seconds
Power Consumption	
Module Power Consumption	24 W Max (A frames) 24 W Max (B frames)

Table 5.　Specifications

4. Connections

This section describes the physical input and output connections provided by the IQQSM00.

4.1 SDI Inputs

Serial digital inputs to the unit are made using four BNC connectors which terminate in 75 Ohms.
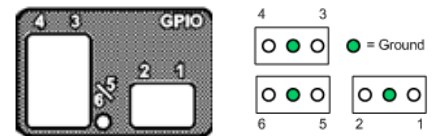
4.2 SDI Output

Serial digital outputs from the unit are made using four BNC connectors which terminate in 75 ohms.

4.3 GPIOs

The six General Purpose Interface connections are made using three, three pin Molex connectors. They may be configured as inputs or outputs.
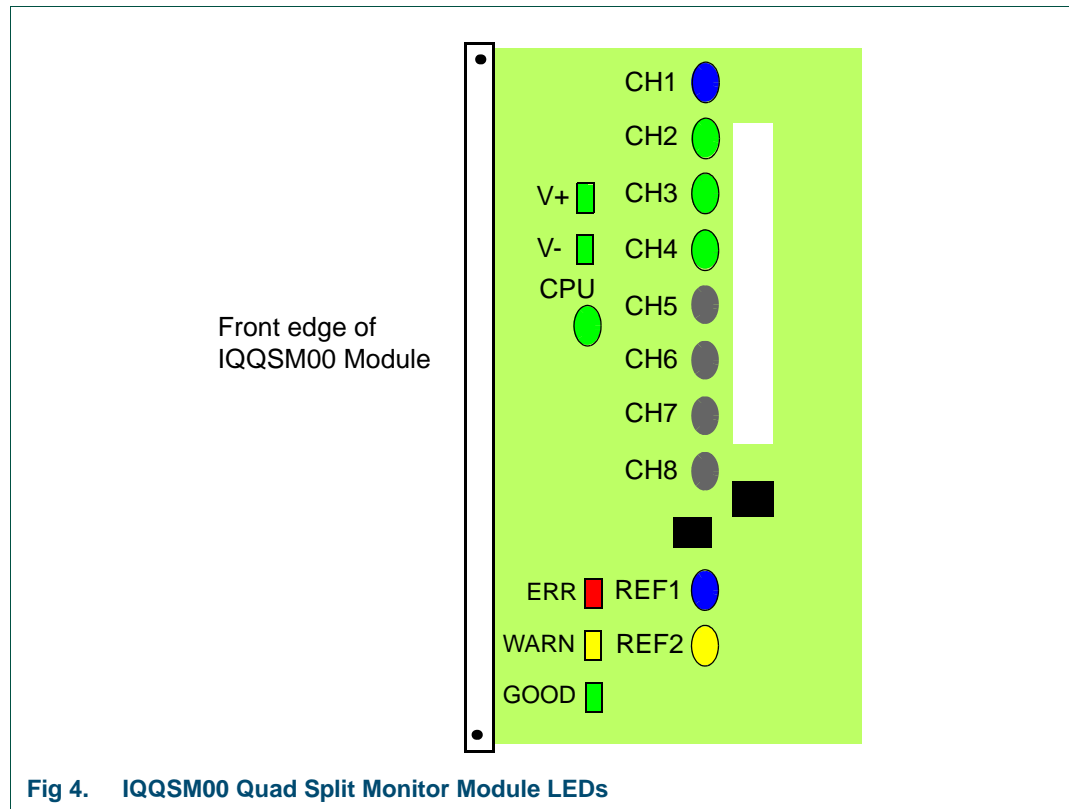
4.4 Monitor output

A Monitor Output is provided by an optional HDMI/DVI SFP. Alternative SFPs are available.

5. Card Edge LEDs

The LEDs on the front edge of the module indicate its operating status:

Fig 4. **IQQSM00 Quad Split Monitor Module LEDs**

LED	Color	Description
CH1 - SDI input 1 CH2 - SDI Input 2 CH3 - SDI Input 3 CH4 - SDI Input 4 CH5 to CH8 - Not Used (Off)	3G Signal (Blue) HD Signal (Green) SD Signal (Yellow) No Input (Red)	These LEDs are illuminated when a valid input is present at the Serial Data Inputs.
REF1 - *Frame Reference 1 REF2 - *Frame Reference 2	3G Signal (Blue) HD Signal (Green) SD Signal (Yellow) No Input (Red) Not Available (Off)	These LEDs indicate that a reference signal is present.

