



Quick Start Guide

IQHIP00

HD/SD-SDI Hyperion Intelligent Processor Module

About this Manual

Products Covered

This guide will help you to understand the concepts behind the Hyperion Content Monitoring software and will give examples of how it may be used in a practice.

This manual is to be used in conjunction with the *IQHIP00 User Instruction Manual* (supplied with this equipment), that has a full explanation of the functions, features and specifications of this equipment.

Software Version

This unit is fitted with software version 5.19.19.

Copyright and Disclaimer

Copyright protection claimed includes all forms and matters of copyrightable material and information now allowed by statutory or judicial law or hereinafter granted, including without limitation, material generated from the software programs which are displayed on the screen such as icons, screen display looks, etc.

Information in this manual and software are subject to change without notice and does not represent a commitment on the part of Snell Ltd. The software described in this manual is furnished under a license agreement and may not be reproduced or copied in any manner without prior agreement with Snell Ltd. or their authorized agents.

No part of this publication may be transmitted or reproduced in any form or by any means, electronic or mechanical, including photocopy, recording or any information storage and retrieval system, without permission being granted, in writing, by the publishers or their authorized agents.

Manufacturer's Notice

Reproduction or disassembly of embedded computer programs or algorithms prohibited. Snell operates a policy of continuous improvement and development. Snell reserves the right to make changes and improvements to any of the products described in this document without prior notice.

No responsibility is taken by the manufacturer or supplier for any non-compliance to EMC standards due to incorrect installation.

Trademarks

Microsoft® is a registered trademark of Microsoft® Corporation in the United States and other countries.

Windows® is a registered trademark of Microsoft® Corporation in the United States and other countries.

RollCall™ is a trademark of Snell Limited.

Hyperion™ is a trademark of Snell Limited.

Product Support

Providing Information to Snell

If you experience any technical or operational difficulties with a Snell product please do not hesitate to contact us to request assistance.

There is a lot of information you can give us that will enable us to diagnose your problem swiftly. Please read the following guidelines, as these suggestions will help us to help you.

Basic Information

- **For Units:** Please provide the exact product Model, unit Serial Number and Software Version information.
- **For Cards or Modules:** Please provide the Sub-Assembly Number, Card Serial Number and the Software Version information.

Basic Application

- **Inputs:** Please provide full details of the Input Signals being used including any references, etc., and where they are being generated.
- **Outputs:** Please provide full details of the Output Signals required and how they are being monitored.
- **System:** Please provide a brief description of the system in which your Snell equipment is currently being used.

Basic Tests

- **Preset Unit:** Please use the Preset Unit function to return the settings back to the factory default settings.
- **RollCall:** Is your unit currently connected to a RollCall capable PC? This software is obtainable for free and provides a very user friendly GUI for virtually all Snell equipment - perfect for complex products, large systems or those with passive front panels.
- **Card Edge Info:** What is the status of the card edge LEDs or display? These can often provide information such as power status and input detection conditions.
- **Internal TPG:** Many Snell products have an internal test pattern/tone generator. Please activate this to assist you with your problem analysis.

Your Contact Details

In addition to the above, please do not forget to provide us with your contact details to enable us to get in touch with you swiftly:

- name(s)
- telephone & fax numbers
- e-mail addresses
- business address

Contact Information

Snell's contact details can be found at the Snell website at: www.snellgroup.com/support

United Kingdom (HQ)
+44 (0) 118 921 4214 (tel)
+44 (0) 118 921 4268 fax
customersupport@snellgroup.com

Regional Support Contacts

Snell USA

+1 818 556 2616 (tel)
+1 818 556 2626 (fax)
support.us@snellgroup.com

Snell Germany

+49 (0) 6122 98 43 0 (tel)
+49 (0) 6122 98 43 44 (fax)
support.germany@snellgroup.com

Snell Spain

+34 91 446 23 07 (tel)
+34 91 446 17 74 (fax)
support.spain@snellgroup.com

Snell France

+33 (0) 1 45 28 1000 (tel)
+33 (0) 1 45 28 6452 (fax)
support.france@snellgroup.com

Snell Asia Pacific

+852 2356 1660 (tel)
+852 2575 1690 (fax)
support.hk@snellgroup.com

Snell India

+91 124 462 6000 (tel)
+91 124 437 5888 (fax)
support.india@snellgroup.com

Snell Russia

+7 499 248 3443 (tel)
+7 499 248 1104 (fax)
support.russia@snellgroup.com

Snell China

+86 10 6515 6158 (tel)
+86 10 6515 5659 (fax)
support.china@snellgroup.com

Returns Information

If for any reason you should you need to return your equipment at any time, please contact your regional office for an RMA number and send to one of the following regional returns centres.

United Kingdom (HQ)

Southleigh Park House
Eastleigh Road
Havant
Hants
PO9 2PE
UK

Snell USA

3519 Pacific Ave
Burbank
CA 91505
USA

Snell Asia Pacific

Room 603, Tai Tung Building
No. 8 Fleming Road
Wanchai
Hong Kong

Contents

- About this Manual** 2
- Product Support** 3
- 1. Introduction** 3
- 2. Connecting the IQHIP00 Card** 4
- 3. Running the RollCall Control Panel** 5
- 4. Using the IQHIP00 Software** 7
- 5. On Screen Display Screen** 8
 - 5.1 Screen Display Parameters 9
 - 5.2 Bar Graph Displays and Warning Indicators 10
 - 5.3 Enable Updates - Check Boxes 11
 - 5.4 Parameter Controls 11
- 6. Black/Blackish Screen** 12
- 7. Freeze/Stillish Screen** 14
- 8. Video Monitor Screen** 16
- 9. Closed Captions Screen** 17
- 10. Ancillary Data Screen** 19
- 11. Wide Screen Signaling Screen** 21
- 12. Audio Data Screen** 22
- 13. Audio Level Detectors Screen** 23
- 14. Audio Likeness Screen** 26
- 15. UMID Screen** 27
- 16. PID Screen** 29
- 17. Alarm Enable Summary Screen** 31
- 18. Memory 1 - 16 Screen** 32
- 19. Setup Screen** 33
- 20. Logging Screens** 34

1. Introduction

The IQHIP00 is an HD/SD-SDI distribution amplifier. Hyperion is designed to continuously and automatically monitor signal content providing verification of whether legal and technical obligations are being met. It enables 'Hyperion parameters' to be defined for various aspects of the input signal and then monitors or measures those parameters to ensure that they are within valid limits.

For video, factors such as motion level within the content, the amount of darkness and amount of picture color are monitored.

For audio, factors including Dolby D/E or PCM audio presence and level information such as silent, quiet, loud, overload and pre-clipped are reported.

Picture regions can be monitored to allow for animated logos and onscreen graphics such as crawls. Alarm thresholds can all be adjusted allowing profiles to be set by the user for different material types (genres).



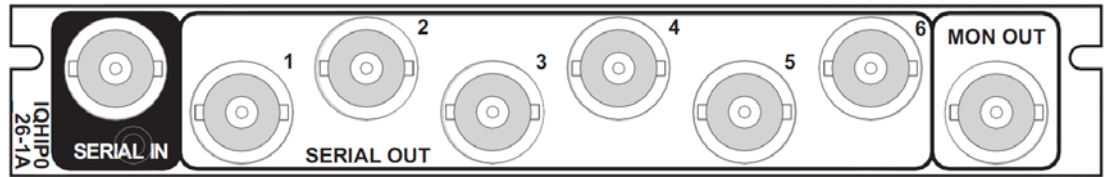
Content may be tracked through the broadcast chain by the insertion and reading of SMPTE UMIDs or Internal House Number, title and duration metadata. This data can be used to track content, verify that the correct content is being transmitted and even frame count the duration of every piece of content to ensure contractual obligations are being met.

For remote content identification, delivery of video thumbnail images and audio level monitoring provide a secondary manual level of confidence that content is correct at both internal and remote locations.

All alarms from this product can be integrated into the major Video display wall processors to streamline alarm reporting and reported through RollMap Infrastructure Management system or via SNMP to other vendor Control and Monitoring systems.

2. Connecting the IQHIP00 Card

The rear of the IQHIP00 card, shown below, provides 1 input (SERIAL IN), 6 outputs (SERIAL OUT) and a monitoring output (MON OUT). All are BNC connectors.



Note: The 3U enclosure has to be powered down before fitting the connection module. See the *IQH3A 3U Enclosure Installation and User Manual* as a reference.

Note: The Enclosure does not have to be turned Off, the IQHIP00 card is “hot swappable”.

To connect the IQHIP00 card:

1. Slide the IQHIP00 card into the enclosure and gently press and click into place, the source out from the card is instantaneous.
2. Connect the video input source to the input (SERIAL IN).
3. Connect outputs 1-6 (SERIAL OUT) to the relevant equipment, as required. Audio is output as 16 channel embedded AES.
4. Connect output 7 (MON OUT) to a monitor screen so that you may view the on screen information provided by Hyperion.

Note: The Hyperion on screen information may also be output on outputs 1-6, if required, by entering a password, see *On Screen Display Screen*.

3. Running the RollCall Control Panel

The 3U enclosure fitted with the IQHIP00 can be controlled and monitored by a internet-connected PC that contains the following software:

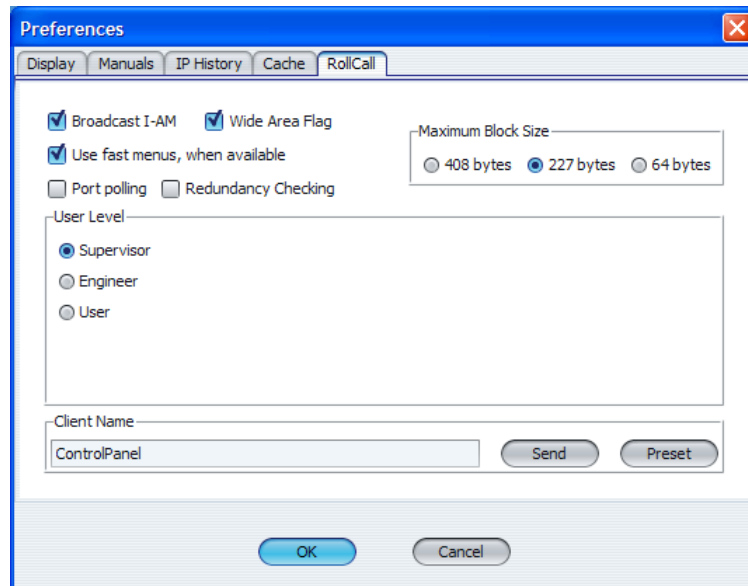
- RollCall Control Panel
- RollMap
- RollCall Logging

To run and set up the IQHIP00 software:

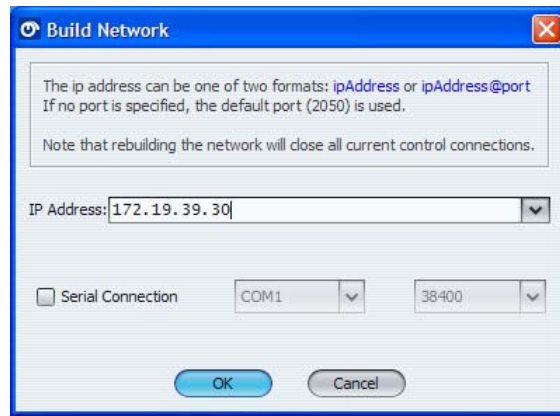
1. Click on the **RollCall Control Panel** icon (shown below) on the PC desktop to run the software.



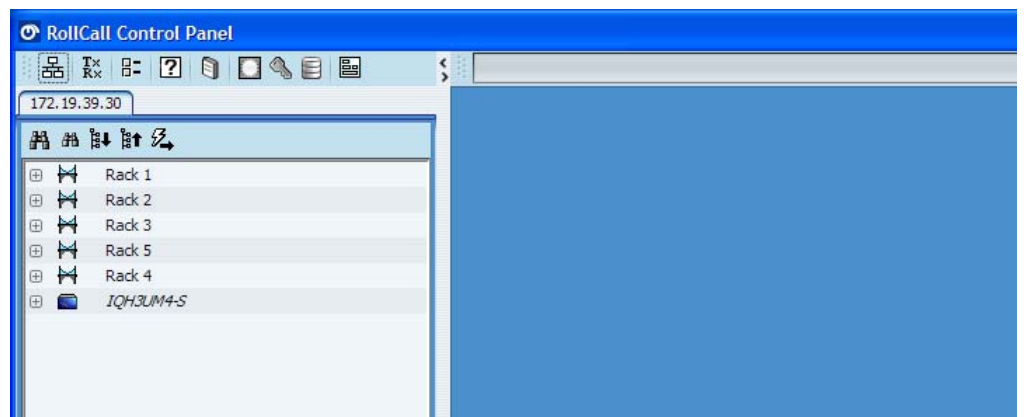
2. Before you use the IQHIP00 software, it is advisable to set your user level to Supervisor. This enables access to all areas of the IQHIP00 software and setup of all functional parameters, which can then be saved for and recalled, if necessary. On the RollCall Control Panel, click the **Preferences** button to display a dialog (shown below). Then click the **RollCall** tab on the **Preferences** dialog and select **Supervisor** as the User Level. Click **OK** to confirm.



