



User Instruction Manual

IQDLY30

3G/HD/SD-SDI Video Delay Module with Optional Frame Synchronizer

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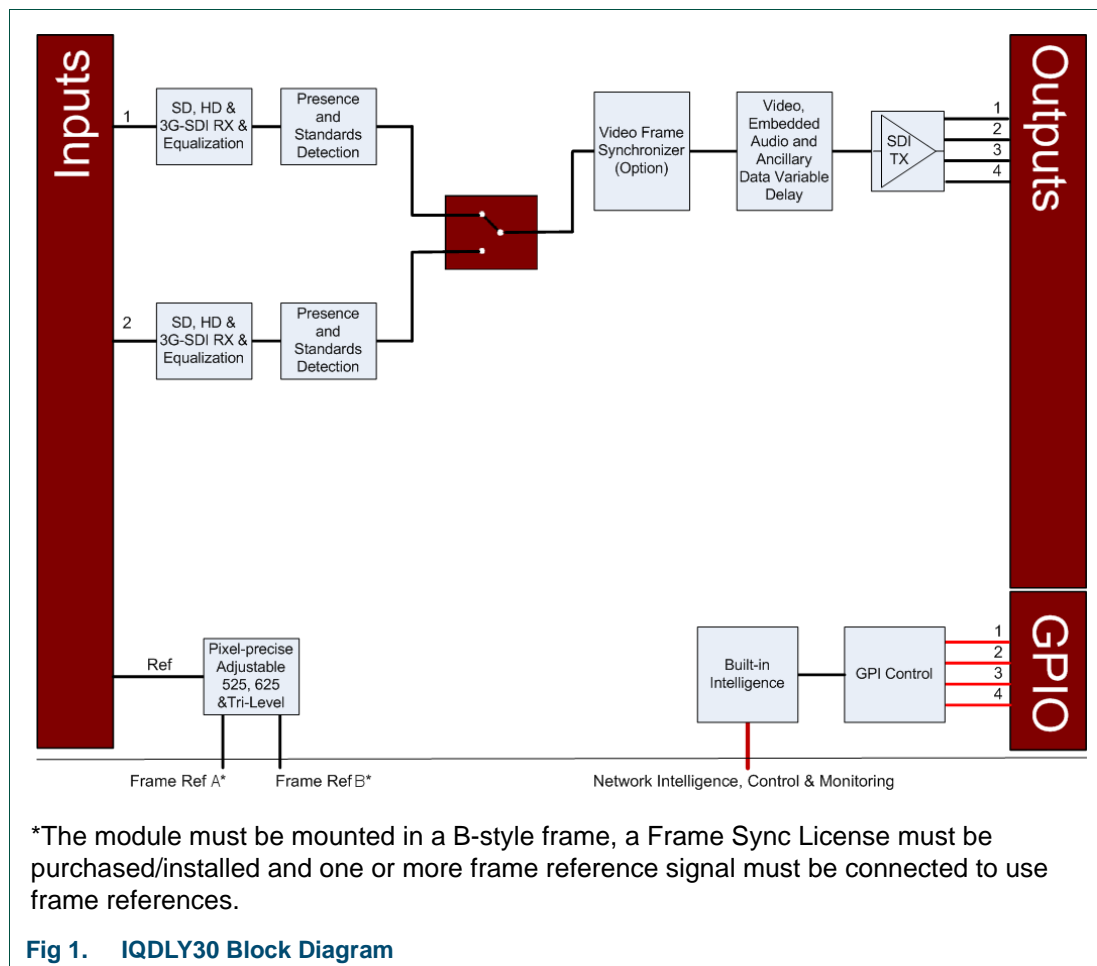
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1. Introduction

1.1 Module Description

The IQDLY30 module provides extended video delay in 3G/HD/SD systems for applications such as adding profanity delay or matching delays in virtual studios. The IQDLY30 provides up to 6.5s of 3G-SDI delay, 13s of HD-SDI delay and 37s of SD-SDI delay and transparently passes all associated ancillary data inc embedded audio and metadata.



1.2 Feature Summary

The IQDLY30 provides the following features:

- 3G/HD/SD-SDI video delay with optional frame synchronizer
- Dual selectable 3G/HD/SD-SDI inputs
- 4 identical SDI outputs
- Standards supported:
 - SD-SDI - 525 and 625 SMPTE-259M
 - HD-SDI - 720p and 1080i SMPTE 292M
 - 3G-SDI - 1080p SMPTE 424M (Level A only)
- Delay adjustable in frames, lines and pixels:
 - Up to 37 seconds of SD-SDI delay
 - Up to 13 seconds of HD-SDI delay
 - Up to 6.5 seconds of 3G-SDI delay
- Capable of referencing to a bi-level or tri-level reference
- Passes entire video stream including embedded audio and ancillary data
- Optional frame synchronizer
- Precision genlock adjustment allowing the user to time any SDI signal accurately
- Input loss detection - default output of black or freeze
- 4 GPIOs, each configurable as a general purpose input or output
- 16 x configurable user memories
- RollCall control and monitoring compatible

1.3 Order Code

The following product order code is covered by this manual:

IQDLY30 3G/HD/SD-SDI video delay with optional frame synchronizer with 2 inputs, 4 duplicate outputs, 4 GPIOs and 1 external reference input (2 frame references also available if mounted in a B frame and a Frame Sync license has been purchased and loaded).

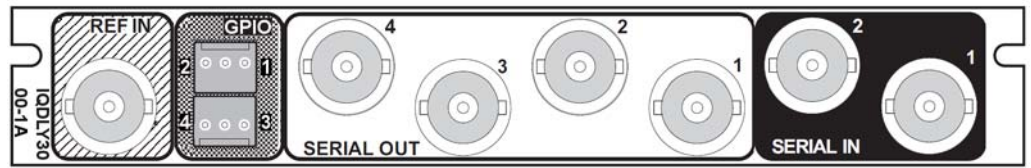
Note:

The IQDLY30 module can be installed in both B-style and A-style enclosures however if frame references are required these are only available in the B-style enclosure.

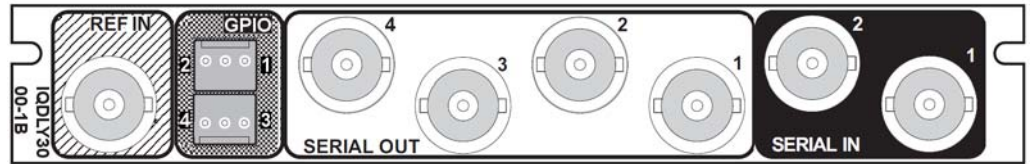
1.4 Rear Panel View

The following rear panel types are available:

IQDLY30 00-1A



IQDLY30 00-1B



1.5 Enclosures

The IQDLY30 module can only be fitted into the enclosures, shown below.

- Note:**
- Although the IQDLY30 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 5.
 - Frame Reference A and B are only available with a “B” enclosure and a “B” rear panel (see section 1.4).

1.5.1 B-Style Enclosure



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

- Note:** The IQH3B enclosure provides two internal analog reference inputs. These inputs are applicable to IQDLY30 modules with the “B” order codes only.

