

IQDSIG Widescreen Metadata, Writer and Monitor



Description

The IQDSIG provides a comprehensive On Screen Display and RollCall™ Monitoring facility for SDI signals. It has a SDI input and up to three SDI monitoring outputs.

The unit accepts both Line 23 and Video Index signals embedded on its SDI input. The On Screen Display will indicate Line 23 ETSI or AFD and Video Index SMPTE186 or AFD input formats. It also indicates the output Line 23 and Video Index formats. The output formats can be identical to the input, or changed to the desired type based upon the detected input, thus enabling the correction of errors or insertion of the signaling data for the first time. VI and WSS AFD values can be compared and RollCall™ and on screen messages sent to indicate a conflict.

In addition, the unit can detect the presence of all 8 embedded audio pairs. The 2 pairs to be monitored are selectable by the user on a 'pair by pair' basis from any of the groups. The unit provides on screen monitoring of the 4 embedded audio channels via familiar bargraph displays. Using a combination of color bands and text the user can easily view a large amount of information.

Quiet and silence detection alarms can be configured by specifying a level threshold and a

period of time that the audio is below that threshold before triggering an alarm.

Areas of the On Screen Display can be switched on and off as required and a key level setting allows the user to set the intensity of the On Screen Display graphics in relation to the background video. Also, the bargraphs can be repositioned on the screen.

The presence of ancillary data packets which are not audio or EDH are detected.

Alarms are shown on the monitoring output. Alarms are also shown on RollCall/RollMap as an active X object.

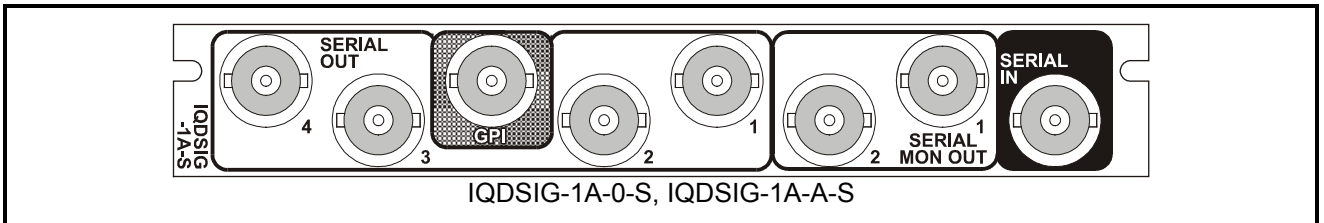
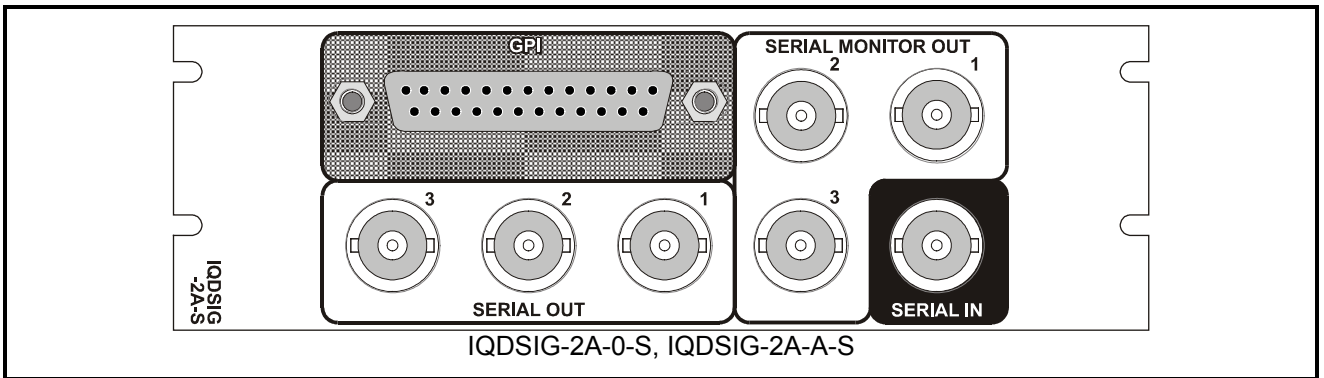
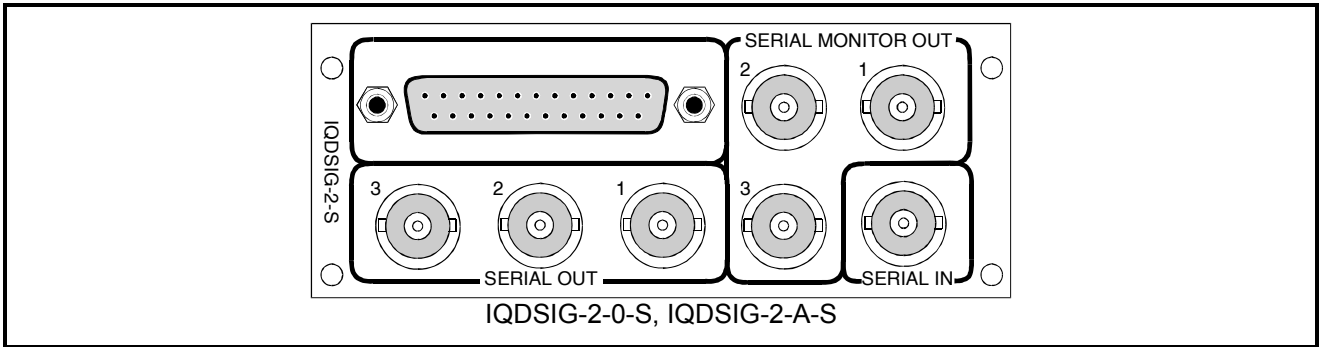
RollCall remote control and card edge controls are available.

8 GPI inputs and 4 input/outputs are provided for rapid control.

16 user programmable memories can be configured.

The unit automatically detects 525 and 625 line inputs.

REAR PANEL VIEWS



Product Codes	Width	Box type	Rear style	SDI Input	SDI Output Main	Monitoring Output	GPI
IQDSIG-2-0-S	2	Original	7 BNC + 25 D type	1	3	SDI x 3	12
IQDSIG-1A-0-S	1	New 3U	8 BNC	1	4	SDI x 2	1
IQDSIG-2A-0-S	2	New 3U	7 BNC + 25 D type	1	3	SDI x 3	12
IQDSIG-2-A-S	2	Original	7 BNC + 25 D type	1	3	SDI x 3	12
IQDSIG-1A-A-S	1	New 3U	4 BNC	1	4	SDI x 2	1
IQDSIG-2A-A-S	2	New 3U	7 BNC + 25 D type	1	3	SDI x 3	12

Where:

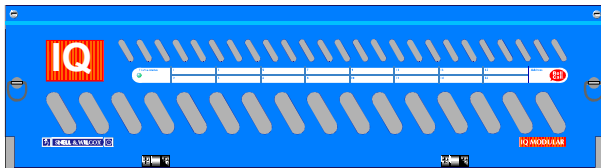
-A = Audio Monitoring in addition to WSS and Video Index

-S = SDI monitoring output

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

‘A’ Style Enclosure

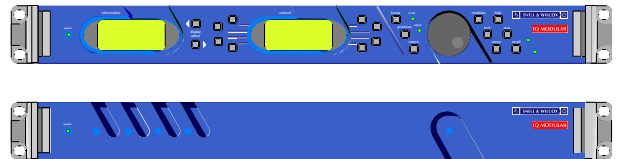
Rear panels **with** the suffix A may only be fitted into the ‘A’ style enclosure shown below.



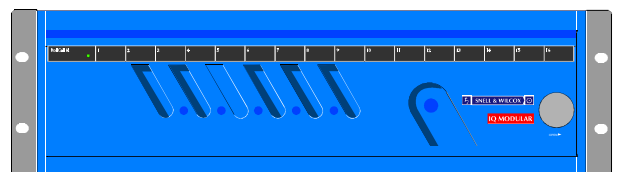
(Enclosure order codes IQH3A-E-O, IQH3A-E-P, IQH3A-N-O, IQH3A-N-P)

‘O’ Style Enclosures

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

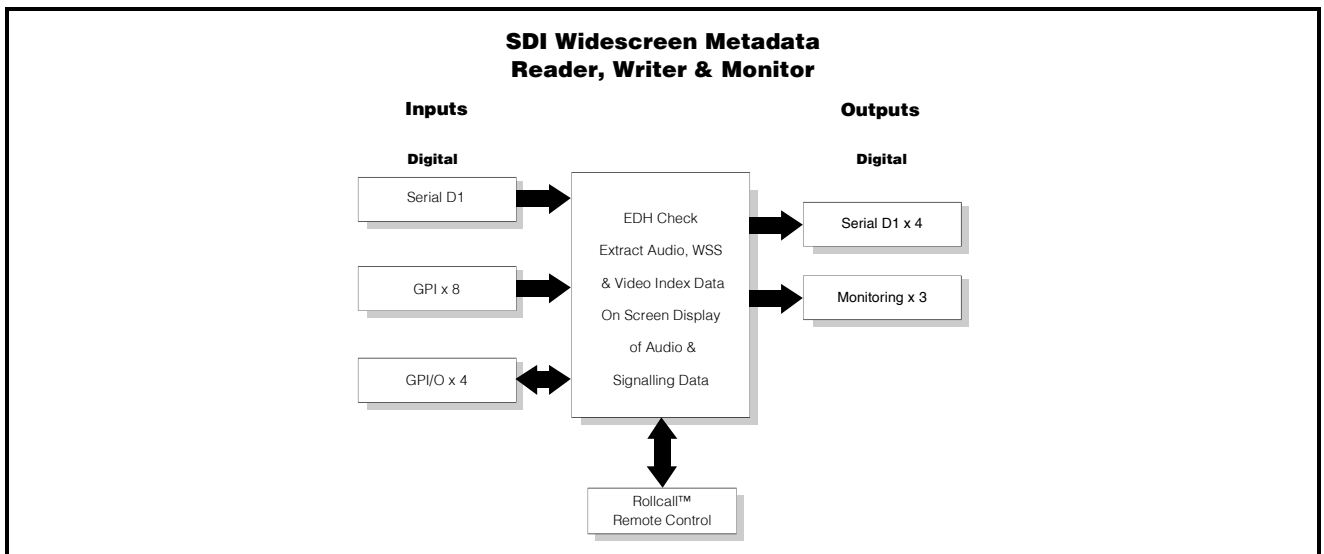


(Enclosure order codes IQH1S-RC-O, IQH1S-RC-AP, IQH1U-RC-O, IQH1U-RC-AP, Kudos Plus Products)