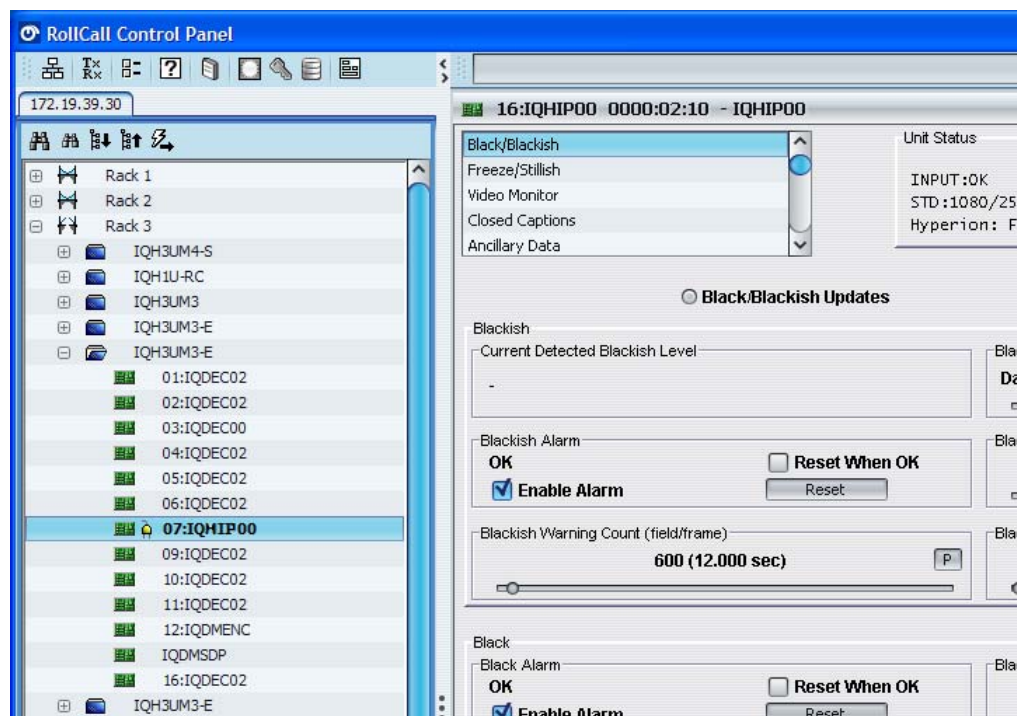
3. To acquire the equipment, click the **Build Network** button to display a dialog (shown below). In the Build Network dialog enter the IP address (and port, if necessary) of the equipment. Click **OK** to confirm.



- 4. A list of the equipment found at the IP address is displayed in the listing window on the left-hand side. Click on the expand buttons to see the list of enclosures and modules fitted to each enclosure.

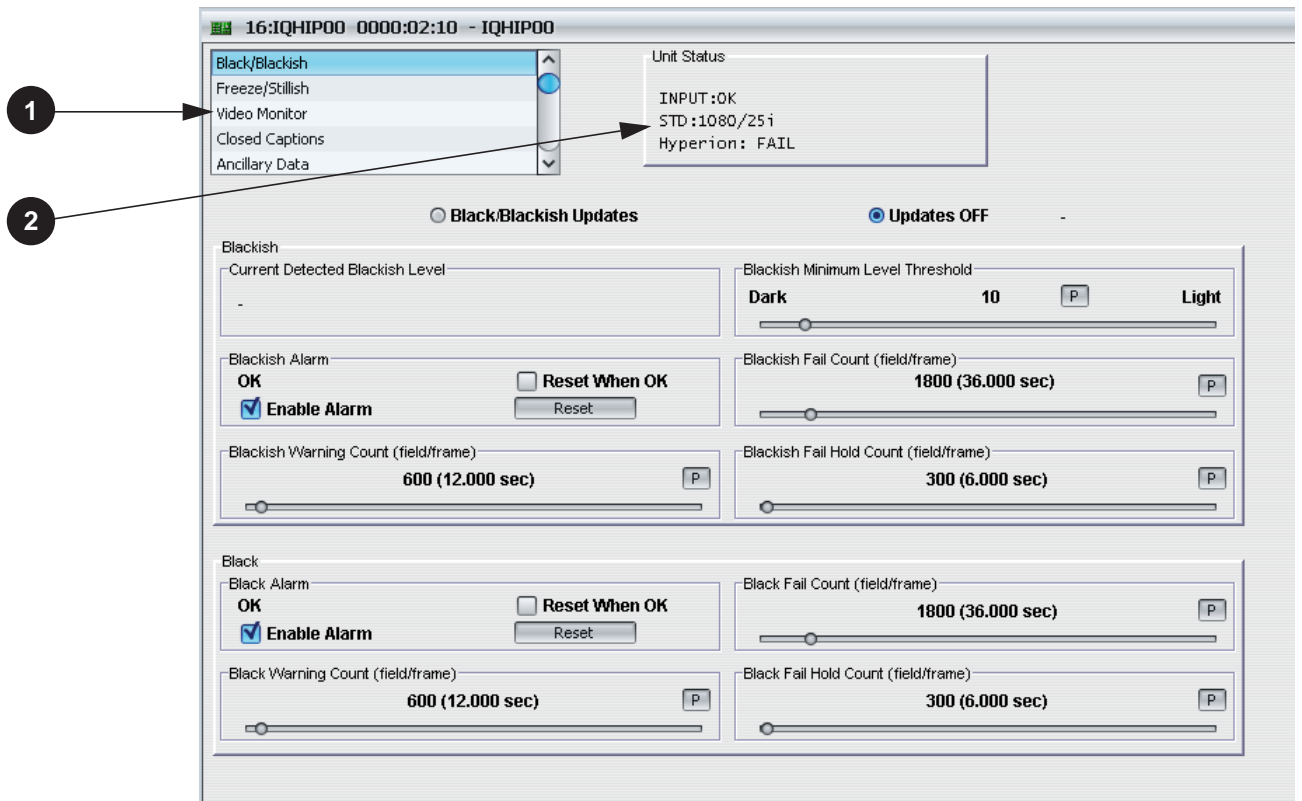


- 5. From the RollCall Listing window, select the IQHIP00 module and click Return on the keyboard. Alternatively, right-click the module to display a context menu and select and select the **Connect** option. The relevant template for the module will be downloaded and displayed in the RollCall Control Panel window.



4. Using the IQHIP00 Software

The RollCall Control Panel software from the IQHIP00 will take a few seconds to be displayed. Once displayed, the control interface software is ready to use.



1. Screen Navigation

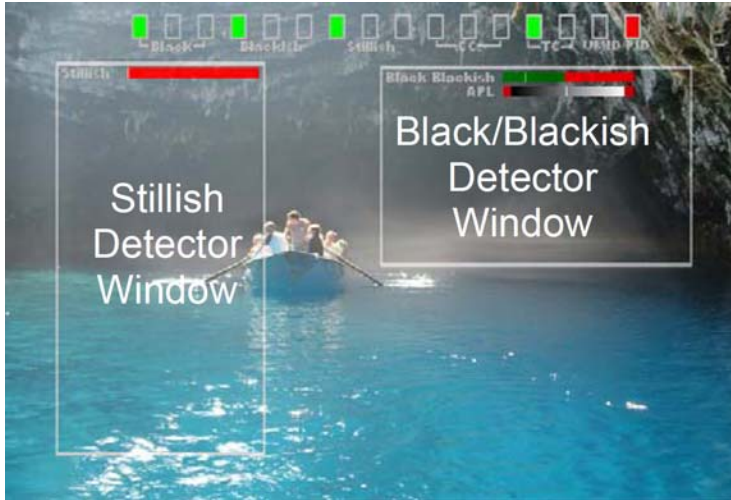
To navigate the various configuration screens, select a category displayed in the top left of the screen. Each screen, displayed underneath, provides options and fields in which to view and edit the settings for that function. A summary of all the available screens is given in the following sections of this guide.

2. Unit Status

The Unit Status area displays the state of the input to the card, the video standard that is being received and if the content monitoring is working, if any part of the process on the input or output is not working then a "FAIL" will be displayed.

5. On Screen Display Screen

The On Screen Display (OSD) screen is a visual representation which indicates parameter settings for the detection areas for **Black/Blackish** and **Freeze/Stillish** and warning indicators such as **CC** (closed caption), and **UMID** (unique material identification)..



The OSD can be displayed on a single dedicated monitoring output (Output 7), on Outputs 1-6 collectively, or on all seven outputs.

To display the OSD on Output 7 only:

In the OSD On Output 7 section, select the **Enable** check box.

To display the OSD on Output 1-6:

To prevent the OSD from being accidentally displayed on Outputs 1-6, a simple key must be entered before the OSD for these outputs can be enabled.

In the On Screen Display On Outputs 1-6 section, type 123456 in the text box, click the return button, and then select the Enable check box.

Note: The **Enable** check box must be checked within 4 seconds of clicking the return button.

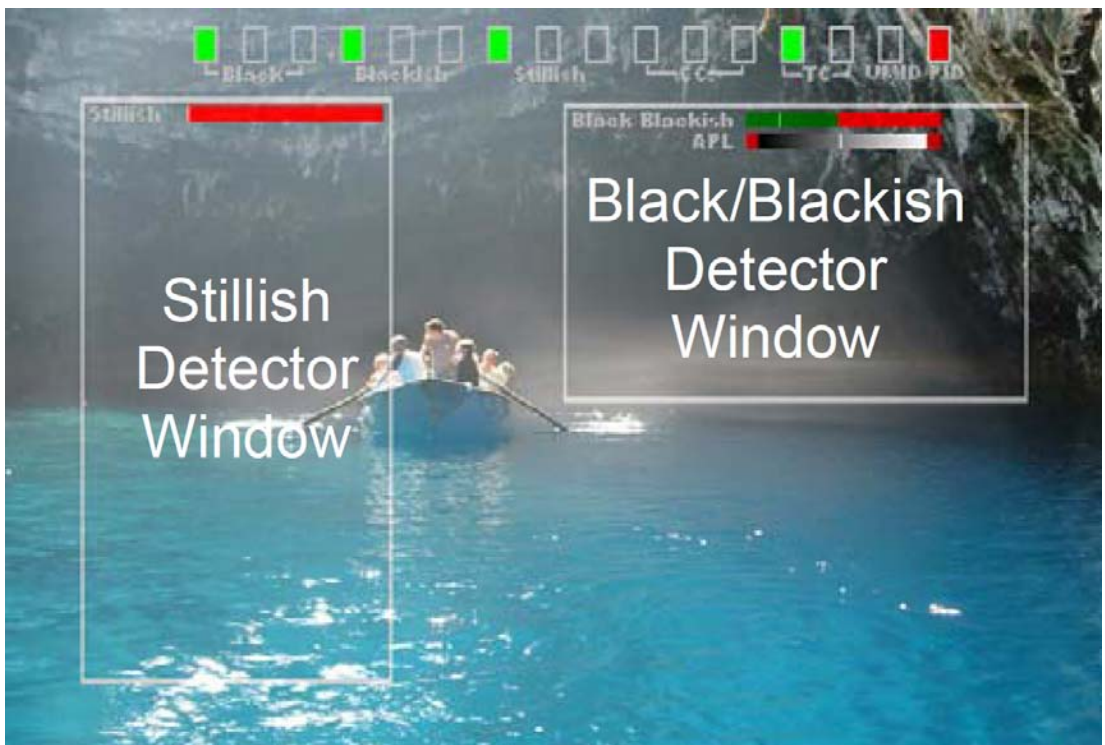
Important: Enabling the On Screen Display will add the detector indicators and detection windows to all 7 outputs.