1.5.2 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-0-0, IQH3A-0-P



Enclosure order code IQH1A-S-P

2. Technical Specification

Inputs and Outputs	
Signal Inputs	
SDI Inputs	2
Input Cable Length	Up to 100m Belden 1694A @ 3 Gbps Up to 190 m Belden 1694A @ 1.5 Gbps Up to 350 m Belden 1694A @ 270 Mbps
Note: Specified cable lengths are a guide only. Exact cable length performance will depend on the quality of the cable used, the SDI video rate and the system setup.	
Analog Reference Input	1 x Analogue reference (terminated into 75 ohms) Black (HD tri-level and SD bi-level) and Black Burst (SD bi-level) SD bi-level - RS170A HD Tri-level - SMPTE 240M, 274M and 296M
Signal Outputs	
SDI Outputs	4 (Identical outputs)
Signal Input/Outputs	
GPIOs	4 (Each independently configurable as an input or output)
Electrical	TTL-compatible, active-low driven
Connector/Format	2 x 3 pin Molex connectors (central pin ground)
Specifications	
Electrical	3 Gbit/s SDI, SMPTE 424M (Level A only) 1.5 Gbit/s HD-SDI, SMPTE 292M 270 Mbit/s SDI, SMPTE 259M-C
Connector/Format	BNC/75 Ohm panel jack on standard IQ connector panel
Return Loss	>-15dB (270Mbit/s, 1.5Gbit/s) >-10dB (3Gbit/s)
Output Jitter	SD-SDI 0.2 UI (10Hz)/0.2 UI (1KHz) HD-SDI 1.0 UI (10Hz)/0.2 UI (100KHz) 3G-SDI 2.0 UI (10Hz)/0.2 UI (100KHz)
Reference Source Electrical	Black (HD tri-level and SD bi-level) Black Burst (SD bi-level) SD bi-level – RS170A HD tri-level – SMPTE 240M, 274M and 296M
Connector/Format	BNC/75 Ohm panel jack on standard IQ connector panel
Analog Reference Return Loss	SD bi-level > -40 dB to 5.5 MHz HD tri-level > -30 dB to 30 MHz
Synchronizer Minimum delay	2 μ s (to 7 μ s, dependent upon hysteresis state)
Synchronizer Hysteresis window	5 μ s
Embedded Audio Delay	Same delay as for the video data (matches video delay)
Ancillary Data Delay	Same delay as for the video data (matches video delay)
Power Consumption	17.5W (Max)

Table 1. Technical Specifications

Controls**Indicators**

CH1 - SDI input 1	3G Signal (Blue)
CH2 - SDI Input 2	HD Signal (Green)
CH3 to CH8 - Not Used (Off)	SD Signal (Yellow) No Input (Red)
REFA - External Reference or *Frame Reference A	HD Signal (Green) SD Signal (Yellow)
REFB - *Frame Reference B	No Input (Red)

*The module must be mounted in a B-style frame, a Frame Sync License must be purchased/installed and one or more frame reference signal must be connected to use frame references.

V+	OK (Green)
V-	OK (Green)
CPU	Working/Active (Green flashing)
Error	OK (Off) Running, Board Fault (Red)
Warn	OK (Off or blinking Yellow) Operational Error Warning (Yellow Continuous)
Good	OK (Green)

Video Delay Controls

Input Select	1/2 or select from GPIO input
Default Output on failure	Black/Freeze
Valid Processing Standards	525/29i 625/25i 720/59p 720/50p 1080/29i 1080/25i 1080/59p-A 1080/50p-A Select All Select None
Default Output Standard	Last Known Good 525/29i 625/25i 720/59p 720/50p 1080/29i 1080/25i 1080/59p-A 1080/50p-A
Bulk Video Delay	Set in frames. Displayed in Seconds
Total Video Delay	Read only. Displayed in frames, lines, micro Seconds and total delay in Seconds
Lock to Reference Vertical Phase Horizontal Phase	Set in Lines Set in Pixels
Lock to Input Vertical Phase Horizontal Phase	Set in Lines Set in Pixels
Master Reference Source	External Reference or *Frame References

Table 1. Technical Specifications

Controls (Continued)

Reference Source	Lock to Input, Freerun, Ext Ref, *Frame Ref A, *Frame Ref B
------------------	---

Failure Mode	Freerun, Lock to Input
--------------	------------------------

***Note:** The module must be mounted in a B-style frame, a Frame Sync License must be purchased/installed and one or more frame reference signal must be connected to use frame references.

Video Delay Status

Input Channel 1	Read only. Displays the delay settings for each signal standard.
-----------------	--

GPIO (GPIO settings repeated for each of the four GPIOs)

GPIO	Unused, output, input
------	-----------------------

GPIO	Invert
------	--------

GPIO (Input High)	Unused, Select Input 1, Select Input 2, User Memory 1 - 16 (if saved)
-------------------	---

GPIO (Input Low)	Unused, Select Input 1, Select Input 2, User Memory 1 - 16 (if saved)
------------------	---

GPIO Output	Input 1 OK, Input 2 OK, Input 1 Selected, input 2 Selected, No User Memory Selected, User Memory 1 - 16, Input Invalid
-------------	--

Input 1 Standard 525/29i
Input 1 Standard 720/59p
Input 1 Standard 1080/29i
Input 1 Standard 1080/59p
Input 1 Standard 625/25i
Input 1 Standard 720/50p,
Input 1 Standard 1080/25i
Input 1 Standard 1080/50p
(Input 2 standards reporting available as Input 1 above)

Memory 1 - 16

User memories	16x Save/Recall/Rename
---------------	------------------------

Table 1. Technical Specifications

Controls (Continued)	
RollCall Features	
RollTrack Controls	Source, Address, Command, Status, Sending
Logging	Input 1 State, Input 1 Standard, Input 2 State, Input 2 Standard, Output 1 Input Select, Reference 1 Source, Reference 1 Fail Mode, Reference 1 Status
RollTrack Sources	<p>Internal or detected device states that trigger the sending of RollTracks:</p> <p>Input 1 Status OK, Input 1 Status Fail, Input 2 Status OK, Input 2 Status Fail, Output 1 Input Standard Valid, Output 1 Input Standard Invalid, RefA Status OK, RefA Status Fail</p> <p>Each of the following video standards is reported as a detected device state for: Input 1, Input 2 and Output 1</p> <p>525/29i 720/59p, 1080/29i 1080/59p, 625/25i 720/50p, 1080/25i 1080/50p</p>
Video Standards	525/29i 625/25i 720/59p 720/50p 1080/29i 1080/25i 1080/59p-A 1080/50p-A
Minimum Delay	2 μ s (to 7 μ s dependent on hysteresis state)
Video Delay Range	Dependant on video standard in use, see section 5.2.6
Synchronizer Hysteresis Window	5 μ s
Reference Source	External – HD tri-level, SD bi-level, Input Video syncs
Genlock Adjustment	Up to ± 1 frame in steps of 1 pixel

Table 1. Technical Specifications

3. Connections

This section describes the physical input and output connections provided by the IQDLY30 rear panels.