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

I/O DIAGRAM



Features

- Monitors WSS and Video Index signals
- Generates WSS and Video Index signals
- On-screen display of input and output widescreen signaling
- On-screen display of audio level meters for two selected embedded audio pairs
- Built-in audio silence and quiet detection
- Clean SDI outputs and monitoring via SDI outputs
- Line 23 WSS ETSI and AFD type compatible
- Video Index SMPTE 186 and AFD type compatible
- Embedded audio presence indication for all 8 pairs
- Unrecognised ancillary data presence indication
- Transparent to other horizontal and vertical interval data
- Pattern generation
- 8 GPI inputs and 4 input/outputs for simple rapid control
- 16 user definable memories
- Uninterruptable valid output
- 10-bit data paths throughout
- Automatic 625 & 525 operation
- EDH checking and insertion to SMPTE RP165
- RollCall™ remote control and monitoring

TECHNICAL PROFILE

Features

Signal Inputs

Serial Digital..... 1 x SDI
 Standards SMPTE 259M-C-1997, SMPTE 291M-1998

Signal Outputs

Serial Digital..... 3 x SDI
 Standards SMPTE 259M-C-1997, SMPTE 291M-1998
 Monitoring Up to 3 x SDI - 270Mb/s
 4 Closing Contact Inputs/Outputs via 25 way D connector

Indicators

Power OK
 Input loss
 EDH Present, Error-minute, Error-hour

Card Edge Controls (also available via RollCall)

OSD Key Level Key level of OSD : 0%,25%,50%,75% and 100%
 Bargraph A X – Position..... Horizontal position of bargraph A
 Bargraph A Y – Position..... Vertical position of bargraph A
 Bargraph B X – Position..... Horizontal position of bargraph B
 Bargraph B Y – Position..... Vertical position of bargraph B
 Output Routing..... Video Path or OSD available on monitoring outputs
 Standard 525 / 625 / Auto
 Default Output selection..... Black, Pattern or Static
 Monitor Audio A Selection of audio pairs 1 – 8 for bargraph A
 Monitor Audio B Selection of audio pairs 1 – 8 for bargraph B
 Pattern Select Black, EBU Color Bars, 100% Color Bars, Ramp, Multiburst, Pulse & Bar, Green
 Pattern Generator, main path On / Off
 Pattern Generator, monitoring path On / Off
 Preset Unit..... Returns all settings to factory defaults
 OSD Video..... On / Off
 OSD Audio..... On / Off
 Local Local or Remote
 EDH Reset..... Resets EDH error flags
 Audio Bargraph Min and max range
 Audio Silence..... Duration and level applied to all channels
 Audio Quiet..... Duration and level for each of the four channels

Freeze detection Digital freeze detection from 2 to 150 frames
 Signaling source WSS or VI
 WSS type..... ETSI / AFD
 VI type..... SMPTE / AFD
 AFD type..... AFD only / AFD & Scan sys
 WSS Read Line Line 7 to 23
 WSS input style Standard or Non-Standard
 WSS input Delete or Leave (can be overwritten on WSS write)
 WSS Write Line Line 7 to 23
 VI CRC check AFD only or all data
 WSS Forced On / Off
 WSS user bits insertion..... 0-15
 WSS output type Pass / ETSI / AFD / AFD & Scan Sys / Delete
 VI Forced On / Off
 VI non AR data..... Pass / Delete
 Forced mode..... Define SMPTE / ETSI / AFD insertion
 WSS / VI Mapping SMPTE / ETSI/ AFD
 Follow on line On / Off for Mapping of SMPTE / ETSI/ AFD

Functions Available via RollCall™ Only

Logging Input Loss, standard, AFD conflict, EDH presence, EDH errors, Input VI, Input WSS, Output VI, Output WSS, Mode, Embedded Audio, Audio Levels, Picture Frozen, Unrecognized Ancillary Data.
 Non-audio HANC data..... Presence indication
 User Memories..... 16 save / recall
 RollTrack™ Input, standard, AFD conflict, input WSS/VI types, Output WSS/VI types, Embedded Audio, Audio Levels, Unrecognized Ancillary Data.
 GPI configuration Select the function of each GPI input and output from a predefined list of options

Specifications

Serial Input Return Loss..... Better than 15 dB to 270 MHz
 Maximum Input Cable length >200 m (PSF1/2 or equiv. cable)
 Serial Output Level..... 800 mV ±10%
 Output Overshoot..... <70 mV
 Output Jitter < 0.2UI

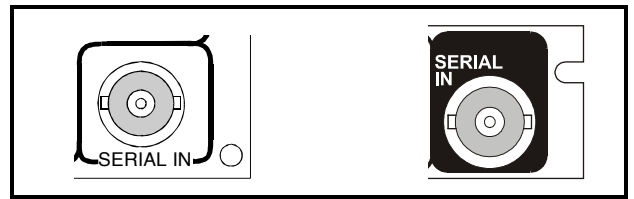
Power Consumption

Module Power Consumption 6.7W max

INPUT CONNECTIONS

Serial Digital Video Input

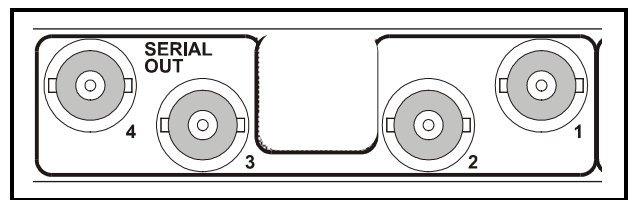
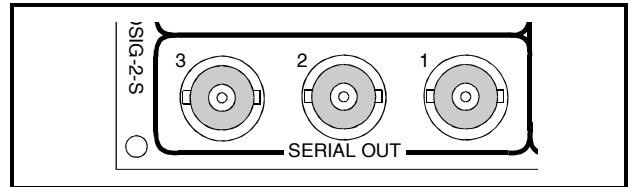
The serial digital input to the unit is made via this BNC connector and is terminated in 75 Ohms.



OUTPUT CONNECTIONS

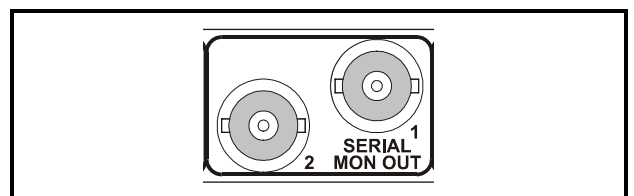
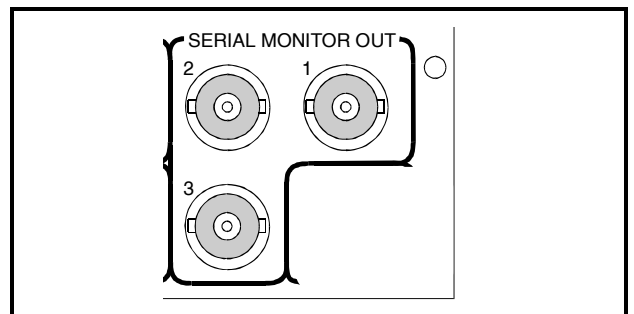
Serial Digital Video Out

These are the isolated Serial Digital outputs of the unit via BNC connectors for 75 Ohms.



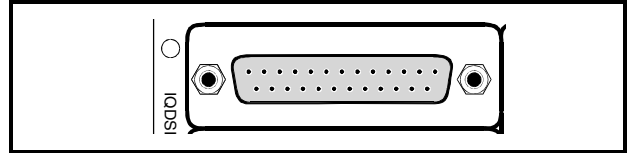
Serial Monitor Out

These are the serial monitoring outputs that are available via BNC connectors.



GPI (via 25 way D connector)

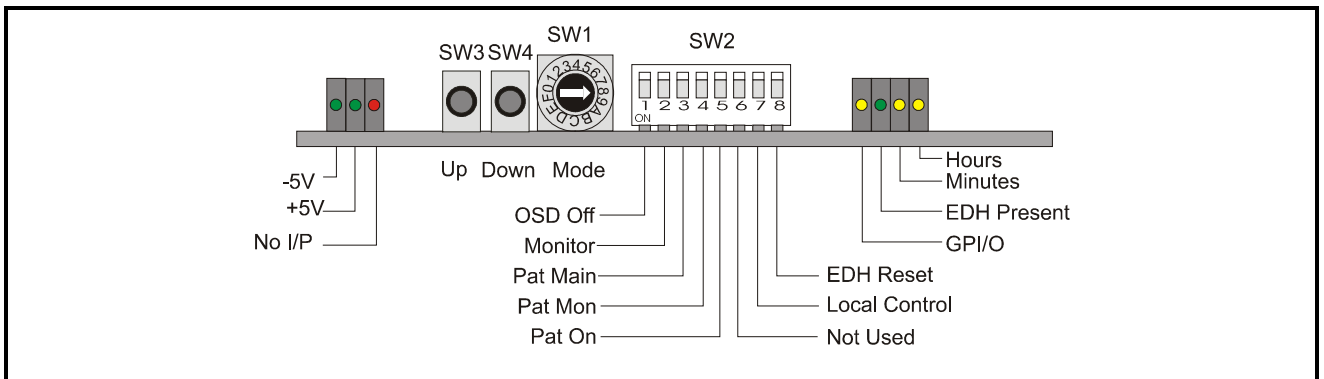
The General Purpose Interfaces (GPI's) are accessed via a 25 way D type female connector. In the table GPI refers to inputs and GPO refers to outputs.