5.1 Screen Display Parameters

The OSD parameter controls are used to enable and position the detection areas and warning indicators on-screen. They all basically work in the same way in this screen, below is an example for the "**Blackish Detector Window**"

Adjusting the **X** and **Y** position controls will move the detection areas and warning indicators horizontally and vertically around the viewing area. The **Width** and **Height** adjustment expand and contract the viewing area.

The check boxes enable the detection area boxes and the warning indicators.



Note: A Hyperion parameter with a detector window can either detect the parameter inside the window, outside of the window or over the entire screen.

The controls that define the detector window are **X** and **Y** start co-ordinates within the active area of the picture, and two length parameters, **Width** and **Height**.

Window Mode has three selection options for the detection software.

- **Detect Inside Window** - will monitor the area inside the detection window.
- **Detect Outside Window** - will monitor the area outside the detection window.
- **Detect Full Screen** - will detect the whole screen area.



5.2 Bar Graph Displays and Warning Indicators

Bar Graph

Visible at the top of a detector window will be a "real time bar graph display" of the detected Stillish value, Black/Blackish value and below that a real time bar graph of Luminance APL.



For example: for the blackish value, the green portion of the bar represents an area where if the threshold value (cursor) appears, it will not cause a blackish event. The red area indicates that a blackish alarm event would occur.

0 is the minimum blackish value (towards the right hand end) and 100 is the maximum blackish value (toward the left-hand end).

The two bars show the OK and FAIL situations.

The first would indicate that the amount of blackish is less than the threshold, and the blackish detector would flag a warning or alarm depending on the parameter settings.

The second bar would indicate that the amount of blackish is more than the threshold and the blackish detector would not flag a warning or alarm.

Warning Indicators

For example: When this is selected as on-screen indicators for the Stillish function, the indicators will be visible at the top of the screen.

There are 3 indicators, green, yellow and red.



- **Green:** The module has not detected still or stillish video set by the thresholds.
- **Yellow:** The module has detected still or stillish video set by the thresholds set by the 'Stillish Warning' parameter
- **Red:** The module has detected still or stillish video set by the thresholds set by the 'Stillish Alarm' parameter

5.3 Enable Updates - Check Boxes

Before Using the Hyperion Content Monitoring Software:

Parameter information that can be used as warning alarms, can be made available to a logging device that is attached to the RollCall™ network, checking the **Enable Updates** boxes which are in most of the parameter setup screens, allows the information to be sent to the RollCall Logging network.

Note: Only one of the **Enable Updates** boxes needs to be checked to turn this function on in each applicable screen.

Note: This item is unchecked at power up and when **Factory Defaults** or **Restart Unit** are selected.

5.4 Parameter Controls

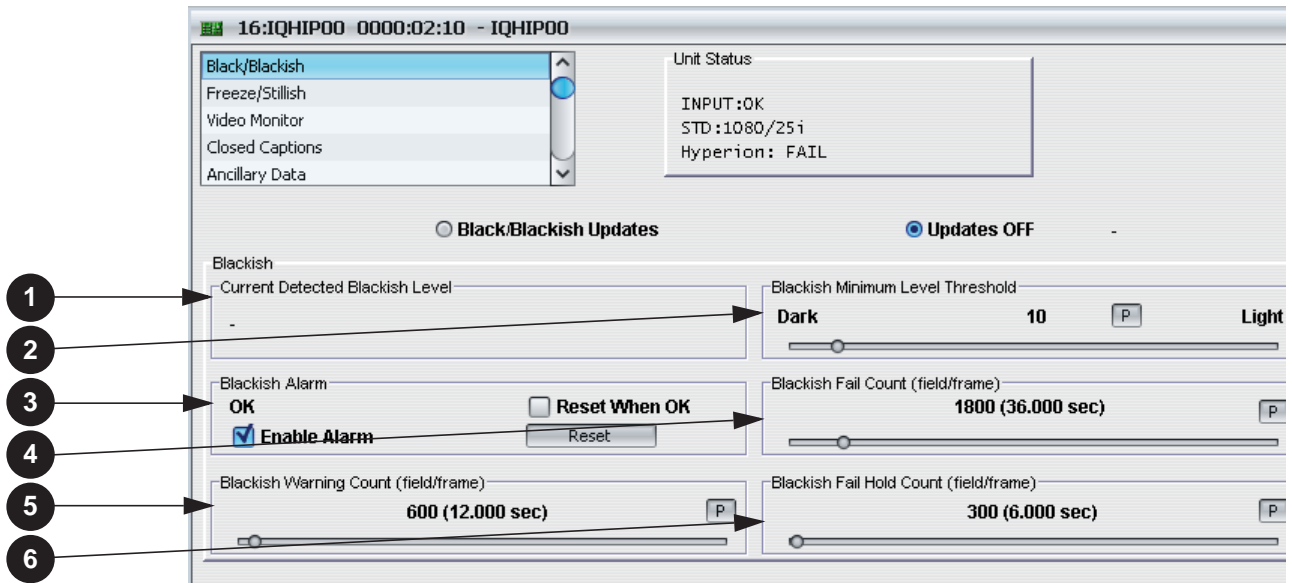
The IQHIP00 is shipped with the parameters set to a default (preset) state, this state is a reference point which will allow the software to run without setting off too many alarm states.

The user is free to set the parameters to their own preference and needs, if at anytime the user needs to go back to the reference point, press the Preset (**P**) button.

6. Black/Blackish Screen

The Hyperion Black and Blackish modules provide a means of detecting dark or blackish areas within SDI SD or HD video. The Blackish function is different to the average picture luminosity in that the algorithm curve maps closer to the human eye, rather than a straight line as related to luminosity. Any small area that is brilliant white will trigger a large blackish response, whereas, the average picture luminosity for the same image would be very small. There are two blackish functions installed within Hyperion. The first, **Black**, is a blackish detector with a zero threshold. This detector is very selective and will be triggered if the whole picture is black or has very few non black pixels. The second may have its threshold (see below) adjusted for custom blackish settings.

Note: The screen parameters for Black are exactly the same as the parameters explained above for Blackish.



1. Current Detected Blackish Level

This is the current blackish value that is the dividing line between the blackish detector detecting blackish or not blackish. If the threshold setting is below this value, the detector will not detect blackish, if above, then the detector will detect blackish.

2. Blackish Level Threshold

Moving this parameter slider will move the white line on the bar graph display when the On Screen Display is turned ON.



This allows the degree of blackish level that triggers the detector, to be set. The range is from 0 to 100 units in 1-unit steps. Factory default is 100. Range for figures in brackets is 0 to 255 units. A setting of 0 on this control will make Blackish act exactly the same as Black.

3. Blackish Alarm

This item allows the alarm reporting to be enabled and shows the status of the Blackish alarm.

4. Blackish Fail Count (field/frame)

This sets the duration (in fields/frames) that the condition (exceeding the blackish threshold) has to be detected and maintained before the alarm condition is reported. The range of control is from 7 to 16000 in 1-unit steps. Factory default is 1800.

5. Blackish Warning Count (field/frame)

This sets the duration (in fields/frames) that the condition (exceeding the blackish threshold) has to be detected and maintained before a warning condition is reported. The range of control is from 7 to 16000 in 1-unit steps. Factory default is 600.

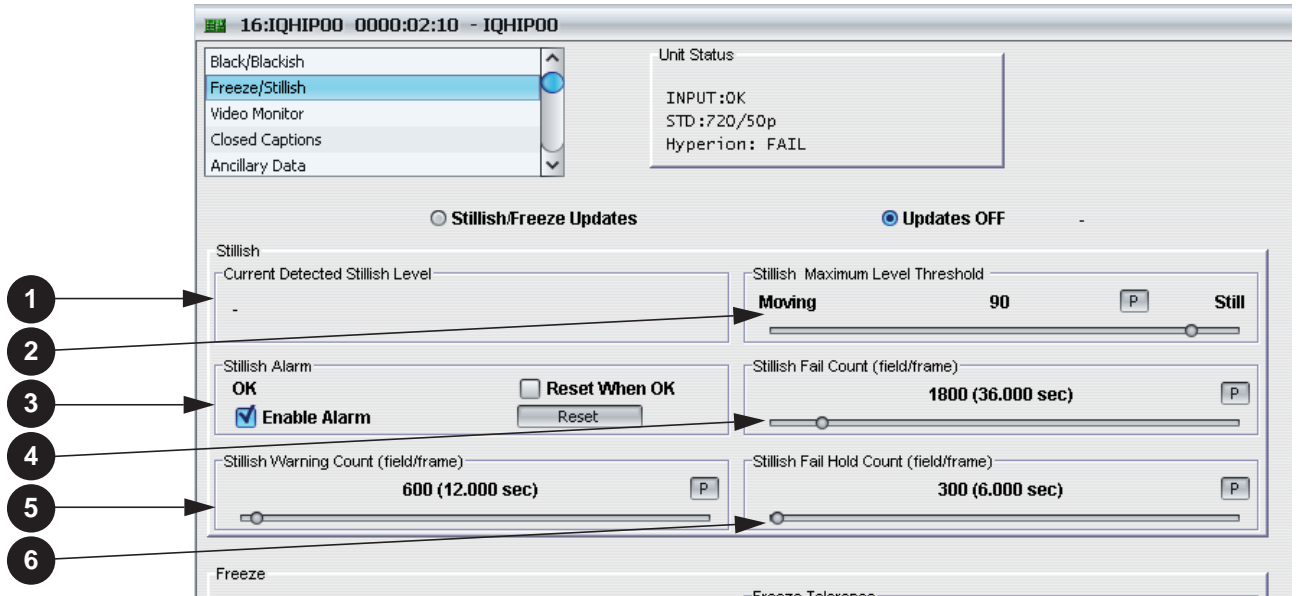
6. Blackish Fail Hold Count (field/frame)

This sets the duration (in fields/frames) that the condition (not exceeding the blackish threshold) has to be detected and maintained before the alarm condition is cleared. The range of control is from 7 to 16000 in 1-unit steps. Factory default is 300.

7. Freeze/Stillish Screen

This function detects video that has No, Very Little or A Lot of movement. The degree of movement that triggers the detector is set by the **Freeze/Stillish** threshold settings. These detectors have a detector window to allow the ability to be focussed upon a particular part of the video image.

Note: The screen parameters for Freeze are exactly the same as the parameters explained below for Stillish.



1. Current Detected Stillish Level

This shows the current stillish level where 1 (minimum) indicates a very large amount of motion and 100 (maximum) indicates a complete video freeze.

2. Stillish Maximum Level Threshold

Moving this parameter slider will move the white line on the bar graph display when the On Screen Display is turned ON.



This allows the degree of movement that triggers the detector to be set. The range is from 0 to 100 units in 1-unit steps. Factory default is 90. A threshold setting of 100 would require still video to alarm. A threshold setting of 1 would alarm unless the video is 100% moving (high movement rate).

3. Stillish Alarm

This item allows the alarm to be enabled and shows the status of the Stillish alarm.

4. Stillish Fail Count (field/frame)

This is the setting for how many Stillish flagged fields/frames (depending on whether the input video standard is of an interlaced or progressive type) the stillish detector module should go before flagging an ALARM. The range of control is from 12 to 16000 in 1-unit steps. Factory default is 1800.