IQDLY30 00-1A

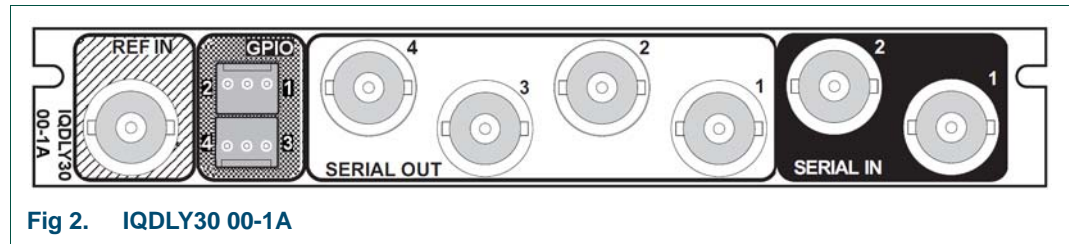


Fig 2. IQDLY30 00-1A

IQDLY30 00-1B

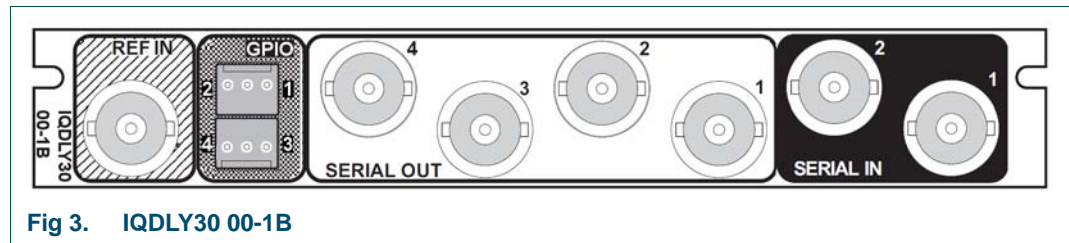
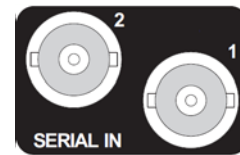


Fig 3. IQDLY30 00-1B

3.1 SDI Inputs

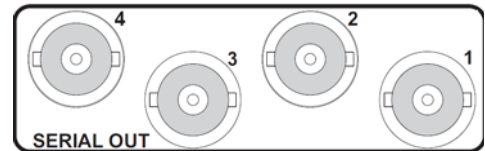
Serial digital inputs to the unit are made using two BNC connectors which terminate in 75 Ohms.



3.2 SDI Outputs

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

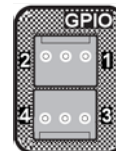
All four outputs are identical.



3.3 GPIOs

The four General Purpose Interface connections are made using two three pin Molex connectors. Each signal may be configured as a general purpose input or output.

Note: the central pin on each connector is the GND pin.



3.4 Analog Reference Input

The external reference input to the unit is made using a single BNC connector that terminates in 75 Ohms.



It should be noted that proper operation to the full specification can only be achieved with a correctly terminated, noise-free, stable, black sync reference input. Whilst lock may be achieved with an unsuitable sync source the increased jitter evident on the SDI output will affect locking and cable length performance at the receiving equipment.

4. Card Edge LEDs

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

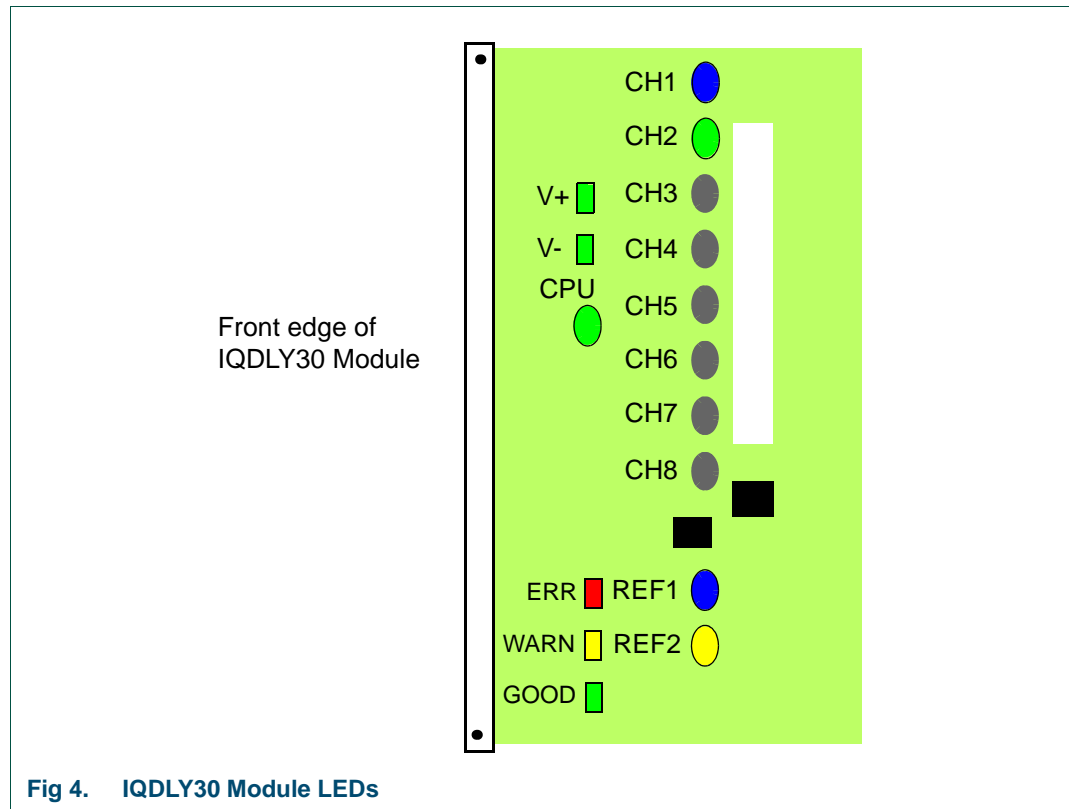


Fig 4. IQDLY30 Module LEDs

LED	Color	Description
CH1 - SDI input 1	3G Signal (Blue)	These LEDs are illuminated when a valid input is present at the Serial Data Inputs.
CH2 - SDI Input 2	HD Signal (Green)	
CH3 to CH8 - Not Used (Off)	SD Signal (Yellow) No Input (Red)	
REF1 - External Reference or *Frame Reference A	HD Signal (Green) SD Signal (Yellow)	These LEDs indicate that a reference signal is present.
REF2 - *Frame Reference B	No Input (Red)	
*The module must be mounted in a B-style frame, a Frame Sync License must be purchased/installed 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.
ERR	OK (Off) Board Fault (Red)	This LED indicates board fault conditions. DDR memory calibration error at boot-up. 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.

Table 2. IQDLY30 LED Descriptions

LED	Color	Description
WARN	OK (Off or blinking Yellow) Operational Error Warning (Yellow Continuous)	This LED indicates operational errors. 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.

Table 2. IQDLY30 LED Descriptions

5. Controlling the IQDLY30 from the RollCall Control Panel

5.1 The Information Window

The information window is displayed in the upper-right corner of each screen and displays basic information about the input status, output status and reference status of the module.

Select either **Video Status** or **Reference Status** to display the corresponding information.

5.1.1 Video Status

When **Video Status** is selected, the status of the video inputs and video output are displayed:



Name	Status	Description
IN1:		Displays the status of the video inputs, followed by the standard of each input.
IN2:	OK 1080/50p	Valid input signal received. Detected standard of input signal is displayed, e.g. 1080/50p.
	LOST	No input signal received.
	INV 1080/50p	Invalid input signal received, e.g. the video standard on the input is not selected in the Valid Processing Standards control (see section 5.2.4) or the video signal on the input is not valid, e.g. 1080/50p.
OUT1:		Displays the status of the video output, followed by the standard of the output. (Outputs 2, 3 and 4 are duplicates of output 1 and are not displayed in the Information box).
	OK 1080/50p	Status and standard of output 1 is displayed, e.g. 1080/50p.