**Pin Connections**

PIN	NAME	DESCRIPTION
1	GPI1_RET	Return GPI 1
14	GPI1	Signal GPI 1
2	GPI/O1_RET	Return GPI/O 1 (BNC 3)
15	GPI2	Signal GPI 2
3	GPI/O1	Signal GPI/O 1 (BNC 3)
16	GPI2_RET	Return GPI 2
4	GPI3_RET	Return GPI 3
17	GPI3	Signal GPI 3
5	GPI/O2	Signal GPI/O 2 (BNC 4)
18	GPI4	Signal GPI 4
6	GPI/O2_RET	Return GPI/O 2 (BNC 4)
19	GPI4_RET	Return GPI 4
7	GPI/O4_RET	Return GPI/O 4
20	GPI/O4	Signal GPI/O 4
8	GPI5_RET	Return GPI 5
21	GPI5	Signal GPI 5
9	GPI6_RET	Return GPI 6
22	GPI6	Signal GPI 6
10	GPI/O3	Signal GPI/O 3 (BNC 5)
23	GPI7	Signal GPI 7
11	GPI/O3_RET	Return GPI/O 3 (BNC 5)
24	GPI7_RET	Return GPI 7
12	GPI8	Signal GPI 8
25	GPI8_RET	Return GPI 8
13	Ground	GND

GPI (via BNC connector)

CARD EDGE CONTROLS



LED INDICATORS

+5V and -5V

When illuminated these LED's indicate that the +5 V and -5 V supplies are present.

No I/P

The **No I/P** LED will be continuously illuminated when the unit is not receiving an input signal.

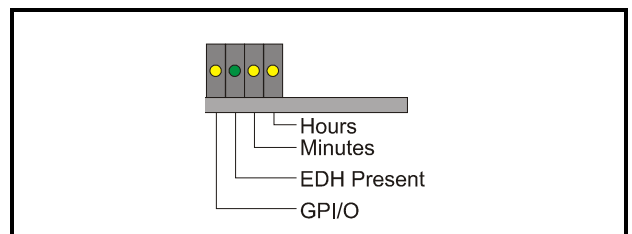
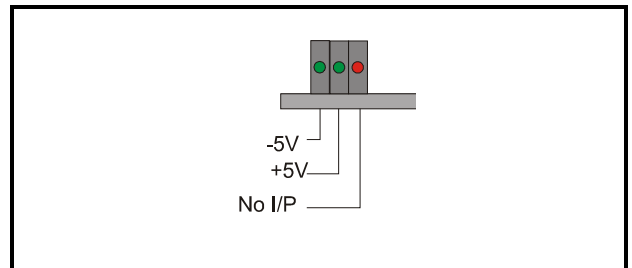
GPI/O

The function of this LED is reserved for future use.

EDH Reporting

The **EDH Present** LED will be illuminated if EDH data is present on the incoming signal.

The **Hour** LED indicates that an error has occurred in the last hour and the **Minutes** LED indicates that an error has occurred in the last minute.



Adjustment of the settings of the IQDSIG is available either via card edge controls and/or via a more comprehensive remote control system using RollCall™

SWITCHES

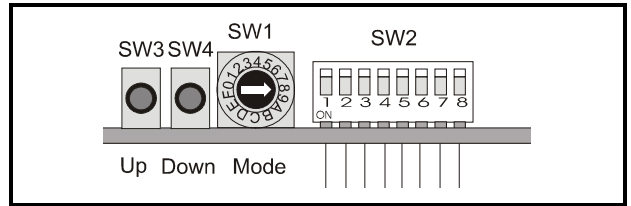
Two push buttons, a Hex switch and an 8 way DIL switch allow various functions and modes to be set.

The DIL switch SW2 selects a particular function and the Hex switch SW1 selects a mode or variable parameter.

The push buttons SW3, SW4 allow the value of the selected function/parameter to be adjusted.

The Mode select switch may select a mode or a parameter that may be adjusted.

Note that to select the preset value both buttons should be pressed together.



These switches allow the module to be operated when an active front panel is not available.

More detailed information about these functions will be found under *MENU DETAILS* starting on page 10.

FUNCTION AND MODE SELECTIONS

DIL SWITCH FUNCTIONS SW2

By setting these switches various modes of operation may be selected.
(Down is ON and Up is OFF)

Position 1 (OSD Off)

This position will allow the whole of the on-screen-graphics to be switched On or Off.
(Down =OSD Off)

Position 2 (Monitor)

This selects the type of signal that appears at the three Monitoring outputs.
Selections are either Main path or Monitoring path.
(Down = Main, Up = Monitoring)

Position 3 (Pat Main)

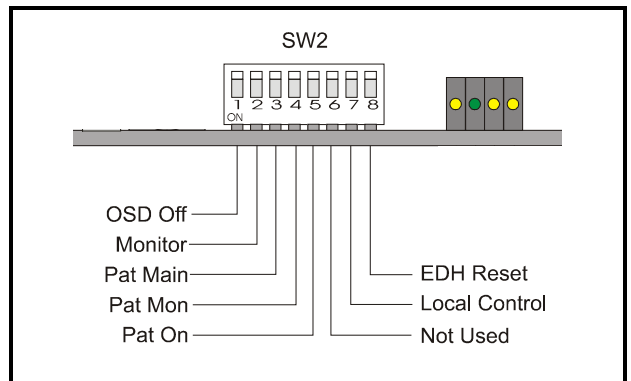
When this switch is set to the Down position the pattern will be inserted on the main path when the Pat On function is enabled.

Position 4 (Pat Mon)

When this switch is set to the Down position the pattern will be inserted on the monitoring path when the Pat On function is enabled.

Position 5 (Pat On)

When this switch is set to the Down position the pattern will be enabled on the selected paths.



Position 6

This position is not used.

Position 7

This position is reserved for future use.

Position 8 (EDH Reset)

Setting this to ON, resets the EDH's Elapsed-Time count, as well as resetting the "Minute EDH" and "Hour EDH" LEDs.

SW1

This HEX switch selects a parameter that may be adjusted with the push-buttons SW3 and SW4. *Note that SW4 decreases a setting and SW3 increases a setting. Continual pressure on the button will cause the setting to change continuously, the rate of change increasing with time. Pressing both together sets functions to their default values.*

Position 0 OSD Key Level

The intensity of the on-screen-display compared to the background picture level may be adjusted for optimum clarity. The underlying video is not changed.

When set to 100% the peak white level of the OSD signal is the same as the peak white level of the background signal.

The 75%, 50% and 25% settings provide reducing levels of the OSD signal.

0% removes the OSD completely.

Position 1 Bargraph A X-Pos

The horizontal position can be adjusted in unit steps. (A unit step is a character width)

Position 2 Bargraph A Y-Pos

The vertical position can be adjusted in unit steps. (A unit step is the height of a character).

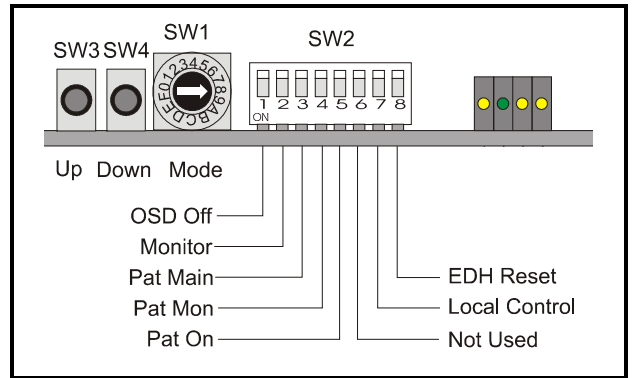
Position 3 Bargraph B X-Pos

The horizontal position can be adjusted in unit steps. (A unit step is a character width)

Position 4 Bargraph B Y-Pos

The vertical position can be adjusted in unit steps. (A unit step is the height of a character).

Position 5 is not used



Position 6 Default Standard

This position defines the operating standard of the unit.

Down

The unit will only accept a 525 line standard

Up

The unit will only accept a 625 line standard

Selecting the default condition (pressing both buttons together) the unit will automatically accept both line standards.

Position 7 Default O/P Main

If the input fails, the main output can be configured to be either Black or Pattern.

Position 8 Default O/P Mon

If the input fails, the monitoring output can be configured to be one of the following:

Black, Pattern or Static (a correctly formatted picture of black and white noise)

Position 9 is not used

Position A Pattern Select

The pattern can be selected from the following list:

- Black
- EBU Color Bars
- 100% Color Bars
- Ramp
- Multiburst
- Pulse & Bar
- Green

SW1 cont.

Position B Monitor Audio A

This allows a particular audio pair to be selected for monitoring.

Pressing Up will select a higher order pair.

Pressing Down will select a lower order pair.

Position C Monitor Audio B

This allows a particular audio pair to be selected for monitoring.

Pressing Up will select a higher order pair.

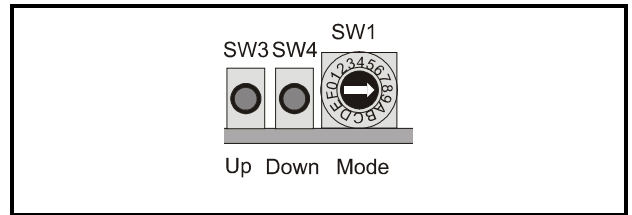
Pressing Down will select a lower order pair.

Position D is not used

Position E is not used

Position F Preset Unit

In this position, pressing SW1 and SW2 together sets all parameters to the default/pre-set conditions.



RollCall Control via a PC

For full details please see the operator's manual for the IQSPCR, RollCall™ Software Installation Guide & Operational Overview

IQSPCR is a PC application that runs under Windows 3.1x or 95. It allows full remote control of RollCall for this and other compatible units.