5. Stillish Warning Count (field/frame)

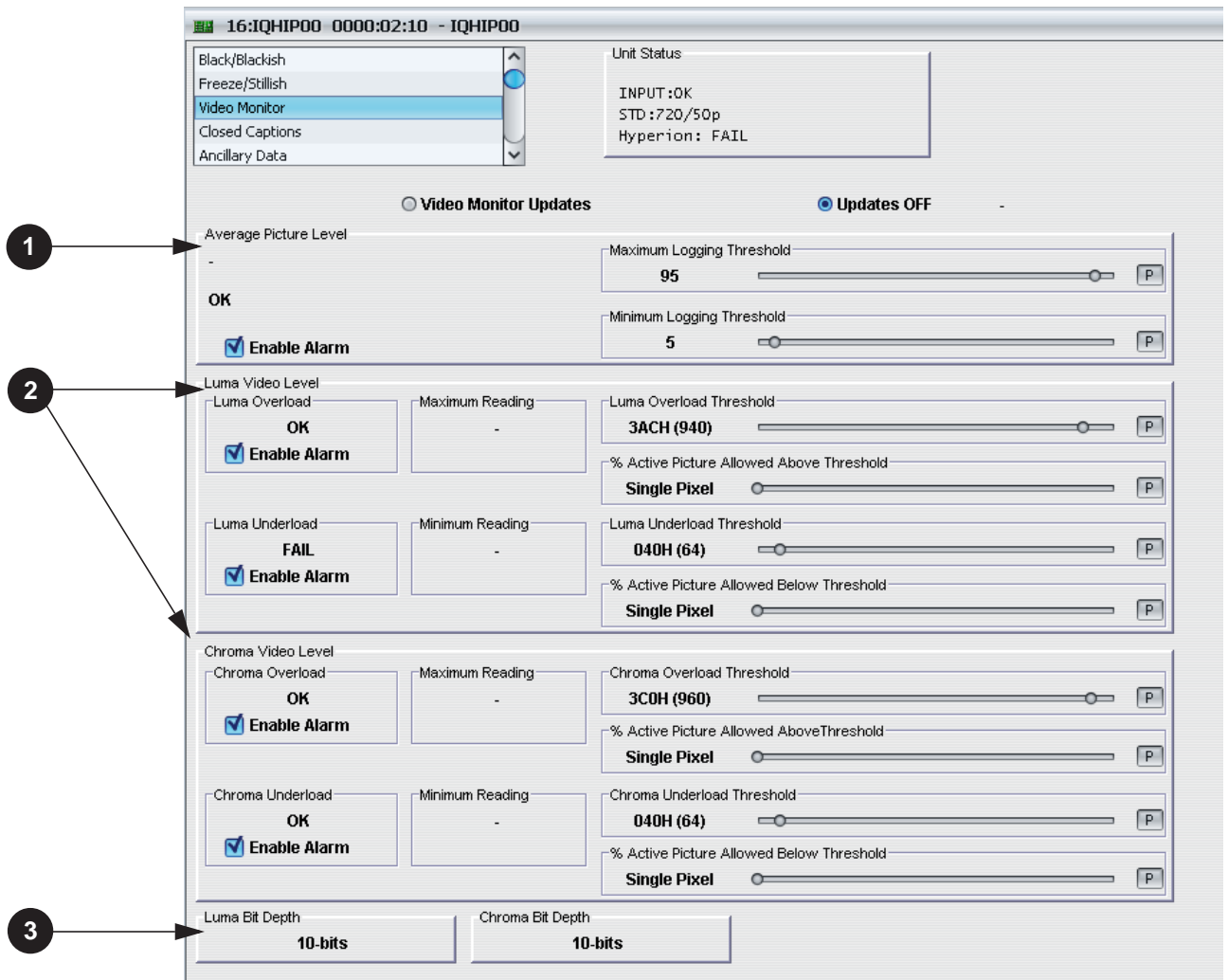
This is the setting for how many Stillish flagged fields/frames (depending on whether the input video standard is of an interlaced or progressive type) the stillish detector module should go before flagging a WARNING. The range of control is from 12 to 16000 in 1-unit steps. Factory default is 600.

6. Stillish Fail Hold Count (field/frame)

This is the setting for how many NON stillish flagged fields/frames (depending on whether the input video standard is of an interlaced or progressive type) the stillish detector module should go before clearing the ALARM condition. The range of control is from 1 to 16000 in 1-unit steps. Factory default is 300.

8. Video Monitor Screen

This screen enables video luma and chroma levels to be monitored.



1. Average Picture Level

Adjusting the APL OSD is done by altering the Min/Max Logging Threshold parameters.

This will display the APL (Average Picture Level) of the luminance channel of the signal as a percentage (range 0 to 100) and also (in brackets) as an 8-bit digital number (range 0 to 255).

It is the average level of the picture signal during active scanning time integrated over a frame period; defined as a percentage of the range between blanking and reference white level.

2. Luma/Chroma Video Level - Overload/Underload

The Overload and Underload detectors can be used to search for data above or below a certain value in the chrominance and luminance channels of the active picture in a SDI stream.

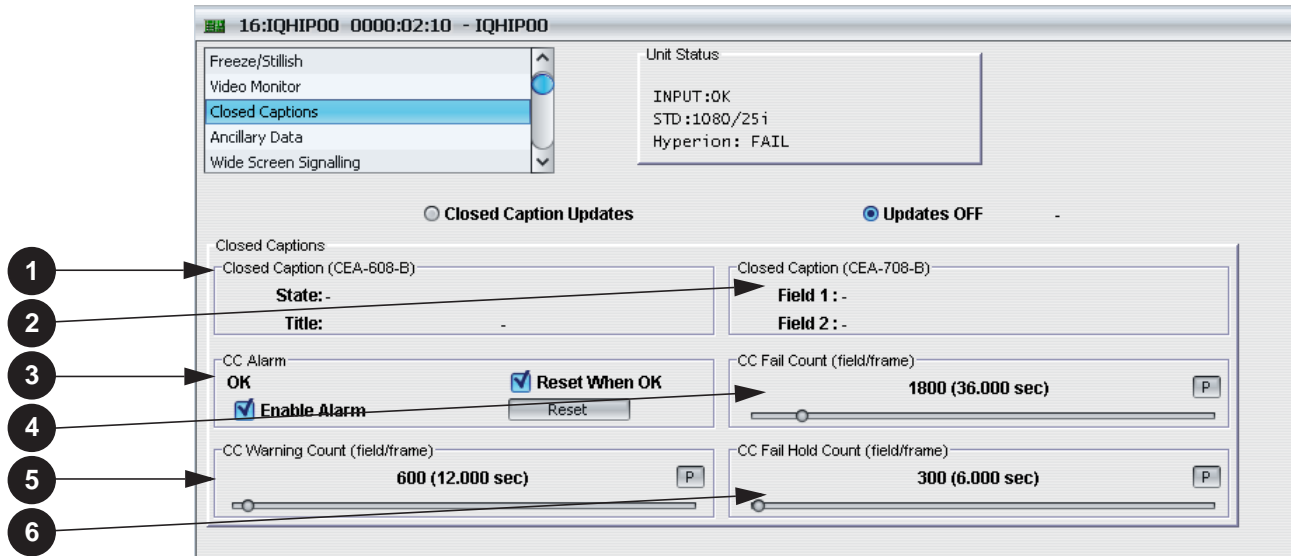
3. Luma/Chroma Bit Depth

The Video Bit Depth Detector can be used to determine the apparent bit depth of the chrominance and luminance channels of the active picture.

The detector operates by looking for activity on each bit of the video data in the active picture over a period of 1 frame.

9. Closed Captions Screen

Hyperion closed caption detection consists of detection for 525 line and for HD. In 525 line the captions present will be EIA-608-B standard and in HD the captions will be EIA-708-B.



1. Closed Caption (CEA-608-B)

EIA-608-B captions are detected by looking for the run-in code, as described in section 5.2 of CEA 608-B, when carried on Line 21 of 525 line NTSC. When captions are indicated as present, the parity of the data output has been checked and is valid.

2. Closed Caption (CEA-708-B)

EIA-708-B captions are detected by identifying the DID (Data Identifier) and SDID (Secondary Data Identifier) of the appropriate VBI data packet.

3. CC Alarm

The alarm shows the state of the Closed Caption detector followed by the frame count..

4. CC Fail Count (field/frame)

This is the number of Closed Caption free fields/frames that will have to pass before the CC Alarm will change to the Fail state. The range of control is from 10 to16000 in 1-unit steps. Factory default is 1800.

5. CC Warning Count (field/frame)

This is the number of Closed Caption free frames that will have to pass before the CC Alarm will change to the Warning state. The range of control is from 10 to16000 in 1-unit steps. Factory default is 600.

6. CC Fail Hold Count (field/frame)

This is the number of frames with Closed Captions present that will have to pass before the CC Alarm will reset from Fail to OK. The range of control is from 1 to16000 in 1-unit steps. Factory default is 300.

Closed Caption (CC) Indicators

These are turned on via the Ancillary Data function on the On Screen Display screen. They will be visible at the top of the screen on the outgoing video.

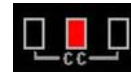
They show as an on screen "traffic light" type display of red, yellow and green:.



Green



Yellow

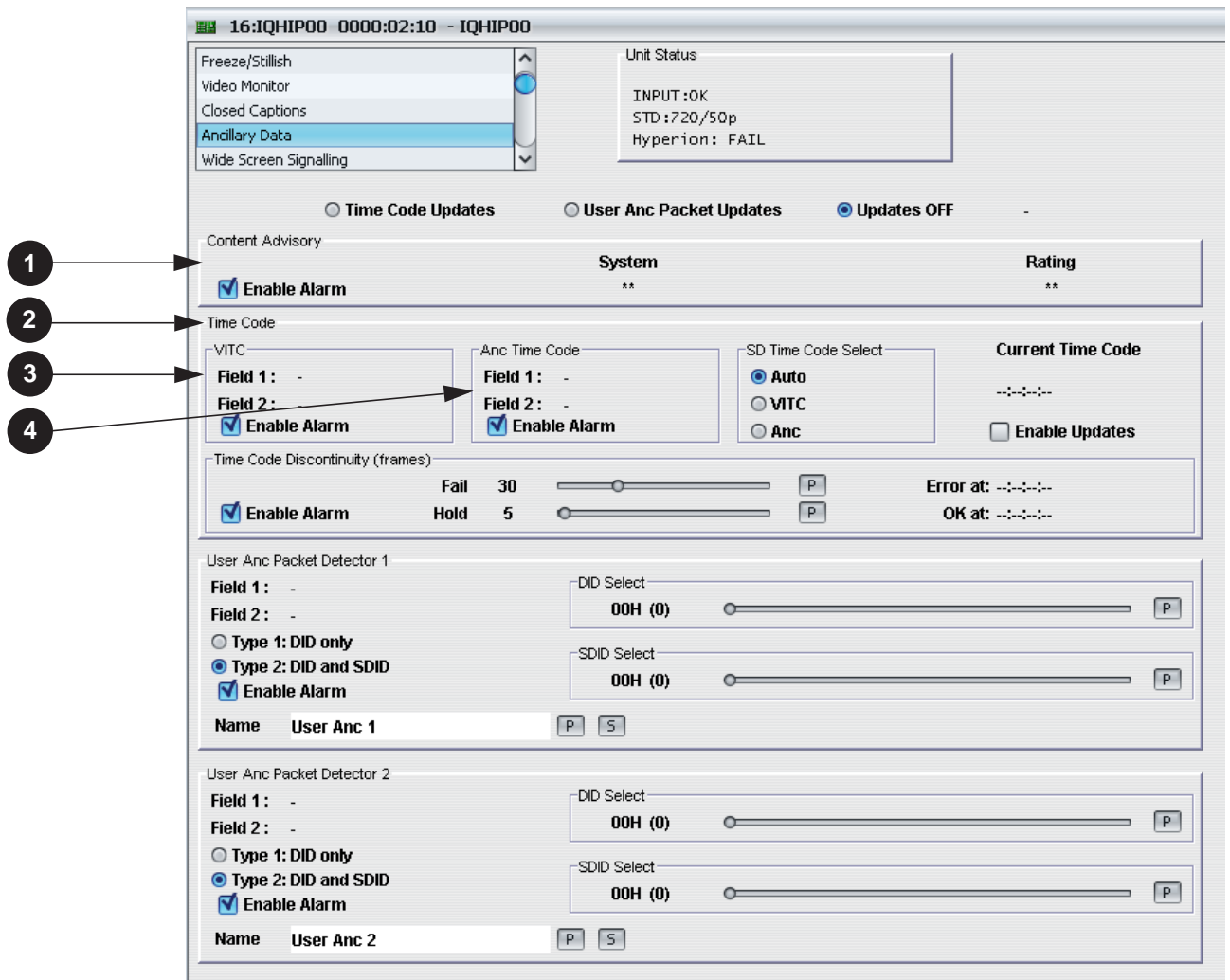


Red

- **Green:** The module has not detected closed captions set by the thresholds.
- **Yellow:** The module has detected closed captions set by the thresholds set by the 'CC Warning' parameter.
- **Red:** The module has detected closed captions set by the thresholds set by the 'CC Alarm' parameter.

10. Ancillary Data Screen

This screen enables content advisory information and timecode to be monitored.



1. Content Advisory

Content advisory information is data describing the age rating of programs transmitted. This can be carried in the EIA-608-B standard.

EIA-608-B data can then be carried in EIA-708-B packets, as discussed in section 4.3 of CEA 708 B. This also means that Content Advisory data can be carried in HD EIA-708-B Closed Captions. Hyperion can decode this information and display it on this screen.

When there is content advisory information, as outlined in section 9.5.1.5 of CEA-608-B, then this information is decoded and displayed on this screen.

This will first state the ratings system that is being used (e.g. MPA, US TV Parental Guidelines, etc) and then display the rating of the program being transmitted (e.g. TV-PG, TV-14, etc).