*The module must be mounted in a B-style frame and one or more frame reference signal must be connected to use frame references.

V+	Green	Indicates that a positive power supply is present.
V-	Green	Indicates that a negative power supply is present.
CPU	Green	Flashes to indicate that the CPU is working/active.

LED	Color	Description
ERR	OK (Off) Board Fault (Red)	This LED indicates board fault conditions. When the unit is booting, this LED is illuminated, until the SDI is enabled. Board fault errors include: • **Serializer lock fault**. Output serializer fails to lock. • **SDI JTAG board fault**. Internal JTAG interface is inadvertently enabled. Continuous illumination indicates a board fault and a service is required. Perform a Factory Reset and supply a valid SDI video source before calling service.
WARN	OK (Off or blinking Yellow) Operational Error Warning (Yellow Continuous)	This LED indicates operational errors. Operational errors include: • **Input Video: Incompatible input standard**. Detected input standard is invalid. • **Input Video: SDI problem**. CRC or other SDI errors detected on selected input in the last whole field. • **Reference**: **Lock Failure**. Genlock failed to lock to selected source. This LED may be briefly illuminated in transitional states like standard changes. Continuous illumination indicates a problem. More information is available in the status window.
GOOD	Green	Indicates that the module is operating correctly.

6.   Operation

The IQQSM00 processes each of its four inputs to present high quality representations on a single output for monitoring purposes. The video output from this module is SDI with an option to add fiber, copper or HDMI SFP module to extend the output capabilities of the IQQSM00. The input and output video standards are completely independent and a mixture of different line standards and frame rates can be used.

6.1   Quad Configuration

In its typical configuration each input is displayed in a quadrant of the output signal. In this configuration the output contains the following features:
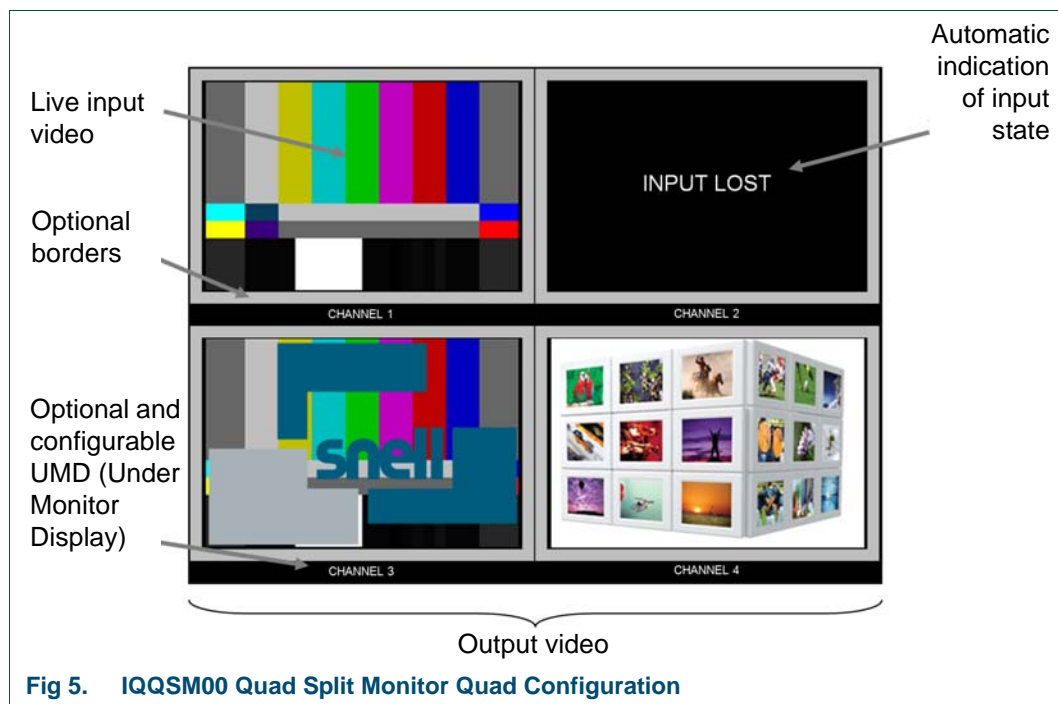

Fig 5.   IQQSM00 Quad Split Monitor Quad Configuration

Feature	Description
Live input video	Each input is scaled to be presented at high quality in the quadrant of the output. A mixture of SD, HD and 3G video standards can be displayed on this single output.
Optional borders	The borders are associated with each input and can be enabled or disabled independently from the RollCall controls (section 7.2.1) or via GPIs (section 7.4.2.)
UMDs (Under Monitor Displays)	The UMDs are associated with each input. These are displayed under the live video for the input and can be independently enabled or disabled from the RollCall controls (section 7.2.1) or via GPIs (section 7.4.2). The user has full control over the text that is displayed by the input names (section).
Input state	If the input is not present the IQQSM00 will display 'INPUT LOST' in the area for that input. If the input standard is invalid "FAIL:INVALID" is displayed.