SOFTWARE INSTALLATION GUIDE

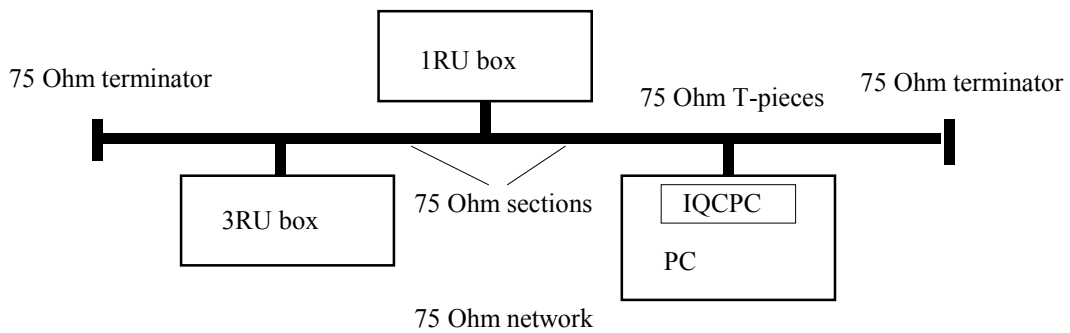
System Requirements

- The minimum requirement for installing the RollCall software is:
- RollCall PC Control Software (IQSPCR).
- IQ Modular 1RU or 3RU rack with Gateway card installed.
- PC running Microsoft Windows 3.1x or Windows '95 .
- Either a RollCall PC card (IQPC) or a RS232 to RS422 9 way converter fitted to the PC.

Connecting the hardware:

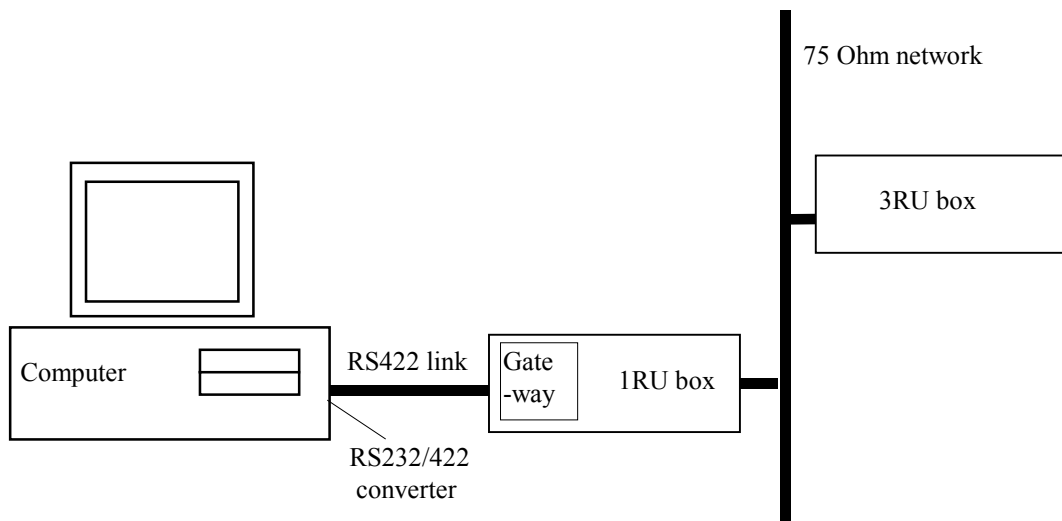
There are two choices for connecting the PC to the Modular IQ System:

75 Ohm co-axial cable BNC for box-to-box connections running at 2.5 Mbs.



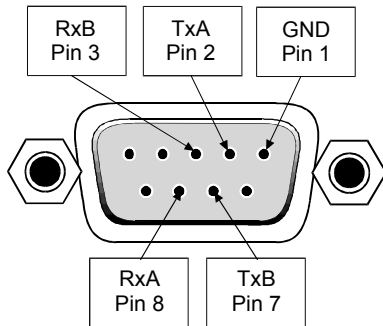
Each unit is physically joined via a T-piece connector. Each T-piece is connected by 75 Ohm co-ax cable to create a section. Each section of cable can be up to 400m. Each end of the network is terminated by a 75 Ohm terminator.

RS422 running at 38.4 kbs asynchronous:



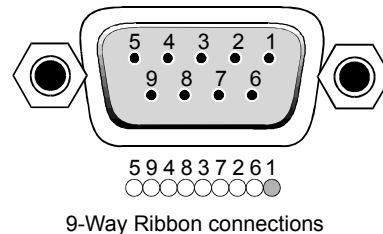
Connect the RS232/RS422 converter to COM1 or COM2 of the PC and connect this via RS422 cable to the 9 pin 'D' on the IQ modular unit. This interface is specifically designed for third party connections into the system. This allows PC's or any other serial device access to any of the units within the system. Every active 1RU or 3RU box has one of these ports.

Physical Interface - RollCall RS422



N.B. Connector is a socket, viewed from mating face. Equivalently, this is a plug, viewed from the rear, cable face.

For reference, the A signal is at 0V at line idle, and the B signal at 5V.



Standard Connections

9-way Connector	FUNCTION
1	Frame Ground
2	Transmit A (Tx-)
3	Receive B (Rx+)
4	Receive Common
5	[No connection]
6	Transmit Common
7	Transmit B (Tx+)
8	Receive A (Rx-)
9	Frame Ground

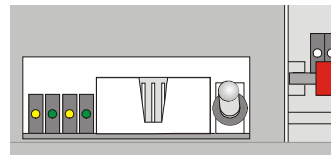
N.B. The D connector on the Gateway card could also be configured as RS485.

Selection of the interface format is by a switch on the card.

Note that RS485 interconnections should be pin to pin and only be used for Snell & Wilcox RollNet applications.

DOWN i.e. towards the PCB selects RS422

UP i.e. away from the PCB selects RS485



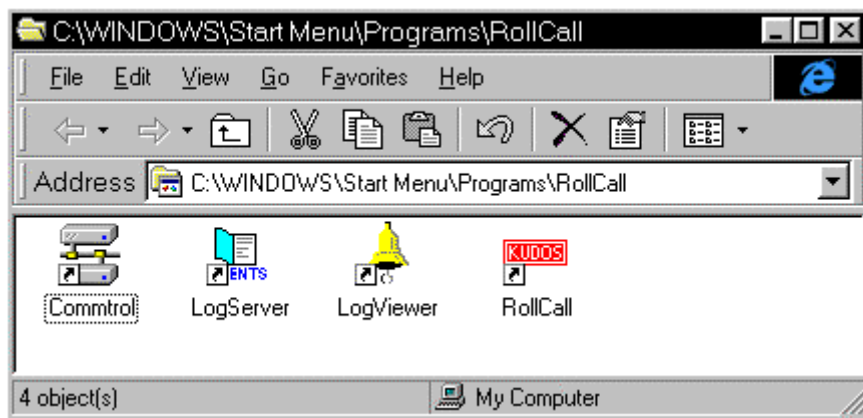
Switch set to RS485

Software Installation

Run SETUP.EXE from the installation diskette to install the suite of Rollcall programs. Product code IQSPCR contains the Rollcall Remote Control (rollcall.exe) and communications driver (commtrol.exe) programs. Product code IQSPCD contains the Rollcall Remote Control (rollcall.exe), communications driver (commtrol.exe), logserver (rolllog.exe) and logviewer (rollview.exe) programs.

On startup, the setup program prompts for an installation directory. The default installation directory is C:\ROLLCALL. The set-up procedure will copy all the necessary files to this directory. Set-up will also create a Windows Group called RollCall.

Depending on the product code of the diskette, Either two icons (RollCall and Commtrol for IQSPCR) or four icons (RollCall, Commtrol, LogServer and LogViewer for IQSPCD) will appear in the group.



Overview

ROLLCALL.EXE:

This program allows control of RollCall compatible units. (IQ Modules, Supervisor, other S&W units with RollCall gateway). Each unit has a 'control template' window for control of that device. The user can configure the program for USER, ENGINEER or SUPERVISOR access levels with password protection. It can install "template" files from new units automatically or by user request.

ROLLLOG.EXE:

This is the Log Server application that collects logging information from units on the network. Keeps a running log file of every event received. Writes a current status file for configured units and allows the LogViewer program to display the information.

ROLLVIEW.EXE:

This program displays the current status file written by ROLLLOG.EXE in a tabulated form. Coloured conditions highlight warning and failure states. Can be configured for network access for remote monitoring using share information from the LogServer program.

COMMTROL.EXE:

This program is called automatically by ROLLCALL.EXE or ROLLLOG.EXE and normally runs minimized. Usually, there is no need to run this program by itself. This program provides the basic communications with the PC card, serial comms ports or TCP/IP protocols. It also has monitoring facilities for data analysis.

For MORE DETAILS SEE THE OPERATOR'S MANUAL FOR THE IQSPCR SECTION 3

RollCall Control Templates for the IQDSIG

On Screen Display

Overview

This function allows On-Screen monitoring of the four audio channels via familiar bargraph displays. By using a combination of color bands and text a large amount of information may be conveniently viewed via the monitoring output. A Status Box is used to display WSS and VI information; SDI input status, embedded data information and EDH status.

The Bargraphs

The amplitude of each of the four audio signals are shown with ascending (for increasing signal strength) bargraph displays calibrated in dBFS.

Names of monitored pairs are shown opposite where:

L : = Denotes the Left channel of the stereo pair

R : = Denotes the Right channel of the stereo pair

The overall bargraph range is from 0 dBFS (maximum level) to -50 dBFS.

For ease of viewing the bargraph is divided into color banded areas indicating signal level. These are user adjustable.

Green is the bottom range.

Yellow is the medium range.