2. Time Code

This unit has two Time Code detectors, one for Vertical Interval Time Code (VITC) in SD, and one for Ancillary Time Code in SD or HD.

3. VITC

This reports back whether or not valid VITC has been found, and if so, which line it has been found on in Field 1 and Field 2. If no VITC is found in a particular field, the output will display "**"

4. ANC Time Code

The Ancillary Time Code detector operates in a similar manner as VITC, looking for Ancillary Packets.

This reports back whether or not it has been found, and if so, which line it has been found on in Field 1 and Field 2. If not is found in a particular field, the output will display " ** ".

TC Indicators

These are turned on via the **Timecode** function on the On Screen Display screen. They will be visible at the top of the screen on the outgoing video.

They show as an on screen "traffic light" type display of red, yellow and green:.



VITC/TC
Present



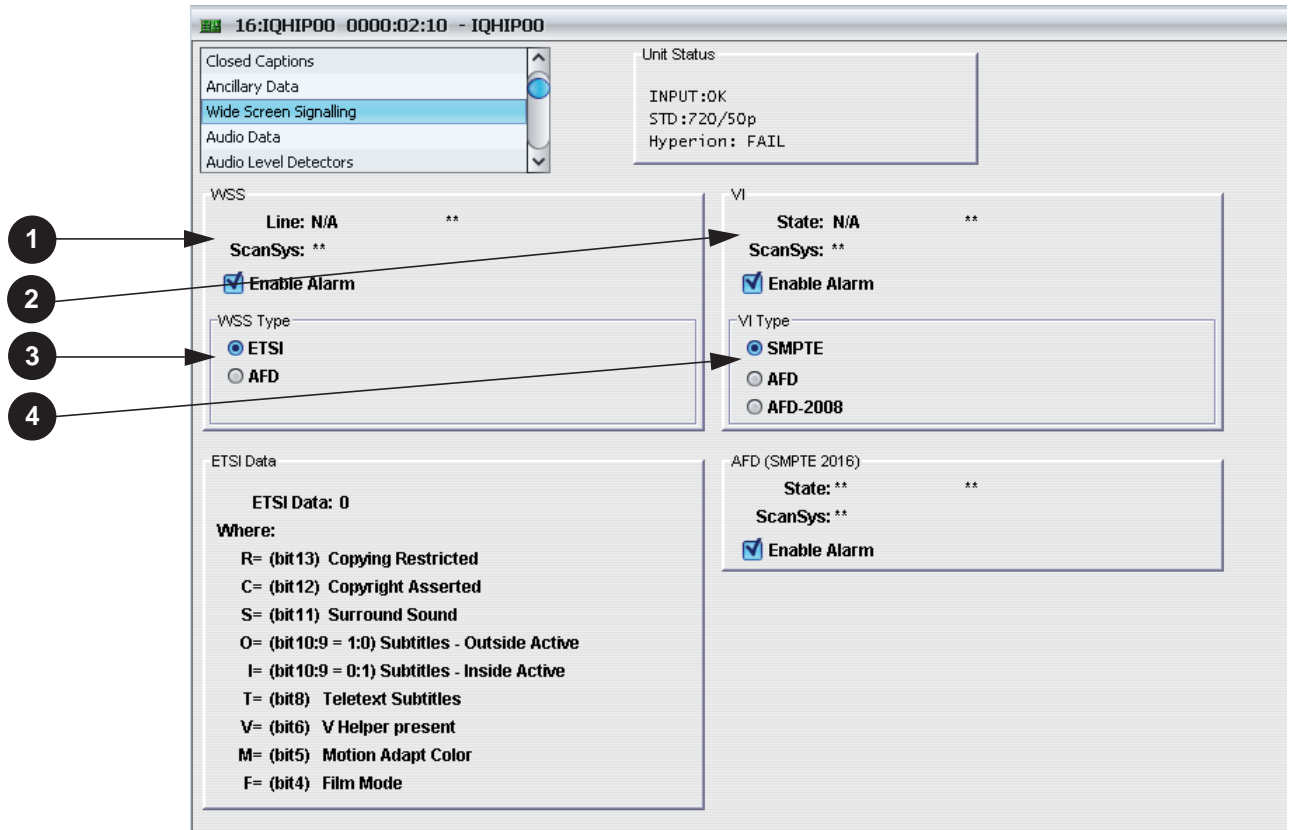
Neither
Present



Either Present
With Errors

11. Wide Screen Signaling Screen

The Wide Screen Signaling screen enables the Wide Screen Signaling (WSS), Video Index (VI), Active Format Descriptor (AFD) and ETSI standard information to be monitored.



1. WSS

This detector will look for the presence of WSS, whether in ETSI form or AFD, on lines 7 to 23 of 625 PAL video. If WSS is present the line number on which WSS was found will be displayed. If WSS is not found ** will be displayed.

2. VI

This detector will look for the presence of Video Index information, whether in SMPTE format or AFD format, on lines 11 and 324 of 625 PAL video and on lines 14 and 277 of 525 video.

3. ETSI

This displays the ETSI data standard.

4. AFD (SMPTE 2016)

This displays the Active Format Descriptor standard.

12. Audio Data Screen

The module searches for AES audio packets, and can report back which audio groups and audio channels are present in the video stream. It can also report back what kind of audio is present in each channel.

16:IQHIP00 0000:02:10 - IQHIP00

Wide Screen Signalling
Audio Data
 Audio Level Detectors
 Audio Level Indicators
 Audio Likeness

Unit Status
 INPUT:OK
 STD:1080/25i
 Hyperion: FAIL

Group	Enable Alarm	Data Type	Bit Depth	Dolby E (Pairs)	Enable Alarm	Status
Group 1	<input checked="" type="checkbox"/> Channel 1	PCM	24 Bits	Dolby E (Pairs 1 and 2)	<input checked="" type="checkbox"/> Pair 1	Not Dolby E
	<input checked="" type="checkbox"/> Channel 2	PCM	24 Bits		<input checked="" type="checkbox"/> Pair 2	Not Dolby E
	<input checked="" type="checkbox"/> Channel 3	PCM	24 Bits	Dolby E (Pairs 3 and 4)	<input checked="" type="checkbox"/> Pair 3	Not Dolby E
	<input checked="" type="checkbox"/> Channel 4	PCM	24 Bits		<input checked="" type="checkbox"/> Pair 4	Not Dolby E
Group 2	<input checked="" type="checkbox"/> Channel 5	PCM	Unknown	Dolby E (Pairs 5 and 6)	<input checked="" type="checkbox"/> Pair 5	Not Dolby E
	<input checked="" type="checkbox"/> Channel 6	PCM	Unknown		<input checked="" type="checkbox"/> Pair 6	Not Dolby E
	<input checked="" type="checkbox"/> Channel 7	PCM	Unknown	Dolby E (Pairs 7 and 8)	<input checked="" type="checkbox"/> Pair 7	Not Dolby E
	<input checked="" type="checkbox"/> Channel 8	PCM	Unknown		<input checked="" type="checkbox"/> Pair 8	Not Dolby E
Group 3	<input checked="" type="checkbox"/> Channel 9	PCM	Unknown	Dolby E (Pairs 9 and 10)	<input checked="" type="checkbox"/> Pair 9	Not Dolby E
	<input checked="" type="checkbox"/> Channel 10	PCM	Unknown		<input checked="" type="checkbox"/> Pair 10	Not Dolby E
	<input checked="" type="checkbox"/> Channel 11	PCM	Unknown	Dolby E (Pairs 11 and 12)	<input checked="" type="checkbox"/> Pair 11	Not Dolby E
	<input checked="" type="checkbox"/> Channel 12	PCM	Unknown		<input checked="" type="checkbox"/> Pair 12	Not Dolby E
Group 4	<input checked="" type="checkbox"/> Channel 13	PCM	Unknown	Dolby E (Pairs 13 and 14)	<input checked="" type="checkbox"/> Pair 13	Not Dolby E
	<input checked="" type="checkbox"/> Channel 14	PCM	Unknown		<input checked="" type="checkbox"/> Pair 14	Not Dolby E
	<input checked="" type="checkbox"/> Channel 15	PCM	Unknown	Dolby E (Pairs 15 and 16)	<input checked="" type="checkbox"/> Pair 15	Not Dolby E
	<input checked="" type="checkbox"/> Channel 16	PCM	Unknown		<input checked="" type="checkbox"/> Pair 16	Not Dolby E

1. Active Audio Ch(annel)

Displayed are the 4 groups and 16 possible channels of embedded audio that have been found in the SDI stream. " P " indicates the channel is present and active, and " * " indicates that it is not.

2. Data Type

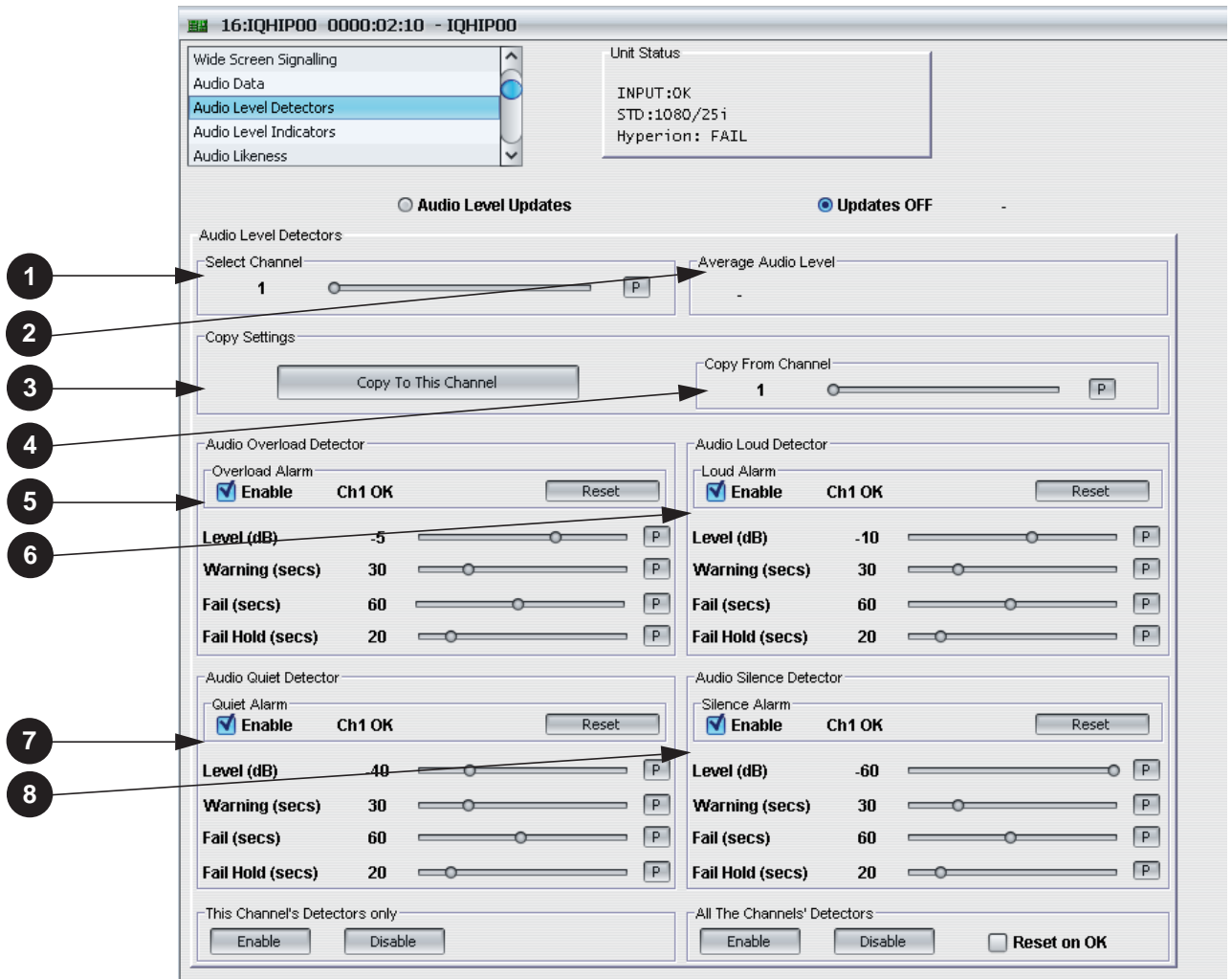
This displays what kind of audio data has been embedded in each of the 16 audio channels.

3. Bit Depth

This displays the apparent bit depth of the Audio data in each channel. It operates by looking for activity on the 24 bits of audio data over a period of 1 video frame.