6.2 Full Screen Configuration

Each input can alternatively be displayed full screen on the output providing as much resolution as possible. In this mode the borders are not visible but the UMD can optionally be presented over the output video.
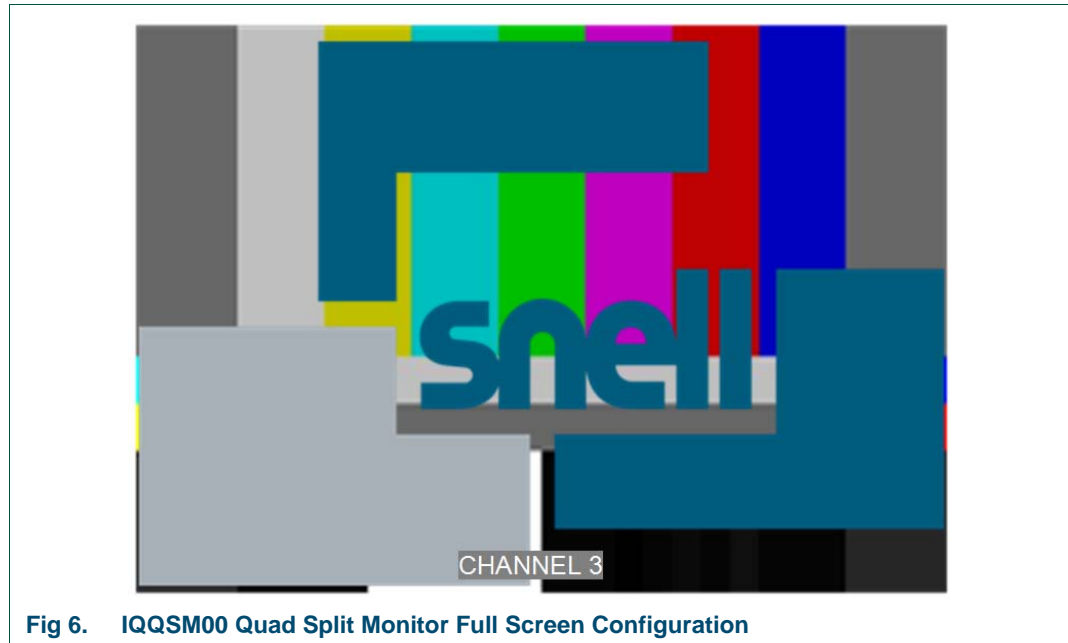

Fig 6. IQQSM00 Quad Split Monitor Full Screen Configuration

7.   RollCall Control Panel

7.1   Information Window

The Information Window is displayed in the upper-right of each screen, and is used to select what basic information (Input or Output) should be displayed in the Information pane. The Information pane displays the status of video inputs, outputs and references.

Select **Video Input/Output Summary**, **Video Input Status** or **Video Output Status** to display the corresponding information.

7.1.1   Video Input/Output Summary

```
Information
IN1:LOST  IN3:LOST
IN2:25i   IN4:LOST
OUT:720/50p
REF:
```

```
Information Window
● Video Input/Output Summary
○ Video Input Status
○ Video Output Status
```

Name	Status	Description
IN1:	Displays the frame rate of the video inputs if present, otherwise LOST.	
IN2: **IN3:** **IN4:**	**LOST**	No input signal received.
	25/29i	Input is interlaced standard at indicated frame rate.
	25/29/50/59p	Input is progressive standard at indicated frame rate.
OUT:	**720/50p**	Line and frame rate standard selected for the output
REF:	**1080/50p**	Line and frame rate standard detected on the reference

7.1.2   Video Input Status

```
Information
In1: -       LOST
In2: 1080/25i  OK
In3: -       LOST
In4: -       LOST
```

```
Information Window
○ Video Input/Output Summary
● Video Input Status
○ Video Output Status
```

Name	Status	Description
IN1:	Display the standard of the video inputs, followed by the status of each input.	
IN2: **IN3:** **IN4:**	**- LOST**	No input present.
	1080/25i OK	Detected standard of input signal. Valid input signal received