Table 3. Video Status

5.1.2 Reference Status

When **Reference Status** is selected, the status of the video reference input is displayed:



Name	Status	Description
GEN:		Displays the selected source of the signal being used as the reference.
	SDI Input 1 or SDI Input 2	SDI Input 1 or 2 is being used as the reference.
	Ext Ref	The external BNC input is being used as the reference.
	Frame Ref A or Frame Ref B	Frame reference A or B is being used as the reference.
	Freerun	The module internal clock is being used as the reference.
	LOST	No reference signal found.
Note: the module must be mounted in a B-style frame, a Frame Sync License must be purchased/installed and one or more frame reference signal must be connected to use frame references.		
Ext: or Ref A: Ref B:		Displays all of the available references dependant on the selection made for External/Frame Reference (see section 5.2.7).
	OK 625/25i	Status and standard of the available reference is displayed, e.g. 625/25i.
	Freerun	The module internal clock is being used as the reference.
	LOST	No reference signal found.

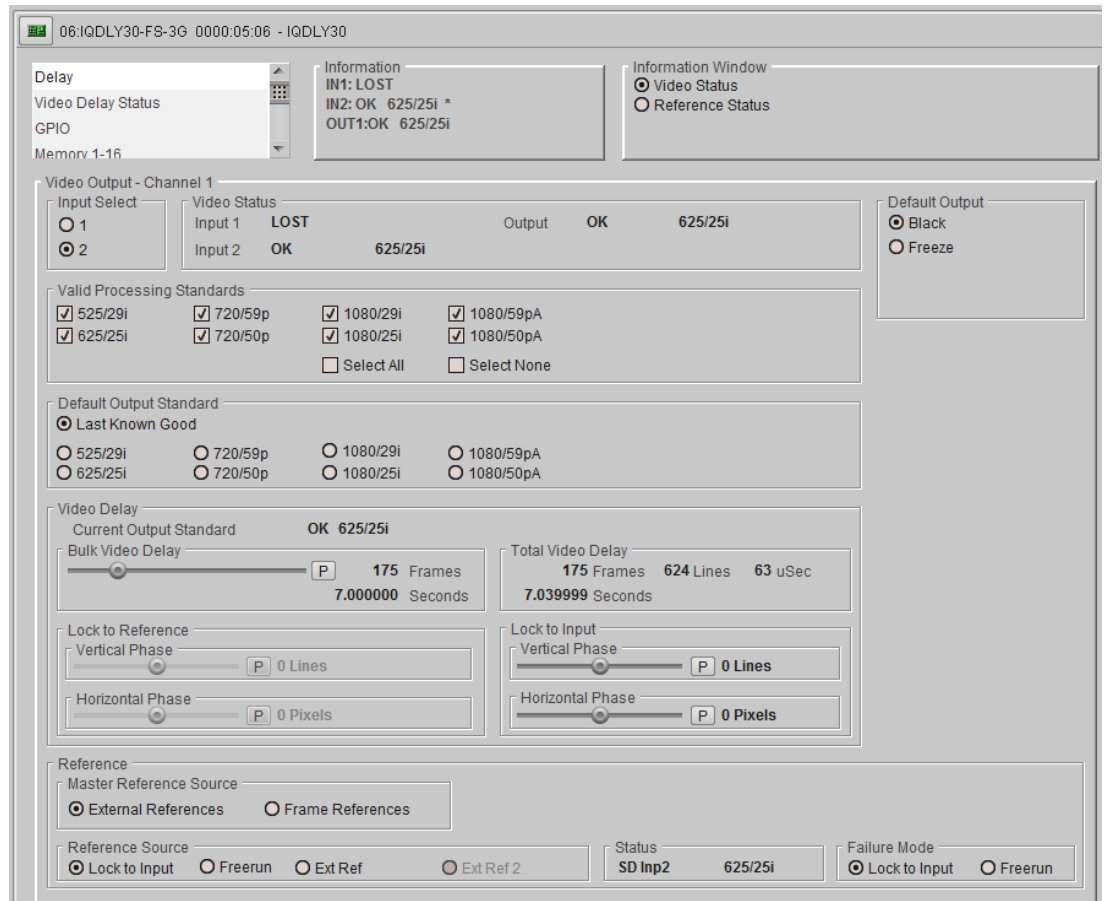
Note: the module must be mounted in a B-style frame, a Frame Sync License must be purchased/installed and one or more frame reference signal must be connected to use frame references.

Table 4. Reference Status

5.2 Delay

The **Delay** screen enables the user to specify the settings for video delay and the reference used for frame synchronization:

- Selection of input source
- Selection of black or freeze output on signal failure
- Selection of valid input standards
- Selection of default output standard on incoming invalid standard
- Video delay setting in frames or lines and pixels
- Selection of video reference source
- Selection of freerun or lock to input on external reference failure



5.2.1 Input Select

Enables input 1 or input 2 to be passed through the video delay/synchronizer.

Note:

This selection can be overridden using a GPIO input if it is configured. For details see section 5.4.

5.2.2 Video Status

Displays the status and video standard of input 1, input 2 and the outputs. Outputs 2, 3 and 4 are duplicates of output 1 so only a single output is displayed in the video status box.

5.2.3 Default Output

This control selects the output signal used in the event of input signal loss after playing out the whole of the stored video signal.

- **BLACK** - in the event of input signal loss a black screen is output from the module.
- **FREEZE** - in the event of input signal loss the last good frame is output from the module.

Note: Once the output goes to Black/Freeze audio on the output is muted.

5.2.4 Valid Processing Standards

The **Valid Processing Standards** check boxes specify the video input standards that the module will accept. The module will automatically detect the standard of the received input and block any signal that does not comply with the selected video formats.

By default, all input standards are selected.

- **Video Standard:** Select the checkboxes for the video standards the module should accept.
- **Select All:** Select this checkbox to select all the video standard check boxes.
- **Select None:** Select this checkbox to de-select all the video standard check boxes.

Note: If any other standards are detected, an invalid standard will be assumed and this will force an input video loss with the FAIL status.

5.2.5 Default Output Standard

The **Default Output Standard** radio buttons are used to specify the output video standard used if the incoming signal is not one of the valid processing standards.

By default, **Last Known Good** is selected.

- **Last Known Good:** Select this radio button to continue to use the last valid input signal standard.
- **Video Standard:** Select the radio button for the specific video standard to be output on detection of an incoming invalid standard.

5.2.6 Video Delay

These controls are used to configure the video delay in whole frames and to add an offset in lines and pixels to the input signal.

Current Output Standard

Displays the current video standard on the output of the module.

Bulk Video Delay

The delay set is for the currently selected input signal*.

Drag the slider to set the video delay in whole frames, the output display will change dynamically but it will not cause picture disturbance. The delay is displayed in frames and also in Seconds to the right of the slider.

Setting range for each standard is as follows:

Video Standard	Delay Setting Range	
	Frames	Seconds
525/29i	0 to +1112	0 to +37.10
625/25i	0 to +933	0 to +37.32
720/59p	0 to +838	0 to +13.98
720/50p	0 to +680	0 to +13.60
1080/29i	0 to +401	0 to +13.38
1080/25i	0 to +343	0 to +13.72
1080/59p-A	0 to +400	0 to +6.67
1080/50p-A	0 to +342	0 to +6.84

Table 5. Delay Setting Range

Note:

*To pre-configure delay for a signal standard that is not currently present on a module input the module must be taken out of service for a short time.