13. Audio Level Detectors Screen

Associated with each of the supported AES audio channels (1 to 16) are four level/time detectors. Every second the reported level is compared against the thresholds of the parameter selected for that channel. If the value satisfies the detector requirements (above/below set thresholds) the timers are incremented. If the timers reach the user defined limits logging messages of selected severity are issued. If the value does not pass the threshold requirements the timers are reset.



1. Select Channel

This scroll bar allows any of the 16 channels to be selected. The parameters for the selected channel may then be adjusted. Preset is Channel 1 selected.

2. Average Audio Level (dB)

This shows the average signal level of the selected audio channel, updated once per second. The reading represents the peak of several short term block averages over the previous second.

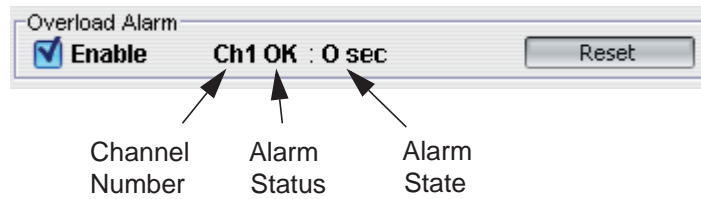
3. Copy Settings

This will copy the parameter settings and apply them to one of the other audio channels

4. Copy From Channel

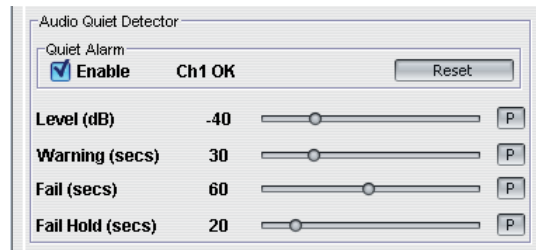
This will copy the parameter settings from a previously saved channel setup and apply them to one of the other audio channels.

Each of the four detector parameters has an alarm status, the explanation (shown below) can be applied to each parameter.



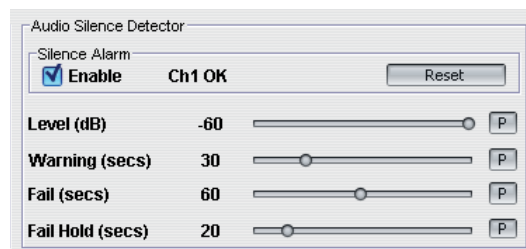
In this example this area shows the number of the selected audio channel (Ch1), the status of the alarm (Off) and the reported state (Reset). This is the display when the function is not active (Enable unchecked).

5. Audio Overoad Detector



- **Level (dB):** This sets the level that if exceeded would represent an overload condition. The range of control is from 0 to 15 dB in 1 dB steps and preset is to 5 dBFS.
- **Warning (secs):** This sets the time the signal must exceed the Level threshold before the Warn state is reported. The range of control is from 1 to 120 seconds and preset is to 30 seconds.
- **Fail (secs):** This sets the time the Warn state must exist before the Alarm state is reported. The range of control is from 1 to 120 seconds and preset is to 60 seconds.
- **Fail Hold (secs):** This is the time the signal must not exceed the Level threshold before the Warn and Alarm states are cleared. The range of control is from 1 to 120 seconds and preset is to 20 seconds.

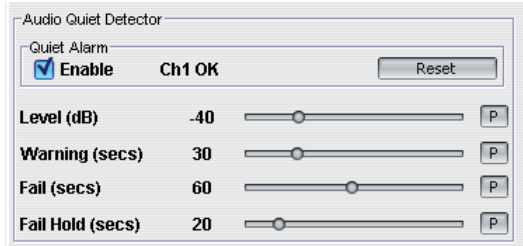
6. Audio Loud Detector



- **Level (dBFS):** This sets the level that if exceeded would represent a loud condition. The range of control is from 0 to -25 dBFS in 1 dB steps and preset is to -10 dBFS.
- **Warning (secs):** This sets the time the signal must exceed the Level threshold before the Warn state is reported. The range of control is from 1 to 120 seconds and preset is to 30 seconds.
- **Fail (secs):** This sets the time the Warn state must exist before the Alarm state is reported. The range of control is from 1 to 120 seconds and preset is to 60 seconds.

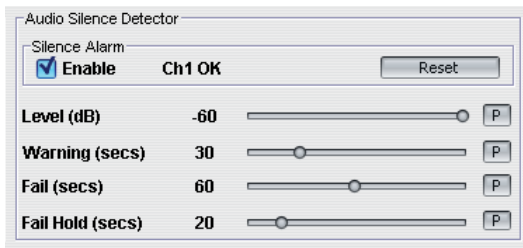
- **Fail Hold (secs):** This is the time the signal must not exceed the Level threshold before the Warn and Alarm states are cleared. The range of control is from 1 to 120 seconds and preset is to 20 seconds.

7. Audio Quiet Detector



- **Level (dB):** This sets the level that if the signal were below would represent a quiet condition. The range of control is from -10 to -50 dB in 1 dB steps and preset is to -40 dB.
- **Warning (secs):** This sets the time the signal must be below the Level threshold before the Warn state is reported. The range of control is from 1 to 120 seconds and preset is to 30 seconds.
- **Fail (secs):** This sets the time the Warn state must exist before the Alarm state is reported. The range of control is from 1 to 120 seconds and preset is to 60 seconds.
- **Fail Hold (secs):** This is the time that the signal must not exceed the Level threshold before the Warn and Alarm states are cleared. The range of control is from 1 to 120 seconds and preset is to 20 seconds.

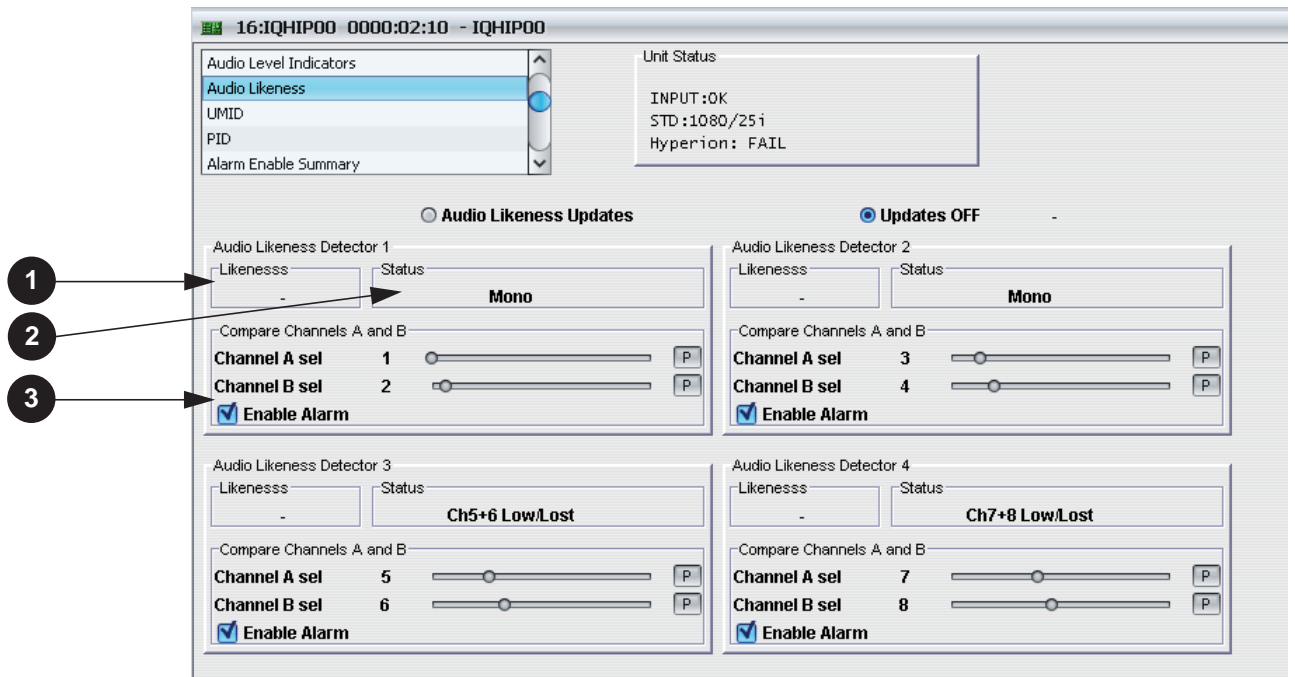
8. Audio Silence Detector



- **Level (dBFS):** This sets the level that if the signal were below would represent a silent condition. The range of control is from -60 to -99 dBFS in 1 dB steps and preset is to 60 dBFS.
- **Warning (secs):** This sets the time the signal must be below the Level threshold before the Warn state is reported. The range of control is from 1 to 120 seconds and preset is to 30 seconds.
- **Fail (secs):** This sets the time the Warn state must exist before the Alarm state is reported. The range of control is from 1 to 120 seconds and preset is to 60 seconds.
- **Fail Hold (secs):** This is the time the signal must not exceed the Level threshold before the Warn and Alarm states are cleared. The range of control is from 1 to 120 seconds and preset is to 20 seconds.

14. Audio Likeness Screen

This function monitors the relationship between two selected audio channels, and determines whether the channels are the same (dual monophonic), stereo or largely unrelated. It also determines whether the polarities of the two channels match.



1. Likeness

This will display the likeness number for the two channels that are being compared.

2. Status

This will display the name of the two channels being compared and the probable relationship between the channels.

It may show:

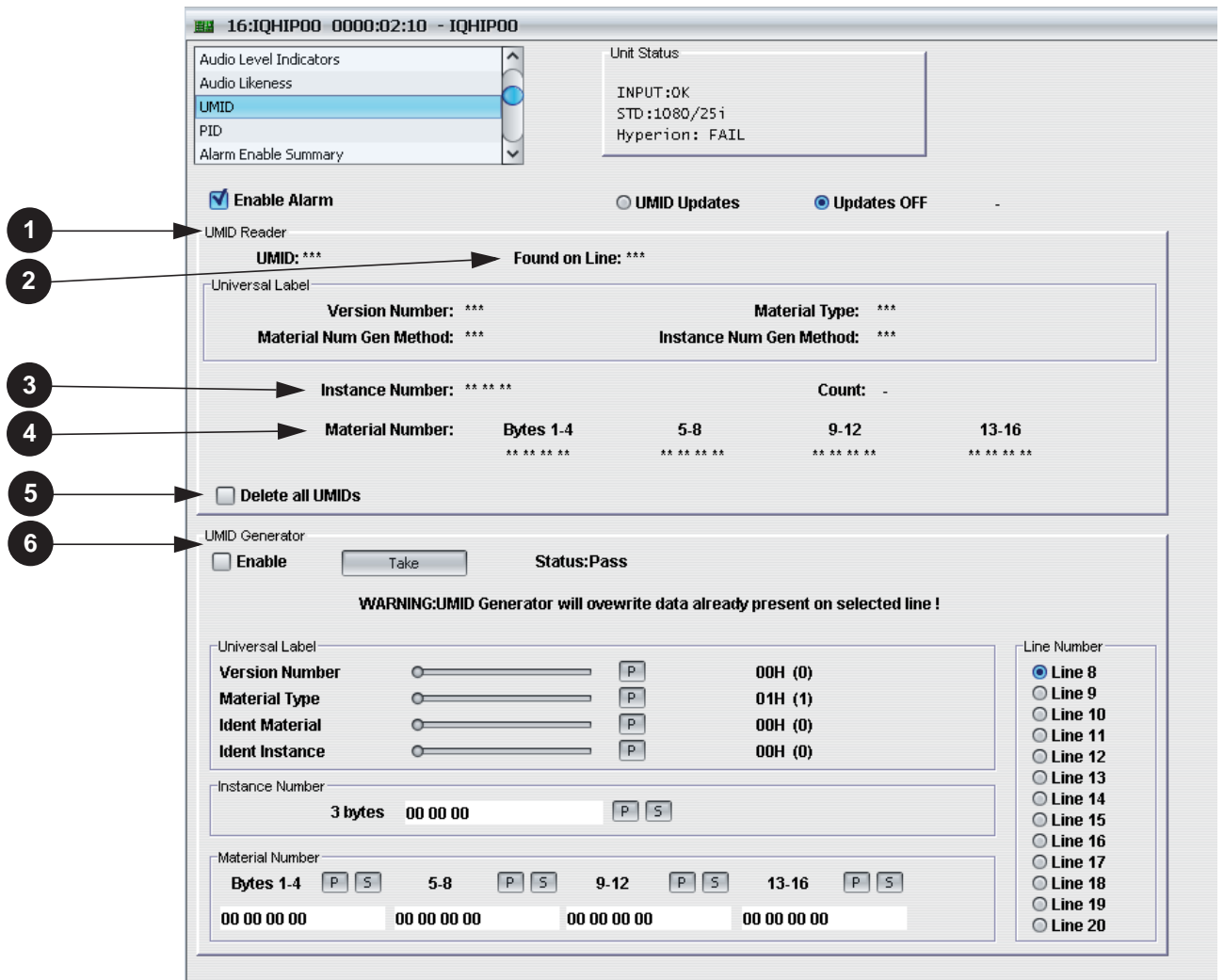
- **Mono** - Identical channels, same polarity.
- **Stereo** - Similar channels, i.e. Stereo.
- **Wide** - Channels have little/no short term similarity.