7.1.3   Video Output Status

```
Information
OUT: 720/50p
GEN: FreeRun
REF:
```

```
Information Window
○ Video Input/Output Summary
○ Video Input Status
● Video Output Status
```

Name	Status	Description
OUT:	Displays the standard of the video output	
	720/50	Selected standard of the video output is displayed
GEN:	Displays the genlock reference source	
	FreeRun	Selected reference source is internal freerun timer
	Input 1-4	Selected reference source is the video input
	Ref A-B	Selected reference source is the frame reference
Ref:	**1080/50p**	Line and frame rate standard detected on the reference

7.2   Video Control / Status

The **Video Control/Status** screen enables you to specify and view the settings and status for all the video inputs, video output, monitor output and reference.
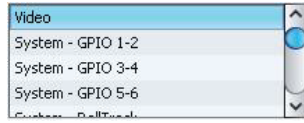
7.2.1   SDI Inputs

The controls for the video inputs are displayed in the order the inputs are configured on the output video when in Quad display mode.

Name	Description
Input Name:	These are the input names displayed in Logging Inputs and presented on the output as UMD captions along with the inputs video image. To change the name of Input 1 or Input 2, type the name in the text field and click S. To return the name to its factory default, click P.
Input Caption Enable:	Each input can be assigned a text caption. This can optionally be displayed with the associated input channel on the output video. In **Quad Configuration** the caption is placed centrally under the input's video display area. In **Full screen Configuration** the caption is placed centrally over the bottom of the active output video.
Quadrant Border Enable:	Borders can optionally be placed around the active portion of the input's video display area in **Quad Configuration**. No border is displayed when the input channel is displayed Full Screen on the output video.

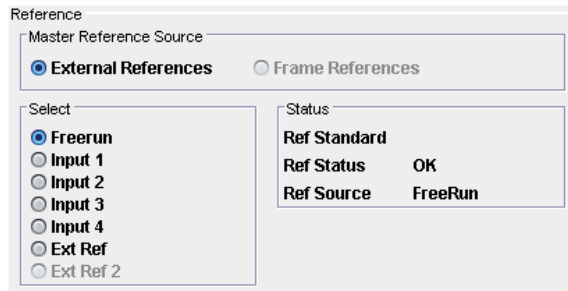|	
Valid Input Formats:	The Valid Input Formats check boxes specify the video input standards that the module will accept. The module will automatically detect the standard of the received input and indicate any signal that does not comply with the selected video formats as **INVALID**. Invalid video inputs will still be processed. By default, all input standards are selected. • Video Standard: Select these checkboxes for the video standards the module should accept. • Set All: Click this button to select all the video standard check boxes. • Clear All: Click this button to de-select all the video standard check boxes
Input State:	Displays the status and video standard of input.

7.2.2 Video Output

Provides control over the SDI video output standard and the type of monitor output required. The way the input channels are presented on the output in both cases can be configured to be any input Full Screen, or all inputs in a Quad Configuration.
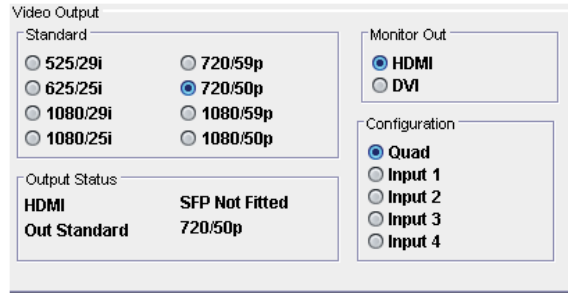
Name	Description
Standard:	Select the required SDI output video standard. This does not need to match the line rate or frame rate of the input channels video standard.
Monitor Out:	If the HDMI SFP is used with the IQQSM00 it's mode can be set to interface to either HDMI or DVI monitors. DVI may have be limited in terms of suitable output video standards.
Configuration:	Each input can be displayed **Full Screen** by selecting Input 1-4. Alternatively all input channels can be displayed at once on the output video in a **Quad Configuration**.
Output Status:	Here the output status is provided for both the Monitor output and the SDI video output.

7.2.3 Reference

The Video output of the IQQSM00 can be phase locked to a studio reference. This can be either an analogue reference or SDI reference source. Locking the output to a reference may be useful if the SDI output is to be fed into a router.

Name	Description
Select:	Allows the source of the output reference to be selected from: • **Freerun**: Output is locked to an internal un-referenced timer • **Any SDI input:** If the SDI is not present the unit will Freerun • **Frame Reference**: If available in the frame
Status:	Displays the genlock and reference standard (if not Freerun), its status and source.