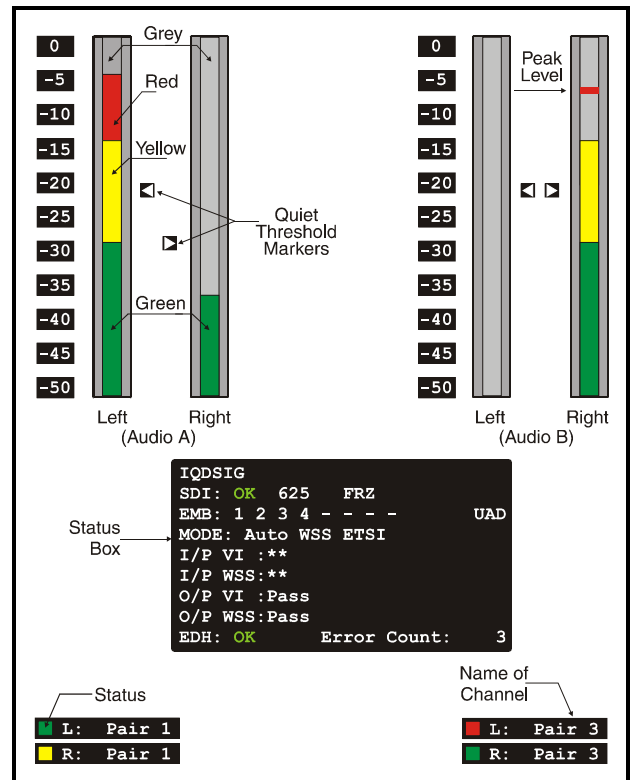
Red is the top range.

The maximum peak level attained is indicated by a small colored segment above the main colored band.

Grey areas indicate no signal.

Quiet Threshold Markers

Each bargraph has an associated marker arrow. The position of this marker corresponds to the value set for the **Quiet Detection level**.



Audio Name/Status

This area provides information about the four audio channels showing the channel designation (L1, L2 etc.) and its name.

By means of colored boxes it also shows the status of the channel.

Green Indicates that the channel is OK

Yellow Warns that the Quiet/Silence detection has operated

Flashing Yellow Warns that the silence detection function has operated. (the name will also flash)

Flashing Red Warns that there is no audio on that channel

Attack and Decay Times

For the main indicators the attack time is 40 ms and the decay time is 400 ms.

For the peak cap indicators the attack time is 40 ms and the decay time is 5 seconds.

Status Box

```

IQDSIG
SDI: OK 625 FRZ PAT FOL
EMB: 1 2 3 4 - - - - UAD
MODE: Auto WSS AFD CONFLICT
I/P VI :AFD7:16x9_16x9S4x3
I/P WSS:AFD3:16x9_14x9
O/P VI :Pass
O/P WSS:Pass
EDH: OK Error Count: 3

```

IQDSIG

This is the default name given to the unit and can be changed via the Caption Text item (see pages 17 and 37)

SDI:

This line shows the status of the incoming SDI signal and can have three different states:

- OK: This indicates that there is an input present and it is a recognised standard.
- ERR: This indicates that there is an input present but is not a recognised standard.
- * * This indicates that there is no input present
- 625: This indicates the input standard that the unit has been set up to recognise. It may also be set to 525.

Note that the following abbreviations will only appear under relevant conditions.

- FRZ: Indicates that the input is frozen
- PAT: Indicates pattern has been enabled on one or both of the output paths
- FOL: This indicates that the Follow On Line function has been enabled. i.e. changes made are applied to the picture regardless of input signaling value. When not selected they are only applied when correct signaling value is read.

EMB:

Indicates the presence of all 8 embedded audio pairs.

Note that the following abbreviation will only appear under relevant conditions.

UAD: This indicates the presence of unrecognised ancillary data. This applies to all ancillary packets that are not audio or EDH.

MODE:

Indicates the input signaling source and type being used to automatically map to the output signaling.

Note that the following abbreviation will only appear under relevant conditions.

CONFLICT:

Displayed on Screen when the Wide Screen Signaling and Video Index inputs are both of type AFD but have conflicting signaling values.

I/P VI :

The input Video Index signaling value that has been read.

I/P WSS:

The input Wide Screen Signaling value that has been read.

O/P VI :

The Video Index signaling that is being inserted on the output.

O/P WSS:

The Wide Screen Signaling that is being inserted on the output.

EDH:

This can have three possible states:

- OK: This indicates that EDH is present and has valid checksums.
- FAIL: This indicates that EDH is present but has invalid checksums.
- NONE: This indicates that there is no EDH present.

ERROR COUNT:

This indicates the number of EDH errors which have occurred since the last reset.

Bargraph A and Bargraph B Position

These scrollbars allow the horizontal and vertical position of each set of bargraphs to be adjusted.

Bargraph A/B X Position

The horizontal position can be adjusted in unit steps. (A unit step is a character width)

The range is from 0 to 39 units. The bargraphs for each pair can not cross over so when one is moved across it limits the range available for the other.

Preset is with Pair 1 bargraphs on the left side of the screen and Pair 2 on the right. (0 and 39 respectively)

Bargraph A/B Y Position

The vertical position can be adjusted in unit steps. (A unit step is the height of a character)

The range is from 0 to 19 units

Preset for both is 1 which positions both bargraphs at the top of the screen.

Note that for this and other screens the following applies:

The **P** symbol represents the Preset function and will return the function to the default setting.

The **◀** and **▶** symbols at the ends of the scrollbar allow the value to be adjusted in discrete steps.

The numerical value will be shown above the scrollbar and selecting Preset **P** will return the setting to the calibrated value of 0 for items on this screen.

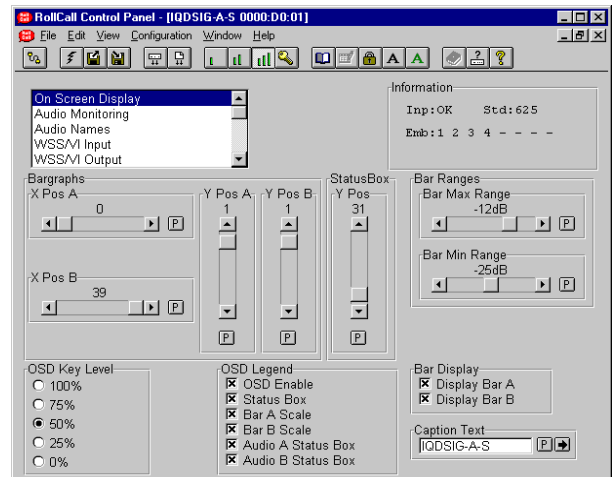
Bar Range

The bargraphs used on the OSD are divided into three colored areas to indicate signal levels.

These functions allow the high and low ranges to be adjusted. (The height of the red and green bars)

Bar Min Range Controls the range of the red bar.
The range is from -1 to -50 units.
Preset is 25.

Bar Max Range Controls the range of the green bar.
The range is from 0 to -49 units.
Preset is 12



OSD Key Level

The intensity of the on-screen-display compared to the background picture level may be adjusted for optimum clarity. The underlying video is not changed.

When set to 100% the peak white level of the OSD signal is the same as the peak white level of the background signal.

The 75%, 50% and 25% settings provide reducing levels of the OSD signal.

0% removes the OSD completely.

OSD Legend

OSD Enable

When checked this will switch on the OSD.
Note that only the checked items will appear.
When unchecked, all OSD items are removed.

Each of the five display areas may be selected or deselected as required.

Bar Display

This function controls which of the bars will be displayed.

Caption Text

This item allows a 19-character text caption to be setup. To change the text, type the new text in the text area and then select **↵** (return).

Selecting **P** (Preset) will return the caption to the default text which is IQDSIG.

Audio Monitoring

Audio pairs from the SDI input may be monitored for the following conditions:

Quiet Detection

This function will detect a quiet condition in any of the four audio channels.

On-Screen-Display Action

When a quiet condition is detected the audio status box on the On-Screen-Display will change from green (OK) to yellow (Quiet).

Duration

This sets the length of time the audio signal must be below the quiet threshold before indicating quiet.

The range of adjustment is from 1 second to 120 seconds.

Preset is to 60 seconds.

Audio A and Audio B Level (Left/Right)

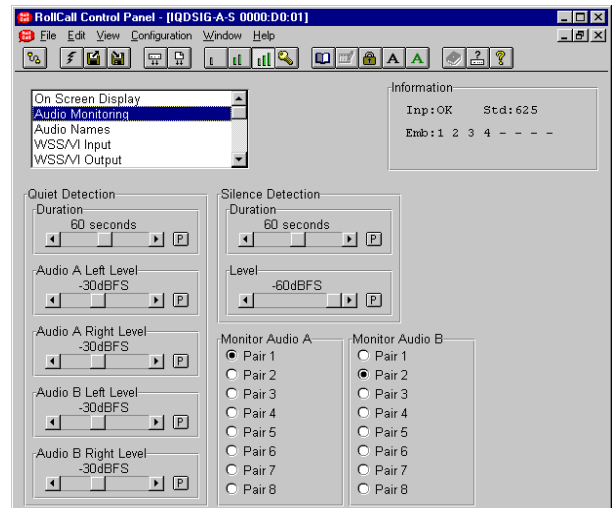
The definition of *Quiet* i.e. the level the signal must drop below to be detected as quiet. It may be individually set for Audio A (left and right channels) and Audio B (left and right channels) via these controls.

The range of adjustment is from -1 dBFS to -50 dBFS.

Preset is to -30 dBFS.

On-Screen-Display Action

The arrow indicators on the bargraphs will indicate the current settings.



Silence Detection

This function will detect silence in the selected audio pair.

On-Screen-Display Action

When silence is detected the audio status box on the On-Screen-Display will flash yellow.

Duration

This sets the length of time the audio must be below the silence threshold before indicating silence.

The range of adjustment is from 1 second to 120 seconds.

Preset is to 60 seconds.

Level

The definition of *Silence*, i.e. the level the signal must drop below to be detected as silent may be set with this control.

The range of adjustment is from -60 dBFS to -114 dBFS (Digital Blank)


Preset is to -60 dBFS.