3. Compare Channels A and B

The two channels to be compared (Channels A and B) are selected using the two scroll bars. Any of the 16 audio channels may be selected for comparison. Preset setting is Audio channel 1 selected for Channel A to be compared to Audio channel 2 for Channel B.

15. UMID Screen

A Unique Material Identifier (UMID) is a unique identifier for audio-visual material, which is locally created and globally unique. UMIDs can be inserted into ancillary packets and transported in a HD-SDI or SD-SDI video stream.



The Hyperion UMID operates with Basic 32-byte UMIDs (not the 64-byte extended version) and has three main functions:

- **Detector:** The module searches the vertical ancillary space for UMID packets, and reports back the value of the UMID that it finds and the line that it finds it on. It also reports back any errors in the packet, and counts the number of frames that a UMID has been consistently present for.
- **Deleter:** The module can be used to delete any UMIDs it finds in the Hyperion video stream. If enabled, it will mark UMID ancillary packets for deletion by setting the DID to 80h, and blank all the data held within the packet.
- **Generator:** The module can also be used to insert a new UMID ancillary packet onto a selected line in the active region of the vertical ancillary space of the Hyperion video stream.

1. UMID Reader

This displays the status of UMIDs on the input video stream.

2. Found on Line

This displays the line number on which the UMID packet was found.

3. Instance Number

This shows the 3-byte UMID Instance number in hex format.

4. Material Number

This shows the 16-byte UMID Material number in hex format as four sets of four bytes.

5. Delete all UMIDs

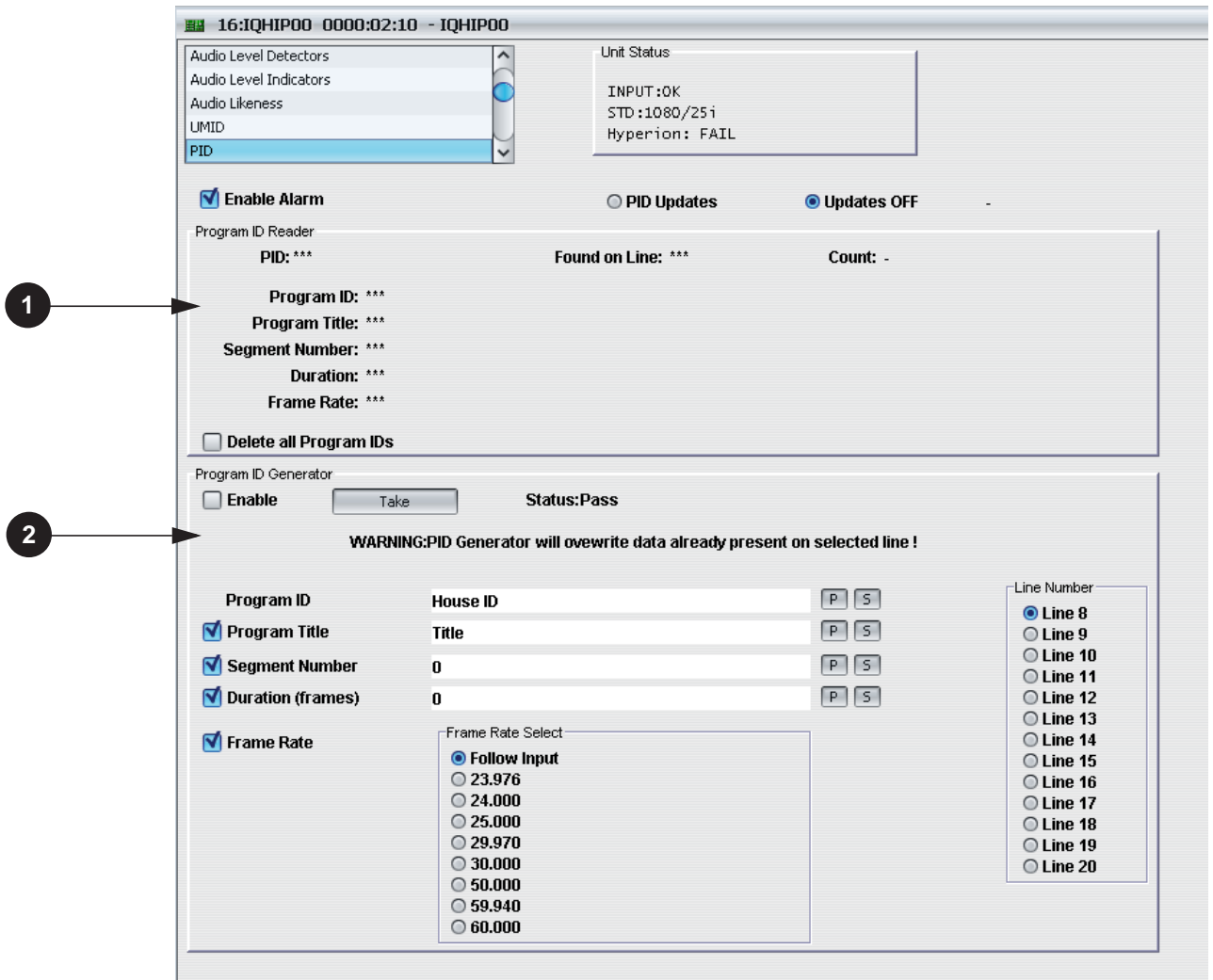
All UMID ancillary packets in the input video stream will be marked for deletion in the output video streams

6. UMID Generator

- **Enable:** Select to turn on the UMID Generator. A UMID packet will be generated in the active region of vertical blanking in every subsequent frame of the output video.
- **Take:** No changes in the value or line number of the generated UMID will take place until this button has been pressed (To ensure there are no "crossover" UMIDs generated while data is being changed)
- **Status:** This displays the current status of the UMID Generator:
- **Universal Label:** This sets the adjustable parameters of the UMID Universal Label. Number next to the sliders is the hex value, with the decimal value in brackets.
- **Instance Number:** This is the 3-byte UMID Instance number, input in hex format.
- **Material Number:** This is the 16-byte UMID Material number, input in hex format as four sets of four bytes.
- **Line Number:** This selects which line of Vertical Blanking the UMID packet is generated.

16. PID Screen

A Program Identification label (PID) can be used to store various information about a video stream within the stream itself. House ID, program title, segment number, duration and frame rate can be embedded into the active region of vertical blanking of a video stream, using the Key-Length-Value (KLV) encoding method stored in an ancillary packet. The structure of the PID KLV Packet can be found in the Snell Metadata dictionary. All Snell PID packets must begin with a House ID, and can then have any combination of the other 4 data types, in any order.



The Hyperion PID module has three main functions:

- **Detector.** The module searches the vertical ancillary space for a PID packet, and reports back the information that is stored in the PID that it finds, along with the line number that it finds the PID on.
- **Deleter.** The module can be used to delete any PID ancillary packets it finds in the video stream.
- **Generator.** The module can also be used to insert a new PID ancillary packet into a video stream.

1. Program ID Reader

- **PID:** This displays the status of PIDs on the input video stream:Found on Line. This displays the line number on which the PID packet was found.
- **Program ID:** House ID: This displays the House ID stored in the PID (Compulsory).

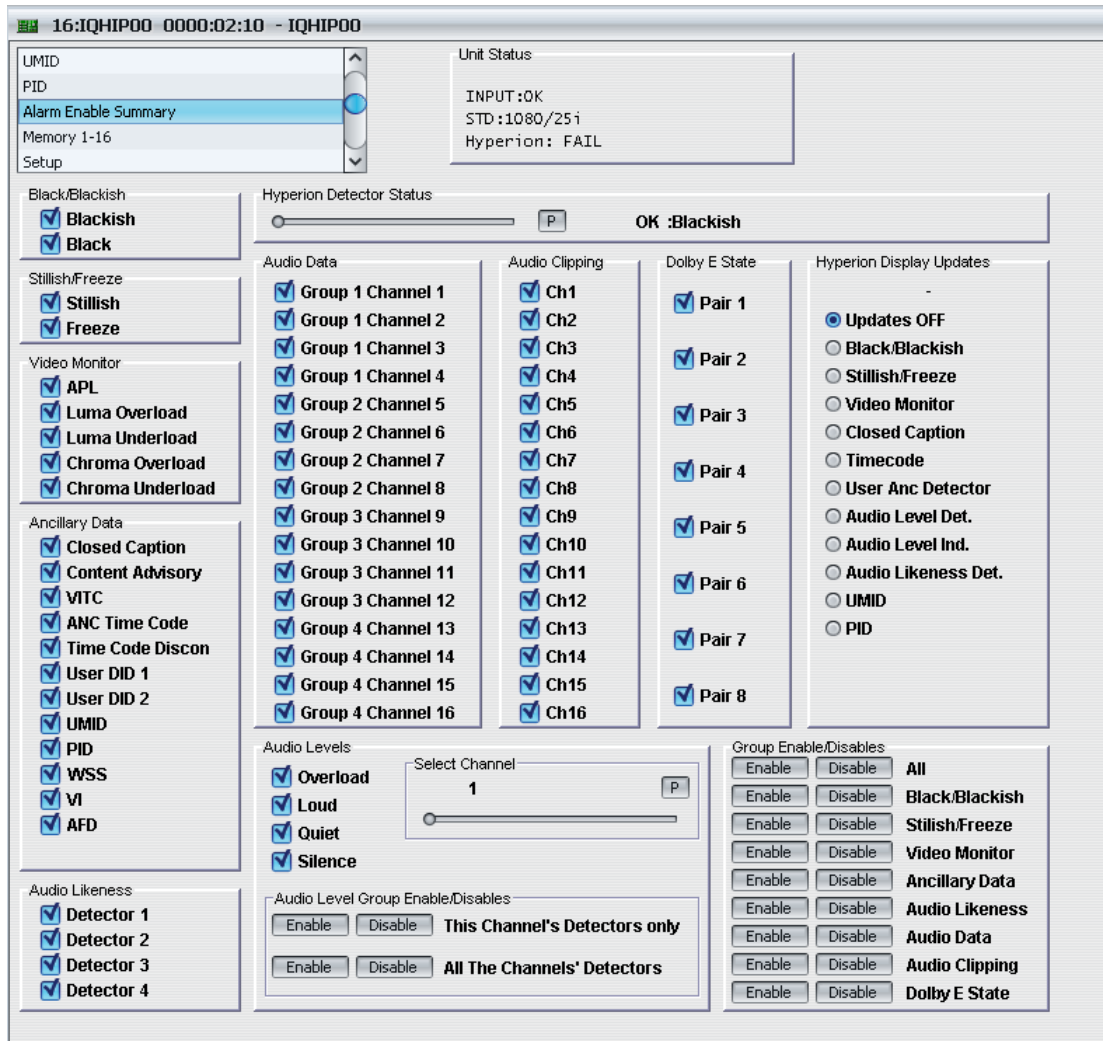
- **Program Title:** This displays the Program Title stored in the PID (***) means Program Title missing).
- **Segment Number:** This displays the Segment Number stored in the PID (***) means Segment Number missing).
- **Duration:** This displays the Duration stored in the PID (***) means Duration missing).
- **Frame Rate:** This displays the Frame Rate stored in the PID (***) means Frame Rate missing).
- **Count:** This displays the number of frames that the current PID has been present for. Resets to zero if the value of the PID changes or if the PID disappears, but will carry on counting if the line number of the PID is changed.
- **Delete all Program Ids:** Check this box to turn the PID Deleter on. All PID ancillary packets in the input video stream will be marked for deletion in the output video stream.