1. De-select the checkbox for the current input signal standard in the **Valid Processing Standards** box so that the signal type is invalid. The output will go to black or freeze depending on the **Default Output** settings.
2. Select the **Default Output Standard** radio button to the standard to be pre-configured.
3. Set the **Bulk Video Delay** and/or offset required.
4. Set the **Valid Processing Standards** and **Default Output Standard** controls back to their original settings.
5. The video standard has now been pre-configured. This can be checked by looking at the standard on the **Video Delay Status** page, see section 5.3.

Lock to Reference/Lock to Input

These controls are used to offset the video delay in lines and pixels. Only one set of controls will be available and that will depend on the **Reference Source** setting.

- **Lock to Reference** controls are active when the **Reference Source** is set to **Ext Ref**, **Frame Ref A** or **Frame Ref B**
- **Lock to Input** controls are active when the **Reference Source** is set to **Lock to Input**

The operation of the controls is identical whichever reference is used.

- **Vertical Phase** slider - drag to set the offset in lines
Range is dependant on the reference being locked to and the video standard being set. Range is shown in Table 6.
- **Horizontal Phase** slider - drag to set the offset in pixels
Range is dependant on the reference being locked to and the video standard being set. Range is shown in Table 6.

Video Standard	Offset Ranges			
	Lock to Reference		Lock to Input	
	Vertical Phase (Lines)	Horizontal Phase (Pixels)	Vertical Phase (Lines)	Horizontal Phase (Pixels)
525/29i	-525 to +524	-858 to +857	0 to +524	0 to +857
625/25i	-625 to +624	-864 to +863	0 to +624	0 to +863
720/59p	-750 to +749	-1650 to +1649	0 to +749	0 to +1649
720/50p	-750 to +749	-1980 to +1979	0 to +749	0 to +1979
1080/29i	-1125 to +1124	-2200 to +2199	0 to +1124	0 to +2199
1080/25i	-1125 to +1124	-2640 to +2639	0 to +1124	0 to +2639
1080/59p-A	-1125 to +1124	-2200 to +2199	0 to +1124	0 to +2199
1080/50p-A	-1125 to +1124	-2640 to +2639	0 to +1124	0 to +2639

Table 6. Offset Ranges

Total Video Delay

The **Total Video Delay** status box displays the total delay (in frames and Seconds) applied to the input signal. This includes both the frame sync delay and the delay set by the user. The **Total Video Delay** display is dynamic and will drift if the input or reference signal is drifting.

5.2.7 Reference

The controls in this section are used to select the reference used for frame sync and the reference to use in the event of the main reference being lost.

Master Reference Source

Select between the external reference input and the two frame references.

- ***External Reference** radio button: Select for the option to use the external reference input

Note: *A Frame Sync License must be purchased/installed and an external reference signal must be connected to use the external reference.

- ****Frame References** radio button: Select for the option to use one of the two frame references supplied by a B frame

Note: **The module must be mounted in a B-style frame, a Frame Sync License must be purchased/installed and one or more frame reference signal must be connected to use frame references.

Reference Source

Select the radio button for the actual reference to use for frame sync.

- **Lock to Input:** The selected input signal is used as the reference signal
- **Freerun:** The module's internal clock is used to generate a reference
- **Ext Ref:** The external BNC reference input is used as the reference signal. **External Reference** must be selected from **Master Reference Source** or this option will not be available
- ***Frame Ref A:** Frame reference A is used as the reference signal. **Frame References** must be selected from **Master Reference Source** or this option will not be available
- ***Frame Ref B:** Frame reference B is used as the reference signal. **Frame References** must be selected from **Master Reference Source** or this option will not be available

Note:

*The module must be mounted in a B-style frame, a Frame Sync License must be purchased/installed and one or more frame reference signal must be connected to use frame references.

Status

Displays the current reference source and video standard being used.

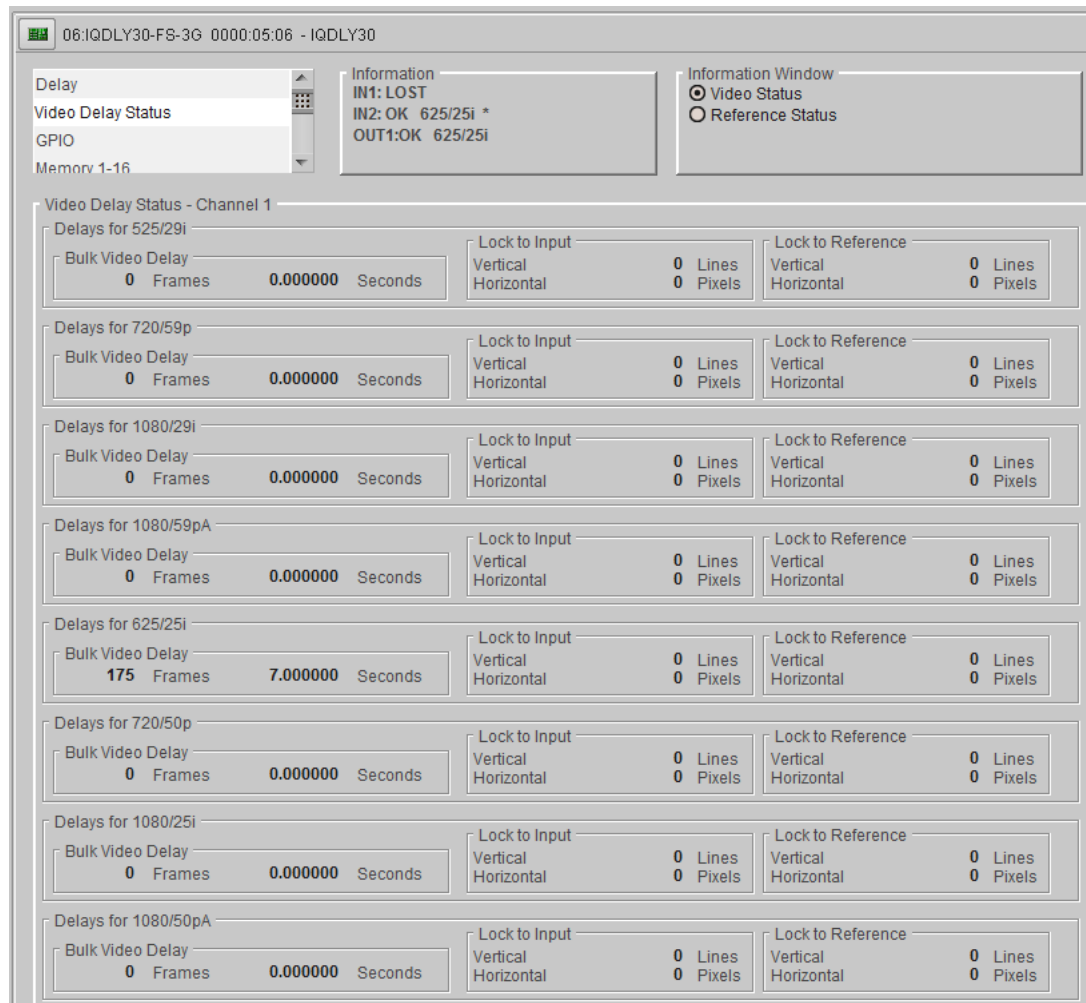
Failure Mode

This control selects the reference used in the event of reference signal loss.