Monitor Channel A/B

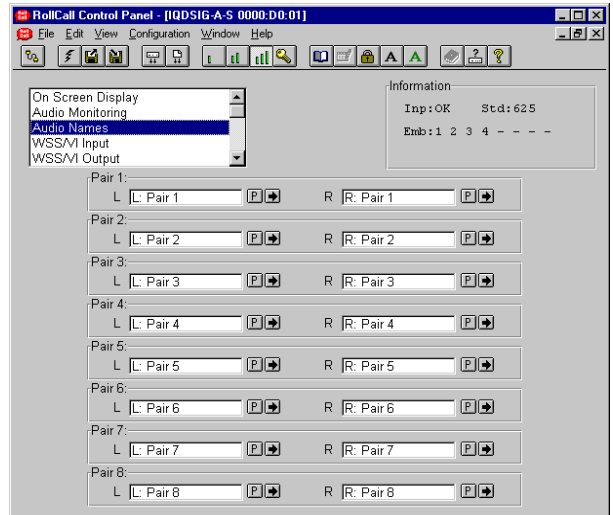
These items allow particular audio pairs to be selected for monitoring.

Audio Names

Default names are given to the embedded inputs that are little more than relative descriptions. These names may be edited to provide more meaningful information related to the equipment installation.

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

Selecting  (Preset) will return the text to the default name.



WSS/VI Input

Wide Screen Signaling and Video Index (Input)

This allows the parameters relating to the source of automatic aspect ratio control to be selected.

Input Source 625

This function allows the fundamental type of signaling that the unit will respond to. Either WSS (Wide Screen Signaling) or VI (Video Index) may be selected.

WSS Type

WSS ETSI Wide screen signaling (European Telecommunications Standards Institute)

WSS AFD Wide screen signaling Active Format Descriptor

VI Type

VI SMPTE Video Index SMPTE

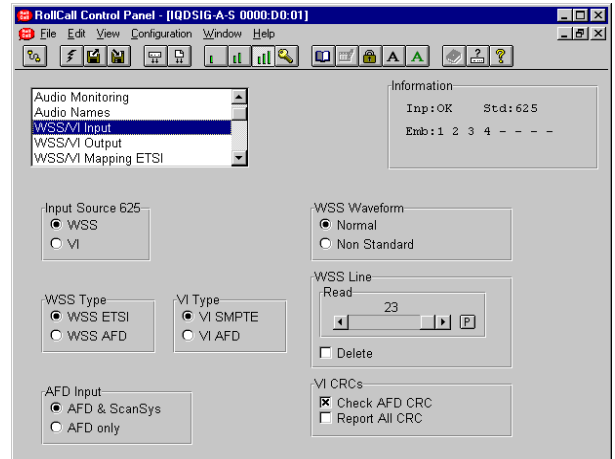
VI AFD Video Index Active Format Descriptor

AFD Input

The Active Format Descriptor input may be chosen to be

AFD & ScanSys Active Format Descriptor and the scan system used

AFD only Active Format Descriptor only



WSS Waveform

This item allows the unit to respond to wide screen signaling waveform that is either

Normal or Non Standard

WSS Line Read

The wide screen signaling data would normally be read from line 23; this item allows any line from line 7 to line 23 to be chosen. Preset is to Line 23.

VI CRC's

The Video Index Cyclic Redundancy Checksums may be selected to do the following:

Check AFD CRC Check the Active Format Descriptor Cyclic Redundancy Checksum only and error if incorrect.

Report All CRC Report all Cyclic Redundancy Checksums errors.

WSS/VI Output

This allows the output data parameters relating to automatic aspect ratio control to be selected.

WSS (Wide Screen Signaling)

Forced The appropriate values in forced mode will be output.

UserBits On Inserts the user set enhanced WSS bits.

Set WSS User Bits Sets the 4 bits of the enhanced WSS system

Write WSS The line to insert the Wide Screen Signaling may be selected from here.

WSS Output Type

Pass If Wide Screen Signaling is present then regenerate the waveform with data unchanged otherwise delete the first half of selected line.

ETSI ETSI format WSS data will be inserted

AFD Insert WSS AFD only.

AFD & ScanSys AFD and scanning system data will be inserted.

Delete All WSS data will be deleted.

VI (Video Index)

Forced The appropriate values in forced mode will be output.

VI Output Type

This selects what form of video index output signal is generated. Options are:

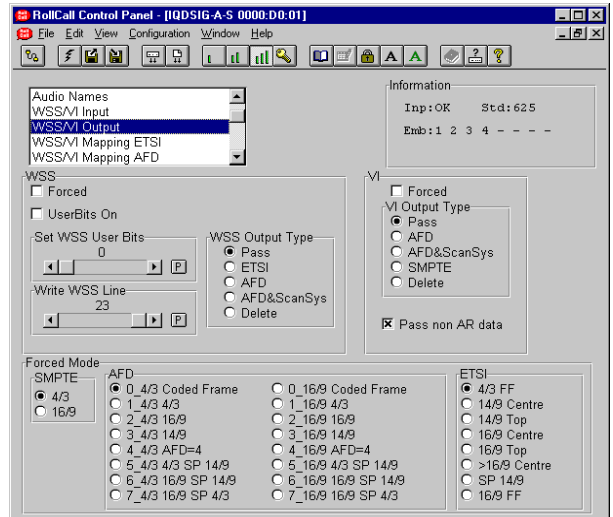
Pass When selected the input VI will be passed through the unit.

AFD Insert VI AFD only.

AFD & ScanSys AFD and scanning system data will be inserted.

SMPTE SMPTE format VI data will be inserted

Delete All data will be deleted.



Pass non AR Data

When this item is checked all sets of signaling will be passed.

When unchecked only Aspect Ratio data will be passed.

Forced mode

For each standard of signaling select a value to be inserted when in appropriate forced mode and correct standard.

Abbreviations

WSS Wide screen signaling

VI Video Index

AFD Active Format Descriptor

ETSI European Telecommunications Standards Institute

SMPTE

CRC Cyclic Redundancy Checksum

WSS/VI Mapping Windows

This function sets up how the unit responds to the input signaling of the input standard.

ETSI/AFD/SMPTE In

This function allows a different output configuration to be selected for each input.

ETSI/AFD/SMPTE Out

This function shows the selection for output mapping for each of the input selections.

Controls

Follow online

When selected, changes made are applied to the picture regardless of input signaling value. When not selected they are only applied when correct signaling value is read. To select this function, an input on the appropriate mapping page for the WSS/VI input type must already be selected.



This function saves the settings of this function for selected input signaling value. *Note that every input function must be saved individually.*



This function recalls the settings for the selected input signaling value.

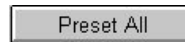
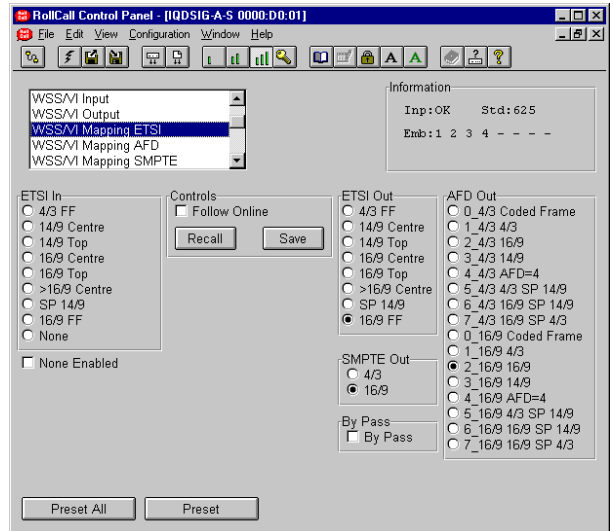
Bypass

When selected this function acts as a bypass for the selected input.

None Enable

When selected this enables no input signaling as an input type.

When not selected the unit holds the last good signaling if input signaling is lost.

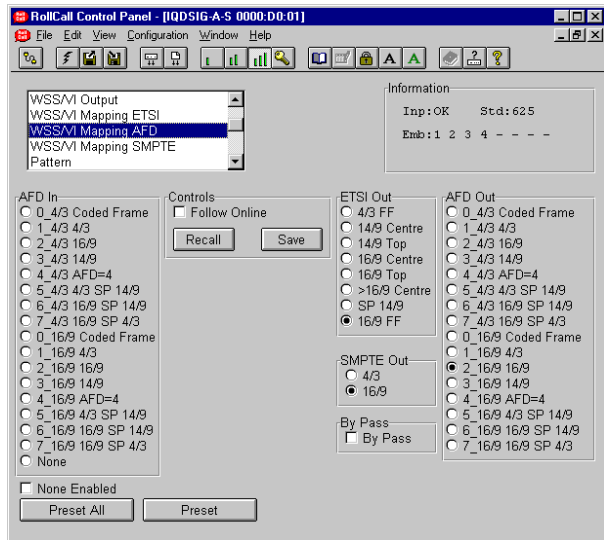


This function presets all parameters for the selected WSS/VI type.



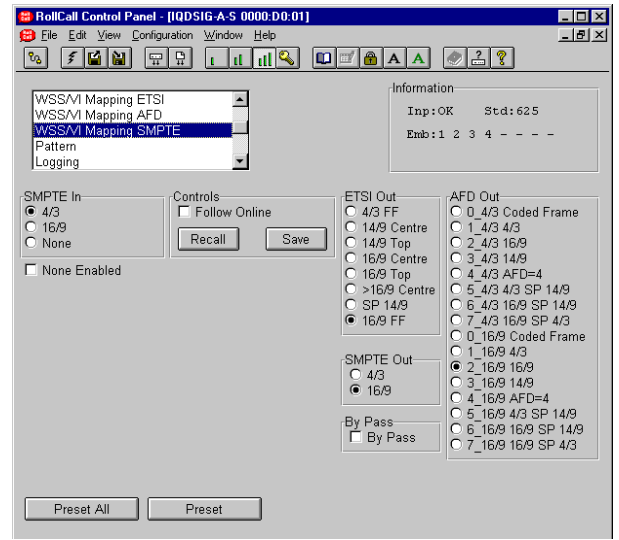
This function presets only the selected input WSS/VI type.

WSS/VI Mapping AFD



Functionality as ETSI above but for AFD inputs.