7.3 Aspect Ratio

The aspect ratio of each input is detected using SMPTE 2016 or WSS data. The output video is presented at the aperture indicated by the ancillary data method selected.


By default both SMPTE 2016 and WSS are selected. In this mode SMPTE 2016 will be used if both are present.

Name	Description
SMPTE 2016	SMPTE 2016 can be selected as a source of input aspect ratio data. Independent of selection the SMPTE 2016 status and data is presented.
WSS	WSS can be selected as a source of input aspect ratio data. Independent of selection the WSS status and data is presented.

7.4 System - GPIO

The **GPIO** controls are used to configure the six General Purpose Input/Output connector's function.
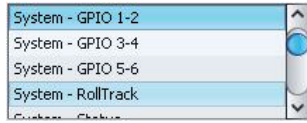
7.4.1 GPIO 1, 2, 3, 4, 5 & 6
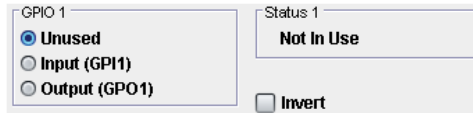
- **Unused**: When selected, GPI is inactive.
- **Input**: Configures the GPI as an input. This enables you to choose what action occurs when the GPI input is grounded or, if the Invert function is selected, becomes open.

You can configure the GPI to call separate actions for High and Low GPI events.

For example, if you require only one action on Input Low:

Under GPI n (Input Low), set to **Quad Mode** and under GPI n (Input High), set to **Unused**.

Alternatively, if you require two distinct actions on high and low transitions, configure both boxes for the required action. For example:

Under GPI n (Input High), set to **Quad Mode**, and under GPI n (Input Low), set to I**np1 Full Screen**.

- **Output**: Configures the GPI as an output. This enables you to choose what action occurs to produce an output signal at the GPI connector when the GPI output is driven to ground or, if the Invert function is selected, rises to +5 V via a 2k2 pull up resistor (see section 7.4.4)
- **Invert**: Configure the GPI to be active low when it is an Output.
- **Status**: Displays the current mode and electrical state of the GPIO e.g.:
  - Input:Low
  - Input:High
 - Output:Low
  - Output:High

7.4.2 GPI Inputs

GPI Input actions available are listed here.
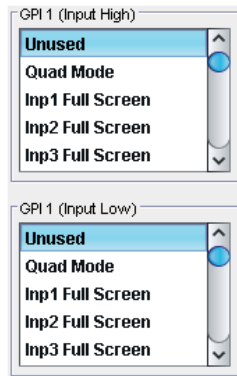
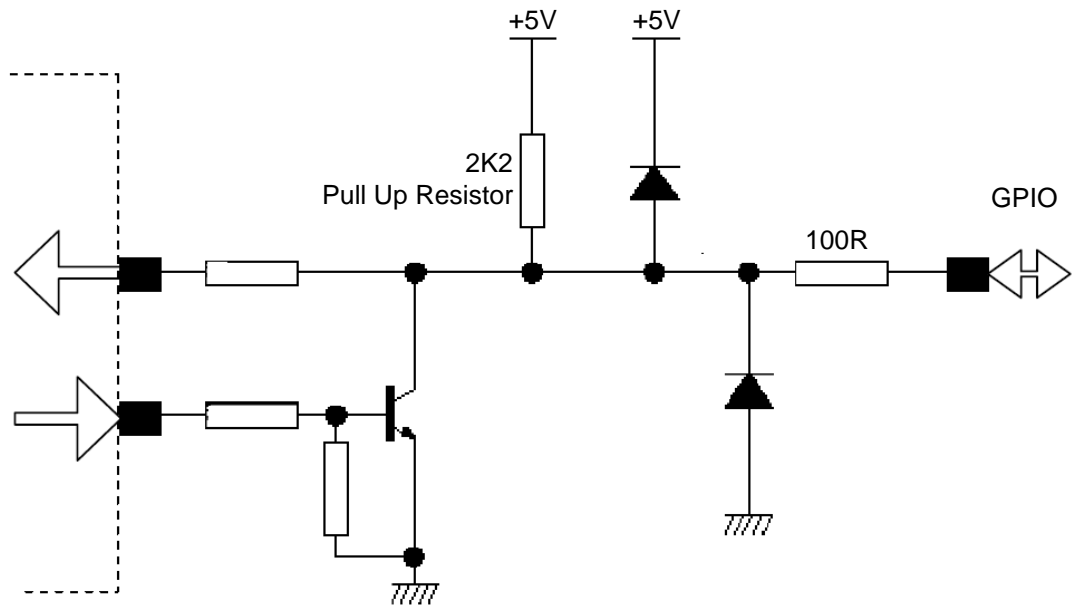| Name	Description
Unused:	No action is taken
Quad Mode:	Configures the output to display the inputs in each quadrant
Inp[1-4] Full Screen:	Configures the output to display the selected input full screen
Inp[1-4] Enable Caption:	Enables the display of the UMD caption on the output for the selected input
Inp[1-4] is Reference:	Selects the input as the output's Genlock reference
Use Rear Ref:	Selects the reference available at the rear as the output's Genlock reference [if available on the current rear type]
Use Frame Ref [A/B]:	Selects one of the frame reference sources as the output's Genlock reference [if available in the installed frame type]
Free Run Ref:	Free runs the output's Genlock reference
Monitor out HDMI:	Configures the Monitor output to be in HDMI mode [If suitable SFP is fitted]
Monitor out DVI:	Configures the Monitor output to be in HDMI mode [If suitable SFP is fitted]
Inp[1-4] Enable Border	Enable the display of a border around the input in the Quad display configuration.