- **Freerun** - if the reference is lost the module's internal clock is used to generate a reference
- **Lock to Input** - if the reference is lost the input signal is used as the reference

5.3 Video Delay Status

This page displays the bulk video delay and offset for each video standard type that has been configured.

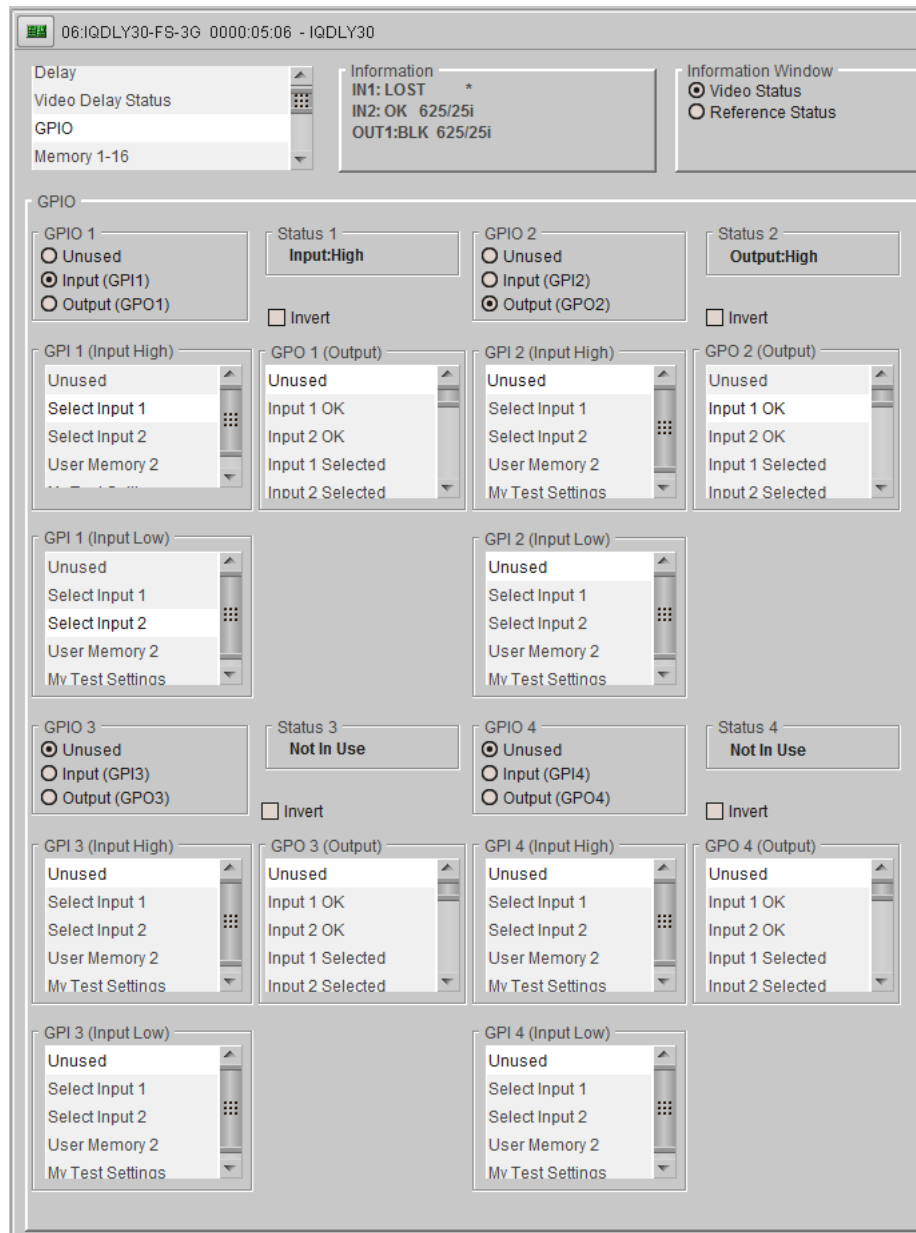


5.3.1 Delays for Video Standard

Each video standard has a status box which displays the bulk video delay and any offset that is configured for the video standard. This screen is a status screen and no changes can be made. If configuration changes are required please see section 5.2.

5.4 GPIO

The GPIO controls are used to configure the four General Purpose Input/Output connector functions.



5.4.1 GPIO 1, 2, 3 & 4

- **Unused:** When selected, GPIO is inactive.
- **Input:** Configures the GPIO as an input. This enables the user to choose what action occurs when the GPIO input is grounded or, if the **Invert** function is selected, becomes open.

GPIO Input actions available:

- **Unused** - No action is taken
- **Select Input 1** - Selects Input 1 for processing
- **Select Input 2** - Selects Input 2 for processing
- **User Memory** - Enables the selected User Memory (1 to 16 or user memory name if modified)

The user can configure the GPIO to call separate actions for High and Low GPIO events.

For example, if only one action is required on Input Low:

Under GPIO n (Input Low), set to **Select Input 1** and under GPIO n (Input High), set to **Unused**.

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

Under GPIO n (Input High), set to **Select Input 1**, and under GPIO n (Input Low), set to **Select Input 2**.

- **Output:** Configures the GPIO as an output. The GPIO output is configured to switch when the IQDLY30 is in a specific condition (see the following list). In normal operation the GPIO output is driven to ground. If the **Invert** function is selected the output will be driven to +5 V. When the **Invert** function is enabled the output rises to +5 V via a 2k2 pull up resistor (see section 5.4.3).

Note:

The GPIO outputs have one configuration box. If **Unused** is selected the GPIO output is inactive.

GPIO Output functions available:

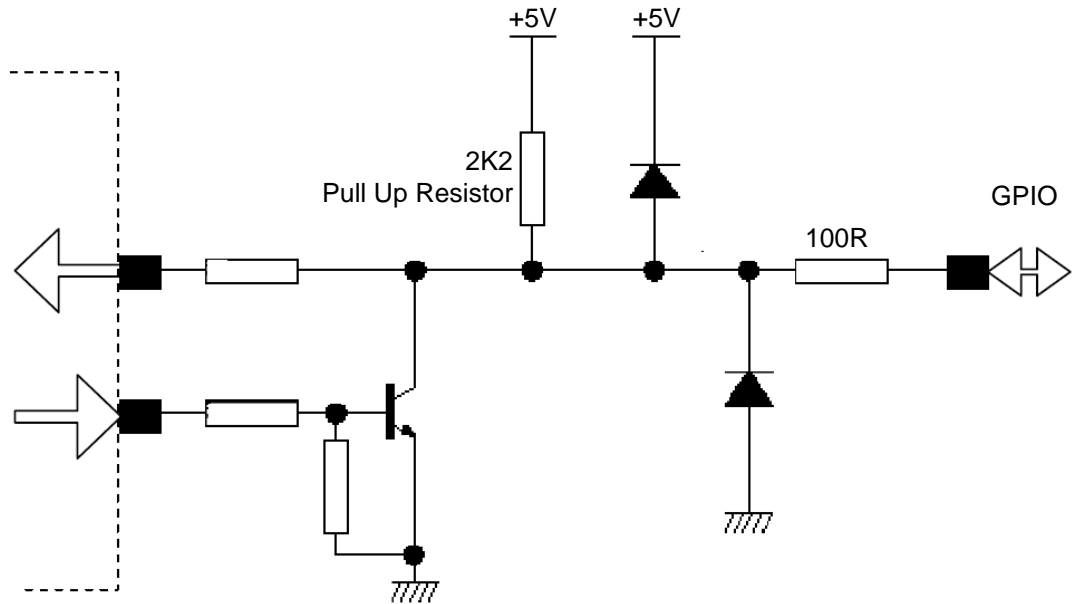
- **Unused** - No action is taken
- **Input 1 OK** - Operates when Input 1 has a valid video signal
- **Input 2 OK** - Operates when Input 2 has a valid video signal
- **Input 1 Selected** - Operates when Input 1 is selected for processing
- **Input 2 Selected** - Operates when Input 2 is selected for processing
- **No User Memory Selected** - Operates when no User Memory has been selected
- **User Memory 1 to 16** or saved memory name - Operates when the selected User Memory is in enabled (available once a user memory has been saved)
- **Input Invalid** - Operates when the video signal on the selected input is invalid
- **Input 1 Standard 525/29i** - Operates when the standard on input 1 is 525/29i
- **Input 1 Standard 720/59p** - Operates when the standard on input 1 is 720/59p
- **Input 1 Standard 1080/29i** - Operates when the standard on input 1 is 1080/29i
- **Input 1 Standard 1080/59p** - Operates when the standard on input 1 is 1080/59p
- **Input 1 Standard 625/25i** - Operates when the standard on input 1 is 625/25i
- **Input 1 Standard 720/50p** - Operates when the standard on input 1 is 720/50p
- **Input 1 Standard 1080/25i** - Operates when the standard on input 1 is 1080/25i
- **Input 1 Standard 1080/50p** - Operates when the standard on input 1 is 1080/50p