WSS/VI Mapping SMPTE



Functionality as ETSI above but for SMPTE input signaling.

Pattern

This function will allow various patterns to be used as the output signal.

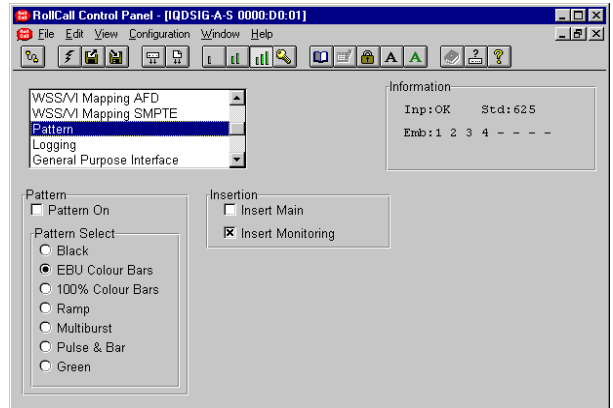
Pattern On

When enabled, the selected pattern will be inserted on the selected paths.

Insertion

This indicates which paths the pattern will be inserted on when the pattern is enabled.

Note that if pattern is enabled on the monitoring output the OSD graphics will be overlaid on the pattern output.

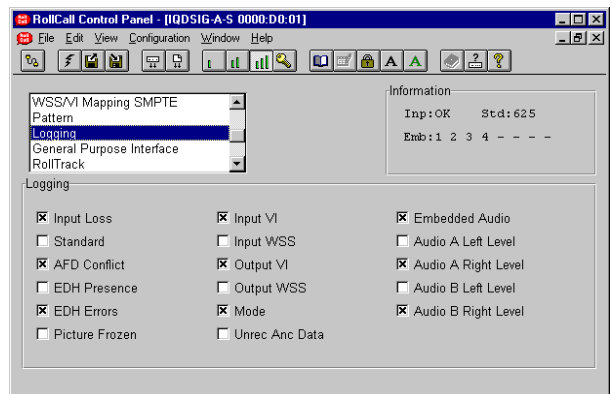


Logging

Logging

If a logging device is attached to the RollCall™ network, information about various parameters can be made available to such a device.

Any of the items may be selected from the list.



General Purpose Interface

The IQDSIG has 8 GPI inputs and an additional 4 that can be configured as either inputs or outputs.

Note that the single width rear panel versions have only a single GPI connection.

The functions of GPI/O 3 will be assigned to this connector.

GPI In

This function allows any of the GPI/O's to be selected for configuration.

Input Functions

The GPI inputs may be used for accepting information from mechanical switchers, relay contacts etc. The resulting action that the unit takes may be selected using this menu.

The GPI input functions that may be selected are as follows:

- | | |
|----------------|--|
| Unused | The function is not active. This is also the Preset Setting. |
| Pattern On | The unit will produce a pattern output on the selected paths. See Insertion function on the Pattern template. |
| OSD Enable | The On-screen graphics will appear on the screen.
<i>Note that the OSD only appears on the monitoring output path.</i> |
| Memory 1 to 16 | The unit will use the settings stored in the selected memory location. |
| Mem 1-2 | The unit will toggle between the settings of memory locations 1 and 2.
High to Low = Memory 1 settings.
Low to High = Memory 2 settings. |

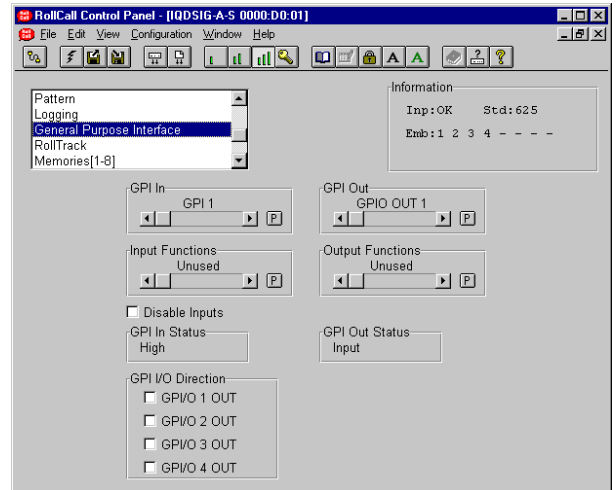
Disable Inputs

When selected, all GPI inputs will be disabled.

GPI In Status

This will display the current status of the selected GPI input.

This may show either High or Low. When Low the associated function will be triggered.



General Purpose Interface (continued)

GPI/O Direction

Four of the GPI inputs are configurable as GPI Outputs (GPI/O).

When selected, the corresponding GPI input is reconfigured as a GPI output.

GPI Out

The GPI output to be configured may be selected using this item.

Output Functions

The GPI outputs may be configured to produce an output corresponding to one of the following conditions:

Unused

Input Loss

Standard 625

Freeze (Digital Picture Freeze)

AFD Conflict

Aud A L Quiet (Audio A Left channel – Quiet)

Aud A L Silent (Audio A Left channel – Silent)

Aud A R Quiet (Audio A Right channel – Quiet)

Aud A R Silent (Audio A Right channel – Silent)

Aud B L Quiet (Audio B Left channel – Quiet)

Aud B L Quiet (Audio B Left channel – Silent)

Aud B R Quiet (Audio B Right channel – Quiet)

Aud B R Quiet (Audio B Right channel – Silent)

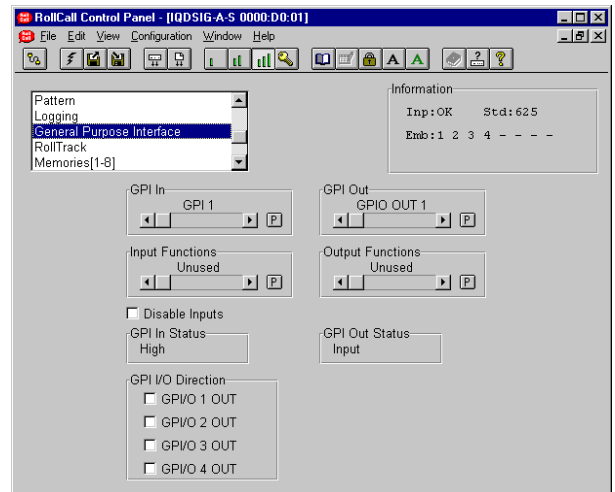
When the condition is not true, the output will float but when the condition is true, the output is closed to ground via a transistor.

The preset setting for each output is *Unused*.

GPI Out Status

This will display the current status of the selected GPI output.

This may show either Unused, Input (configured to be an input), open or closed.



RollTrack

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

For example, it can enable compatible audio delay units to produce an audio delay dependent on this and other similar units. The audio delay unit will dynamically follow or track the received delay-time information. This allows processed video signals to be timed correctly with audio signals. This automatic tracking system via the RollCall™ network is call **RollTrack**.

For more detailed information, see the RollTrack section (Appendix) at the end of this manual.

RollTrack Index

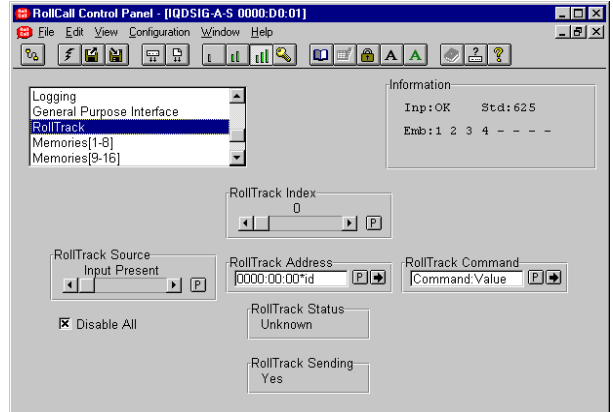
This item allows up to 64 destinations to be selected.

RollTrack Source

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


- | | |
|--------------|----------------|
| Input | Output WSS |
| Standard | Output VI |
| AFD Conflict | Embedded Audio |
| Input WSS | Audio Levels |
| Input VI | UAD Data |


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



RollTrack Address

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

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

 (Preset) returns to the default destination

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

For example: 0000:10:01*99

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

The second set (10) is the number identifying the (enclosure/mainframe) unit

The third set (01) is the slot number in the unit

The fourth set (99) is a user settable ID number to help identify the sender in a multi-unit system

RollTrack Command

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

For example: 84*156

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

Note that only command numbers 14,15,16 and 17 should be used for audio delay

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

For details of the RollCall command values for specific units please contact your local Snell & Wilcox agent.

RollTrack (continued)

Disable All

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

RollTrack Status

This item will show the status of the RollTrack system.

RollTrack Sending

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

This may show:

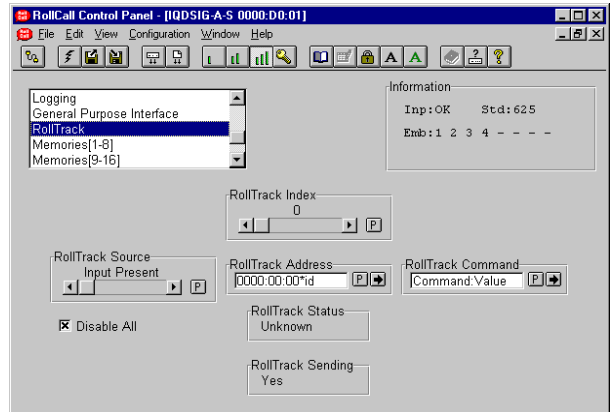
String A string value is always being sent.

Number A number value is always being sent.

No The message is not being sent.

Yes The message is being sent.

Internal Type Error
 Inconsistent behavior; please contact your local Snell & Wilcox agent.





Memories 1-8 and 9-16

This function allows a number of particular setups of the IQDSIG to be saved and recalled. There are 16 memory locations available.