7.4.3 GPI Outputs

GPI Output functions available are listed here.
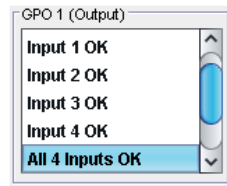
Name	Description
Unused:	No action is taken
Input [1-4] OK:	Operates when the selected Input has a valid video signal
All 4 inputs OK:	Operates when all the Inputs have valid video signals
Selected Ref OK:	Operates when the Reference status in good
No User Mem Sel'd:	Operates to warn that no User Memory has been selected

Note: The GPI outputs have one configuration box. If you select Unused, the GPI output is inactive.

7.4.4 GPI Interface Circuitry

7.4.4.1 GPIO Pin Outs
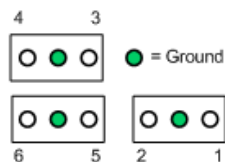
GPIO pin outs shown as viewed on the rear panel.

7.5 Memories

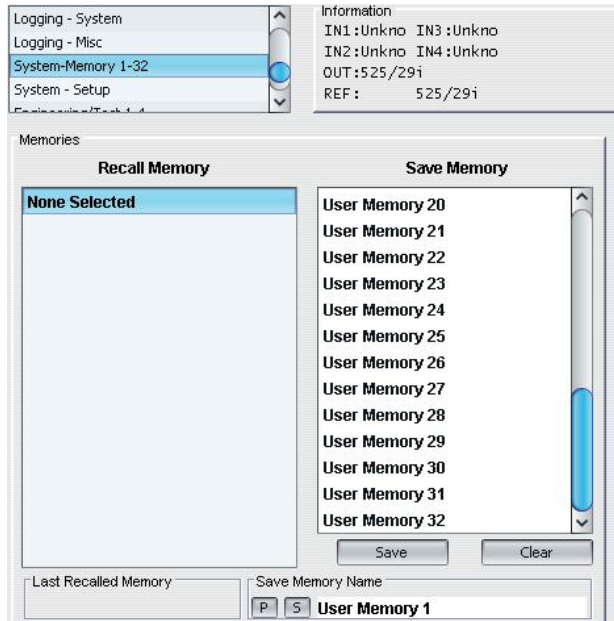The **Memory** screen enables up to 32 setups to be saved and recalled later.

Default memory names can be changed to provide more meaningful descriptions.

7.5.1 Saving Memory Settings

In the Save Memory column, select a memory location and click **Save**. The current settings are saved and the memory appears in the Recall Memory column.

7.5.2 Changing a Memory Name

In the Save Memory Name field, type the new memory name and click **S**. To return the memory to its default name, click **P**.

7.5.3 Recalling a Memory

The Recall Memory list recalls the settings saved in a memory location. The Last Recalled Memory box shows the most recently recalled memory. If you change a control after recall in a memory, Last Recalled Memory displays * behind the memory name.

To recall a memory:

In the Recall Memory column, select the memory you want to recall. The recalled settings are applied and the memory name appears under Last Recalled Memory.

Note: Memories do not recall log field states, such as whether a log value is enabled or disabled.

7.6 Logging

Information about several parameters can be made available to a logging device that is connected to the RollCall network.

Each logging screen comprises three columns:

- **Log Enable** - Select the check boxes 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.