Input 2 standards reporting available as Input 1 above

5.4.2 Status 1, 2, 3 & 4

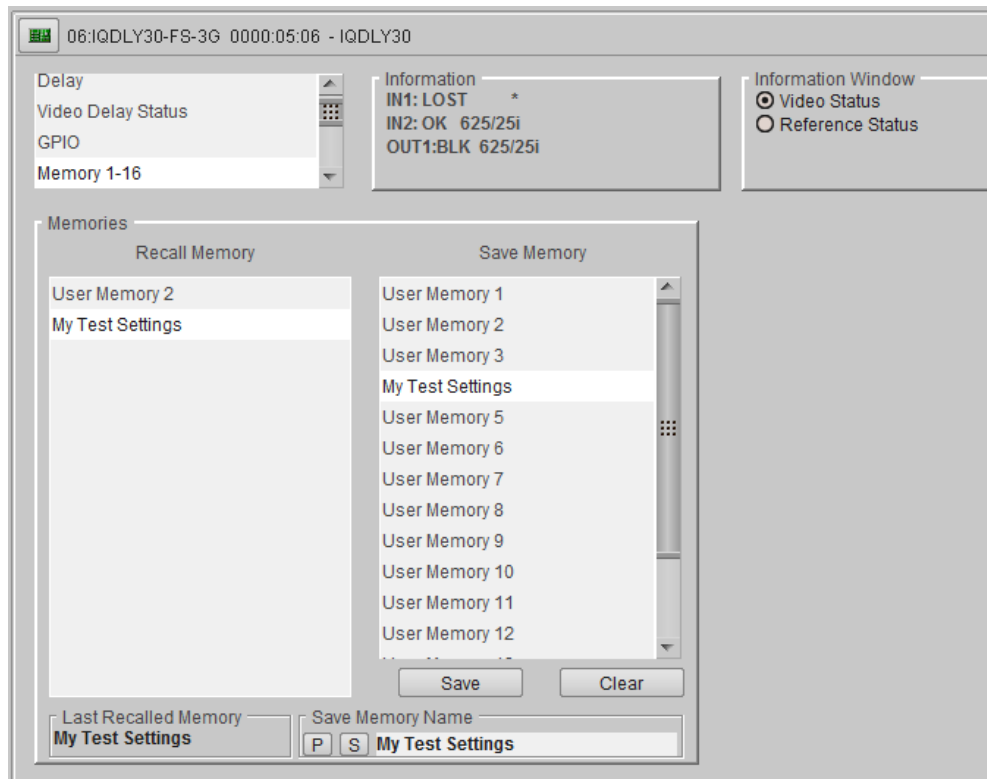
The Status box shows whether the GPIO is configured as an input or output and whether the GPIO state is high or low.

5.4.3 GPIO Interface Circuitry



5.5 Memory 1-16

The **Memory** screen enables up to 16 setups to be saved and recalled later. Default memory names can be changed to provide more meaningful descriptions.



5.5.1 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.

5.5.2 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**.

5.5.3 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 a control is changed after recalling a memory, Last Recalled Memory displays * behind the memory name.

To recall a memory:

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

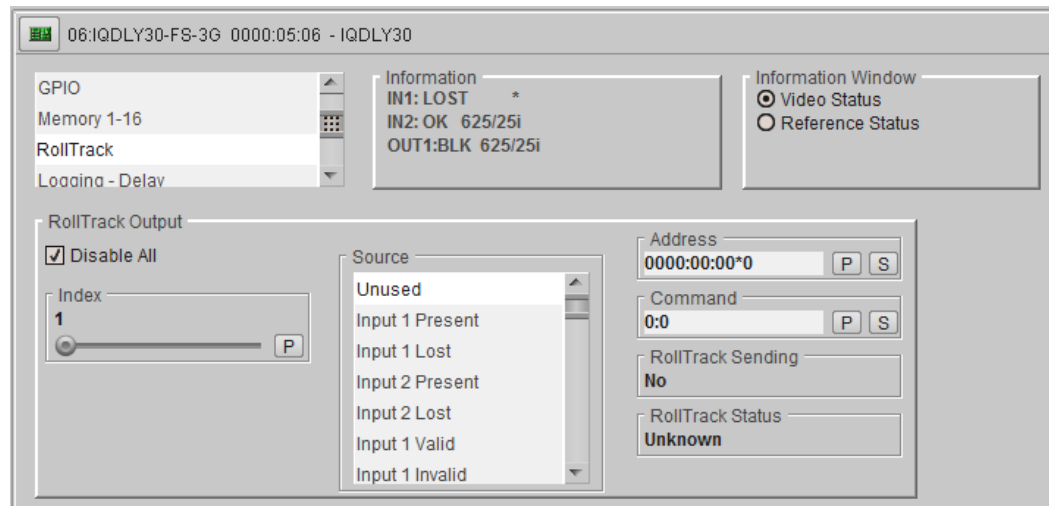
Note: Memories do not recall log field states, such as whether a log value is enabled or disabled.

5.6 RollTrack

The RollTrack screen allows information to be sent through the RollCall Network to compatible units on the same network.

The RollTrack settings can be used 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



5.6.1 Disable All

The Disable All check box disables all RollTrack Functions.

5.6.2 Index

The Index slider identifies the RollTrack action being configured. The user can create up to 16 RollTrack actions.

5.6.3 Source

The Source list specifies the source of the information that triggers the data transmission.

5.6.4 Address

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

- The first set, 0000 in the example, is the network segment code number
- The second set, 10 in the example, identifies the enclosure/mainframe unit
- The third set, 01 in the example, identifies the slot number in the unit
- The fourth set, 99 in the example, is a user-configured number that identifies the destination unit in a multi-unit system. This ensures that only the correct unit responds to commands. If left at 00, an incorrectly fitted unit may respond unexpectedly

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

5.7 Logging

Logging makes information about several parameters available to a logging device connected to the RollCall network.