2. Program PID Generator

- **Enable:** Check this box to turn the PID Generator on. A PID packet will be generated in the active region of vertical blanking in every subsequent frame of the output video.
- **Take:** No changes in the value or line number of the generated PID will take place until this button has been pressed (To ensure there are no "crossover" PIDs generated while data is being changed).
- **Status:** Displays the current status of the PID Generator:
- **Program ID:** Any combination of letters and numbers, up to a maximum of 19 characters. Always enabled.
- **Program Title:** Any combination of letters and numbers, up to a maximum of 19 characters. Enable by ticking the checkbox.
- **Segment Number:** An integer number. Enable by ticking the checkbox.
- **Duration (frames):** An integer number. Enable by ticking the checkbox.
- **Frame Rate:** A ratio of two integer numbers, separated by a non-numerical character (a space, for example). Enable by ticking the checkbox.
- **Line Number:** This selects which line of Vertical Blanking the PID packet is generated on.

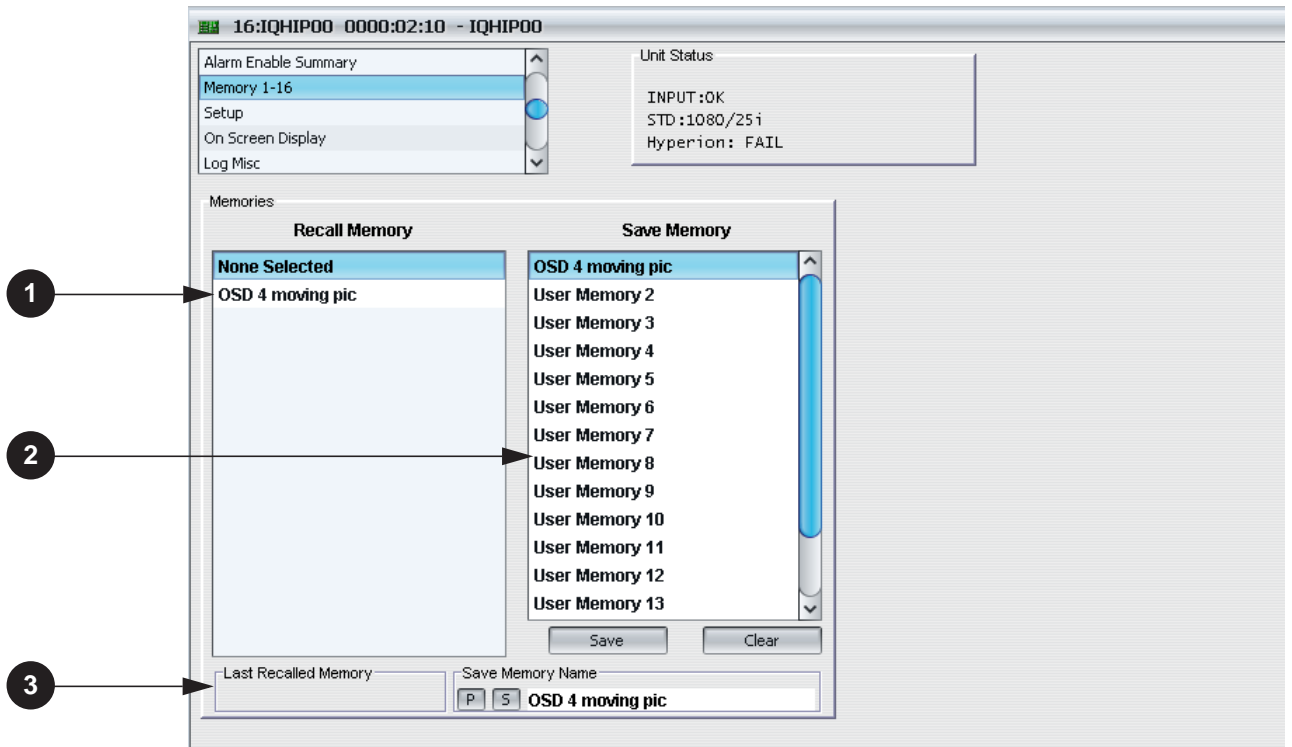
17. Alarm Enable Summary Screen

This screen shows all the alarms and whether or not they are enabled. This screen can also be used to enable/disable the alarms, duplicating the functions of the individual screens.



18. Memory 1 - 16 Screen

This screen enables you to store up to 16 different setup configurations. These configurations contain all the settings, parameters and values you have entered on all the RollCall screens so that they can be recalled and used at any time.



You must be logged into the RollCall Control Panel under "Supervisor" status to be able to **Save** a configuration. If you are logged in as a "User", the **Save** option is not available.

1. Recall Memory

This column lists the settings that have been previously saved. If no settings have been saved, None Selected is displayed.

2. Save Memory

This column lists the 16 pre-set memory names that are available for use.

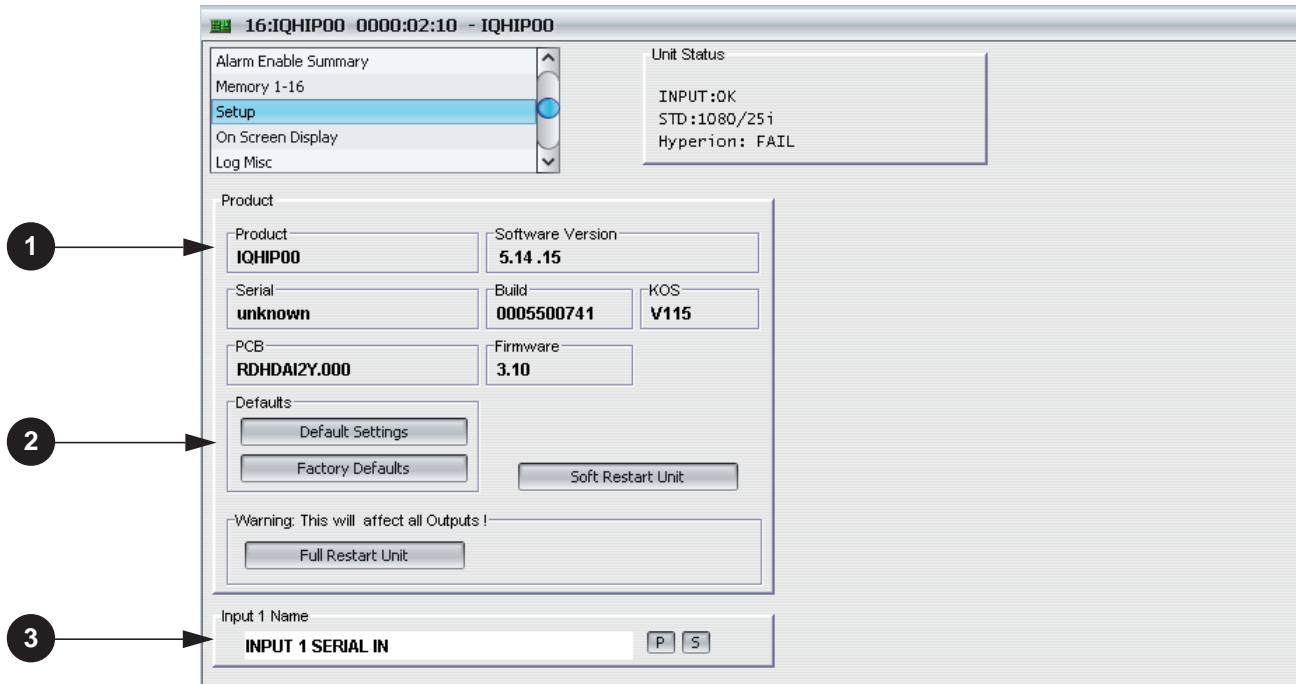
3. Memory Name

The memory location name may be renamed.

To change the memory name, type the new name in the text area and then select Save (**S**) to save the new name. Selecting Preset (**P**) will return the text to the default name.

19. Setup Screen

This screen display basic information about the module.



1. Product Details

- **Product:** This parameter will show the name of the module.
- **Software Version:** This parameter will display the version number of the software fitted to the unit.
- **Serial:** This parameter will show the serial number of the unit.
- **Build:** This parameter will indicate the factory build number. This number defines all parameters of the unit (software versions, build level etc.) for identification purposes.
- **KOS:** This parameter shows the version of the operating system.
- **PCB:** This parameter shows the PCB revision number
- **Firmware:** This parameter shows the version of the firmware system

2. Defaults

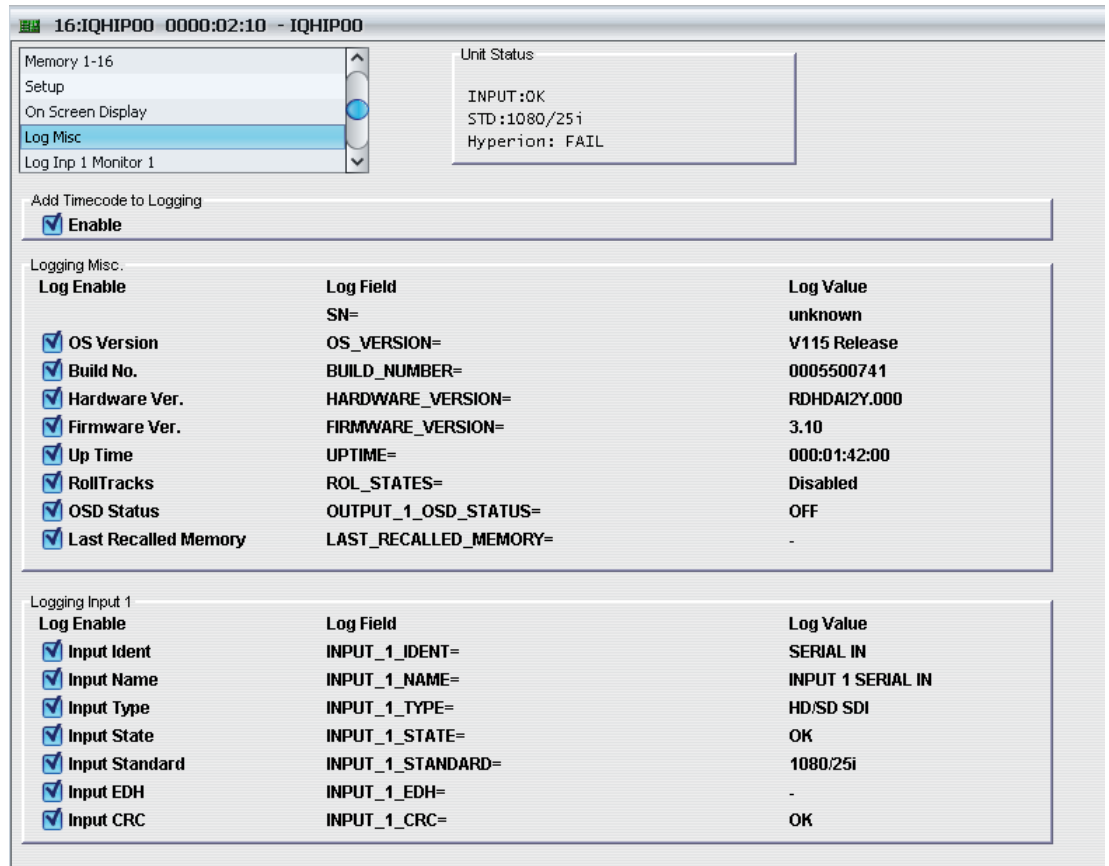
- **Default Settings:** This button enables module settings to be reset to their factory defaults,
- leaving user memories intact.
- **Factory Default:** This button enables the module settings to be reset to their factory defaults..
- **Soft Restart Unit:** (Only available at Supervisor level). This will reboot the unit simulating a power-down power-up cycle restoring power-up settings without disturbing the output picture. This function should be used to reboot the software if, for example, it fails to respond..
- **Full Restart Unit:** (Only available at Supervisor level). This will reboot the unit simulating a power-down power-up cycle restoring power-up settings but will produce disturbances on the output picture. This function should be used to reboot the software if a Soft Restart does not solve the problem or if new software has been installed.

3. Input 1 Name

This is the name of the input signal that will appear on screen. The name of the input may be renamed from the default.

20. Logging Screens

The RollCall Control Panel enables you to set up logging information about various screen parameters that can be made available to a logging device such as RollCall Logging.



Select the logging fields by checking the boxes next to a parameter option. When the system is being used, it is being constantly monitored, so if there is a problem with the selected parameter and alarm state will be sent to RollCall Logging and the problem is highlighted and recorded.

Several Logging screens are provided for Video Content, Audio Content, Closed Caption, Content Advisory, Unique Material Identifier, etc.

An example Logging screen for the Input 1 Monitor, is shown below.