7.6.1 Logging

The **Logging** screen is used to select which fields should be enabled for the each of the inputs, outputs and references.
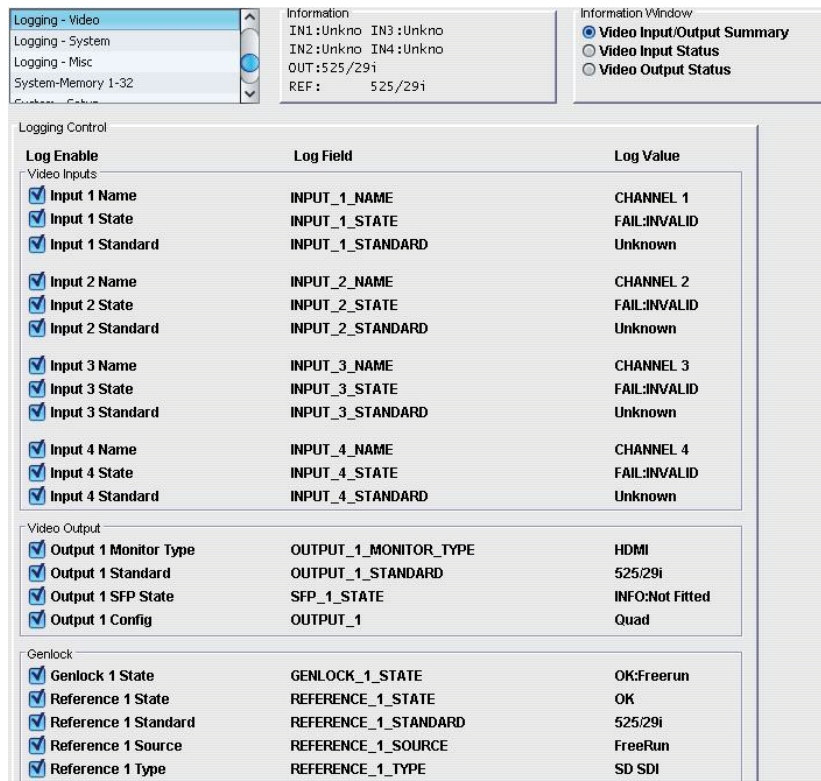
Log Field	Description
INPUT_N_NAME=	The name of the input, as defined by the user in the **Setup** screen
INPUT_N_STATE=	"OK" - the input signal is good "LOST"- the input signal is not detected "INVALID" - the input standard in invalid
INPUT_N_STANDARD=	The detected input standard
Where **N** is the input number.	

Log Field	Description
OUTPUT_MONITOR_TYPE=	The type of output video signal 3G/HD/SD SDI
OUTPUT_STANDARD=	The selected output standard
OUTPUT_SFP_STATUS=	Reports the presence of the SFP
OUTPUT_CONFIG=	Quad/Input 1/Input 2 etc.
REFERENCE_1_SOURCE=	The selected source of the Genlock reference

REFERENCE_1_STATE=	The video signal selected as reference 3G/HDSD SDI and its presence e.g. LOST
GENLOCK_1_STATE=	Reports the state of the Genlock function and warns if there is a cross-lock situation due to an invalid reference standard for the selected output standard
REFERENCE_1_STANDARD=	Reference video standard
REFERENCE_1_ SOURCE=	Reference source, e.g. FreeRun or input

7.6.2 Logging - System

The **Logging System** screen is used to select which fields should be enabled for system status.

7.6.3 Logging - Misc

The **Logging System** screen is used to select which fields should be enabled for miscellaneous items.

| Log Field	Description
SN=	Displays the module serial number, which consists of an S followed by eight digits (**Note** - cannot be deselected)
OS_VERSION=	Displays the operating system name and version. For example, KOS V115
BUILD_NUMBER=	Displays the build number
HARDWARE_VERSION=	Displays the hardware version number
FIRMWARE_VERSION=	Displays the ASI controller firmware version
UPTIME=	Displays the time since the last restart in the format ddd:hh:mm:ss
Log Field	Description
REAR_ID=	Displays the rear panel type number
REAR_STATUS=	Displays the 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
PROCCARD_ENIGMA_VERSION=	Displays the software driver version number
PROCCARD_FPGA_VERSION=	Displays the firmware version number
IOMOD1_ID=	Displays the primary IO module ID
IOMOD2_ID=	Not relevant for this product
PROCMOD_ID=	Displays the processing card ID
LICENSED_OPTIONS=	Displays the options included in the license

7.7 RollTrack

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

You can use the RollTrack settings to:

- Enable or disable the RollTrack functions
- Configure up to 32 RollTrack outputs
- Specify the conditions that trigger RollTrack data transmission
- Set RollTrack destinations
- Specify the RollTrack commands to be sent.