Each logging screen has three columns:

- **Log Enable:** Use the check boxes to select the parameters for which log information should be collected
- **Log Field:** Shows the name of the logging field
- **Log Value:** Shows the current log value

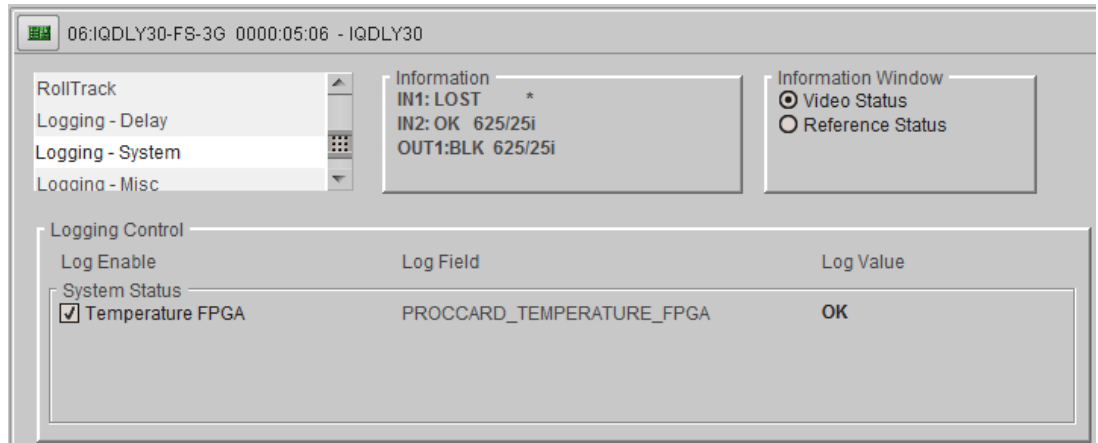
5.7.1 Logging Delay

Logging Delay shows the current log information for the module's current status.

Log Enable	Log Field	Log Value
Inputs		
<input checked="" type="checkbox"/> Input 1 State	INPUT_1_STATE	FAIL:Lost
<input checked="" type="checkbox"/> Input 1 Standard	INPUT_1_STANDARD	Unknown
<input checked="" type="checkbox"/> Input 1 Type	INPUT_1_TYPE	3G/HD/SD SDI
<input checked="" type="checkbox"/> Input 1 Identifier	INPUT_1_IDENT	Serial In 1
<input checked="" type="checkbox"/> Input 2 State	INPUT_2_STATE	OK
<input checked="" type="checkbox"/> Input 2 Standard	INPUT_2_STANDARD	625/25i
<input checked="" type="checkbox"/> Input 2 Type	INPUT_2_TYPE	3G/HD/SD SDI
<input checked="" type="checkbox"/> Input 2 Identifier	INPUT_2_IDENT	Serial In 2
Outputs		
<input checked="" type="checkbox"/> Input Select	OUTPUT_1	1
<input checked="" type="checkbox"/> Current O/P Standard	OUTPUT_1_STANDARD	625/25i
<input checked="" type="checkbox"/> Output Type	OUTPUT_1_TYPE	3G/HD/SD SDI
<input checked="" type="checkbox"/> Output State	OUTPUT_1_STATE	WARN:Black
References		
<input checked="" type="checkbox"/> Genlock State	GENLOCK_1_STATE	WARN:Freerun
<input checked="" type="checkbox"/> Reference Source	REFERENCE_1_SOURCE	Lock to Input
<input checked="" type="checkbox"/> Reference Fail Mode	REFERENCE_1_FAIL_MODE	Lock to Input
<input checked="" type="checkbox"/> Reference 1 State	REFERENCE_1_STATE	FAIL:Lost
<input checked="" type="checkbox"/> Reference 1 Standard	REFERENCE_1_STANDARD	Unknown
<input checked="" type="checkbox"/> Reference 1 Type	REFERENCE_1_TYPE	WARN:Unknown
Delays		
<input checked="" type="checkbox"/> Delay Time Total	DELAY_1_TIME_TOTAL	7.039999 Seconds

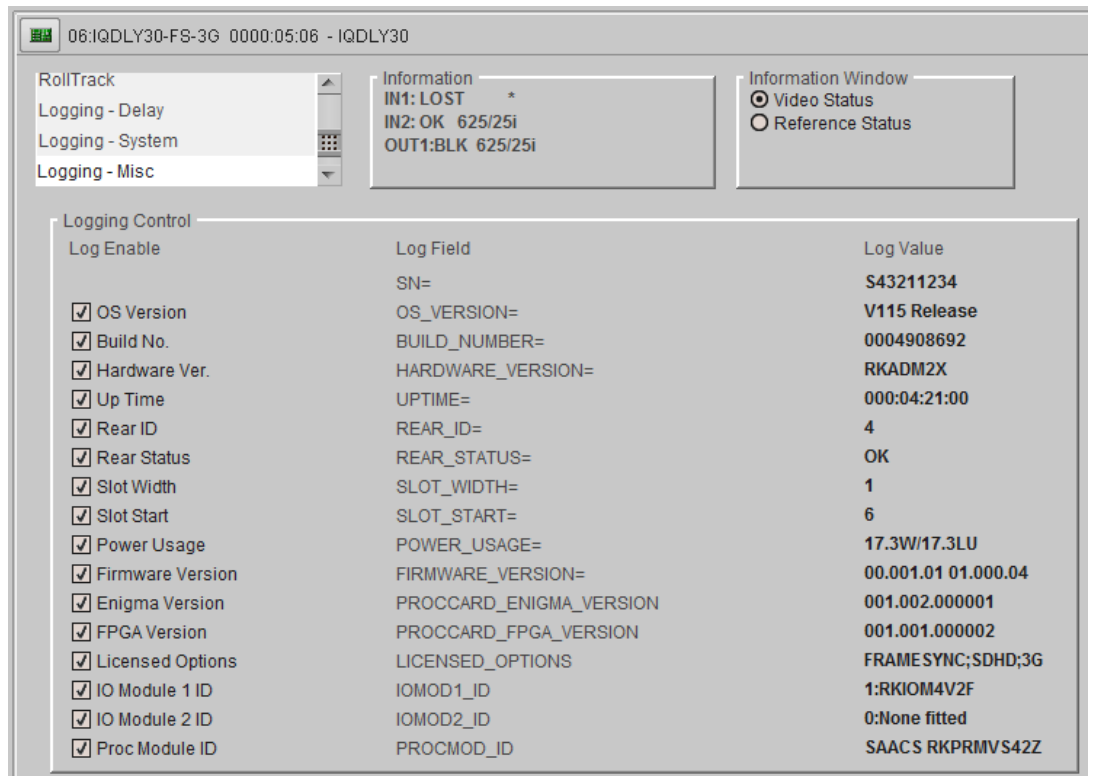
5.7.2 Logging System

Logging System shows the current log information for the module's temperatures, voltages and fan status.



5.7.3 Logging-Misc

Logging-Misc shows the current log information for the unit's basic parameters.



5.8 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.

- **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
- **Enigma and FPGA Versions**
 - **Enigma** - The Enigma software version being used by the module
 - **FPGA** The FPGA firmware version being used by the module

5.8.1 Default Settings

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

5.8.2 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.

5.8.3 Restart

The **Restart** button enables the module to be rebooted, simulating a power-up/power-down cycle.