The 'source' window lists the RollTrack sources
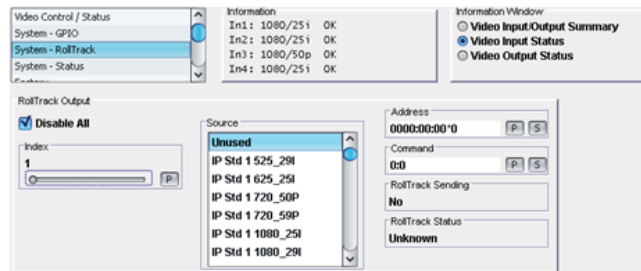
7.7.1 Disable All

When checked, all RollTrack items are disabled.

7.7.2 Index

This slider enables up to 32 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.

7.7.3 Source

The Source list specifies the source of the information that triggers the data transmission. When no source is selected, **Unused** is displayed.

RollTrack Source	Description
Unused	No RollTracks sent.
IP Std N ####_##P/I	Present line and frame rate standard on input N
IP Std N unknown	Input N's standard is not recognized
Ref Std 1 ####_##P/I	Present line and frame rate standard on reference
Ref Std 1 unknown	The reference standard cannot be ascertained
Genlock 1 OK ref	Selected reference for Genlock is the reference input
Genlock 1 OK input	Selected reference for Genlock is an input
Genlock 1 OK Freeru	Selected reference for Genlock is freerun
IP N Lost	Input N is not present
IP N Present	Input N is present
REF 1 OK	Reference is present
REF 1 Lost	Reference is not present

RollTrack Source	Description
Genlock 1 WARN Free	Genlock is in Cross lock mode where the selected reference is incompatible with the selected output standard and the reference selection is forced to Freerun
OP Std 1 ####_##P/I	Present line and frame rate standard on the output
GPI N Low/High/InActive	General purpose input N's state
GPO N Low/High/InActive	General purpose output N's state

7.7.4 Address

This item enables the address of the selected 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-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.

Rolltracks can be internally looped back using address **FFFF:00:00**.

7.7.5 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 selecting 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.

7.7.6 RollTrack Sending

A message is displayed here when the unit is actively sending a RollTrack command. Possible messages are:

| Message	Description
No	The message is not being sent.
Yes	The message is being sent.

7.7.7 RollTrack Status

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

RollTrack Source	Description
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.
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.

7.8 System - Setup

The **System Setup** screen display 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 factory or default settings.
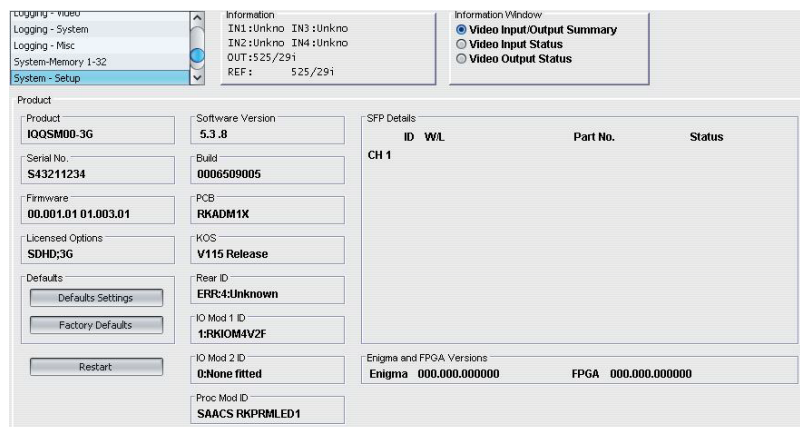
Item	Description
Product	The name of the module
Software Version	The currently installed software version number
Serial No	The module serial number
Build	The factory build number. This number identifies all parameters of the module
KOS	The operating system version number
Firmware	The module firmware revision number
PCB	The Printed Circuit Board revision number
Licensed Options	The Licensed options installed on the module
Rear ID	The ID of the rear panel being used by the module
IO Mod 1 ID	The ID of the Input/Output module 1
IO Mod 2 ID	The ID of the Input/Output module 2
Proc Mod ID	The ID of the Processing module

7.8.1　Default Settings

The **Default Settings** button enables module settings to be reset to their factory defaults, leaving user memories intact.

7.8.2　Factory Defaults

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

Note:　Resetting the module to its factory defaults also clears all the saved memory settings.

7.8.3　Restart

The **Restart** button enables the module to be rebooted.