Note that not all items can be recalled using Memories. Below is a list of the items that can be recalled:

- *OSD Set up (Key Level, OSD Enable, Bargraphs on/off, status boxes on/off and caption text)*
- *Audio Monitoring items (quiet/silence threshold etc)*
- *Audio Names*
- *WSS/VI settings*
- *Picture Frozen settings*

To change the name of a memory location type the new name in the text area and then select  (return)

 (Preset)

This item returns the name to the default name.



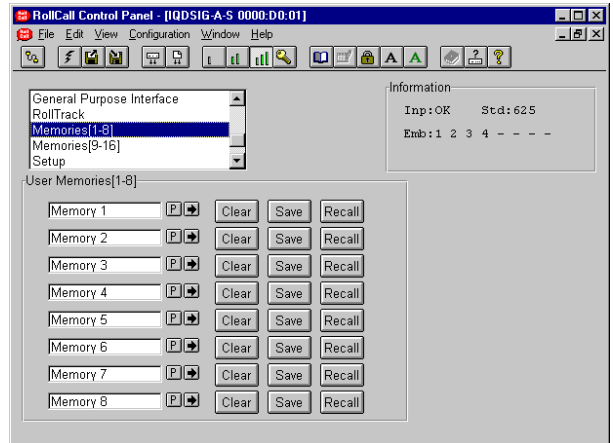
This item allows the memory location to be cleared and returned to the default (preset) setting.



This function allows the settings of items to be saved at the memory location.



This function allows the settings saved at the memory location to be recalled.



Setup

This item allows various basic functions to be set up.

Input Standard

- 525 If this item is selected the unit will only accept a 525 line standard
- 625 If this item is selected the unit will only accept a 625 line standard

If both 525 and 625 are selected the unit will automatically operate at the incoming line standard.

If only one of the standards is selected, the unit will only accept that standard and will indicate an error if any other standard is applied.

If neither of the items are selected the unit will remain in the state of the last selection.

Picture Frozen

This function will detect an input picture that has become digitally frozen.

The scroll bar allows the number of frames the picture has remained frozen to be set before the detector operates.

The range is from 2 to 150 frames and preset is to 2 frames.

Default Output

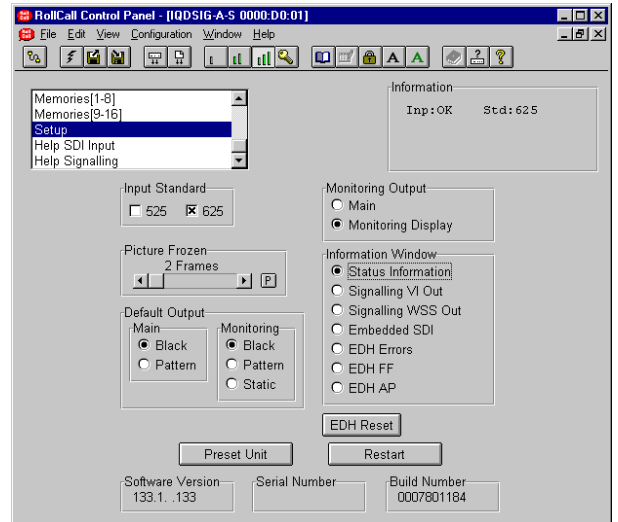
If the input signal fails the main and monitoring outputs may be configured to one of the following:

Black

Pattern The pattern selected on the Pattern template.

Static A correctly formatted picture of black and white noise

Note that the Static function is only available on the monitoring output.



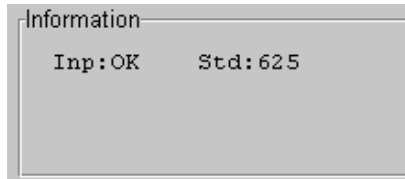
Setup (cont)

Information Window

This item allows the type of data shown in the information window, to be selected.

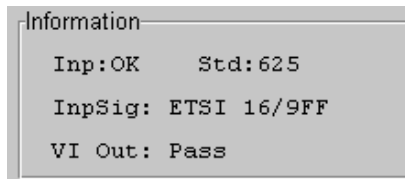
Status Information

When this item is selected the display window shows details about the Input Signal and some of the processing controls as shown in the examples below.



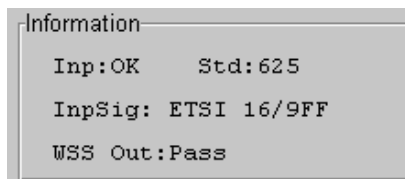
This shows the status of the unit where:
 FRZ = Picture frozen
 MIN = Unit in Min Delay mode
 PAT = Pattern On

Signaling VI out



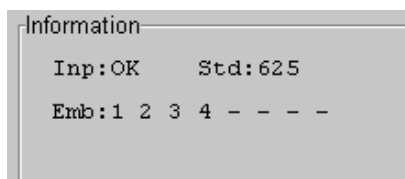
This displays: The input signaling type and value.
 The VI output type and value.

Signaling WSS out

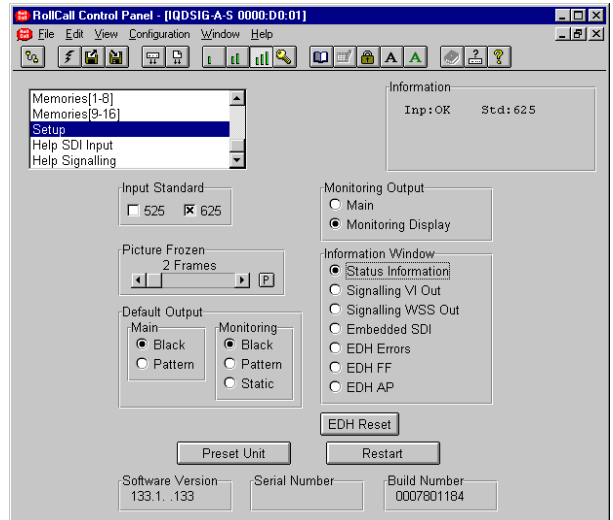


This displays: The input signaling type and value.
 The WSS output type and value.

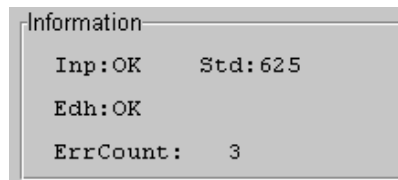
Embedded SDI



This shows the status of the Embedded Audio pairs.

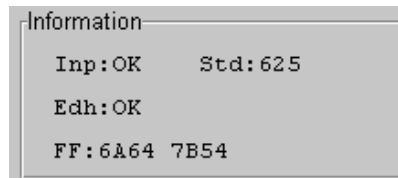


EDH Errors



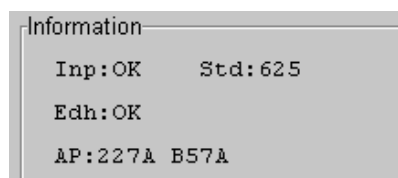
This shows the status of the EDH and the error count in seconds since the last EDH reset.

EDH FF



This shows the Full Field checksum

EDH AP



This will show the Active Picture checksum

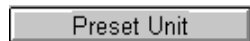
Setup (cont)

Monitoring Output

This function controls the type of signal that appears at the monitoring output. Either the Main signal or the Monitoring Display may be selected.



This will reset the EDH error counter to zero.



Selecting this item sets all adjustment functions that include a preset facility, to their preset values.

Note that this is a momentary action.



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

Software Version

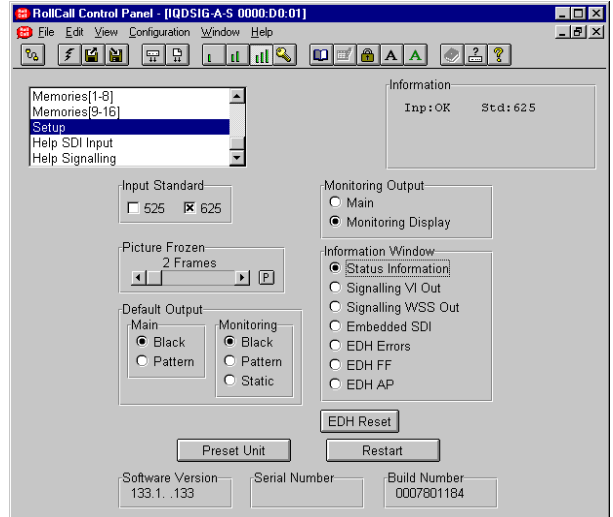
This item shows the version of the software fitted in the module.

Serial Number

This item shows the serial number of the module.

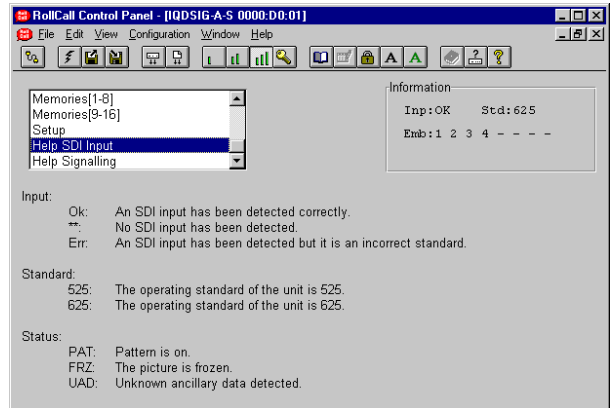
Build Number

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



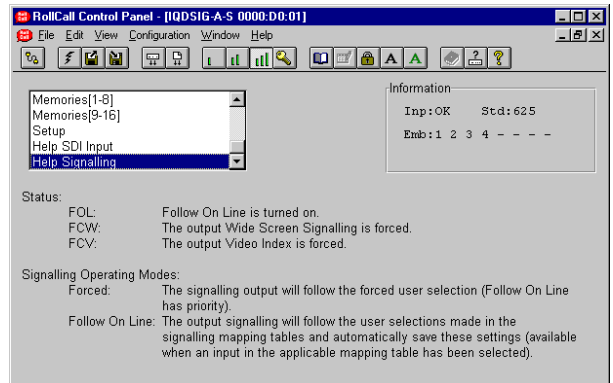
Help SDI Input

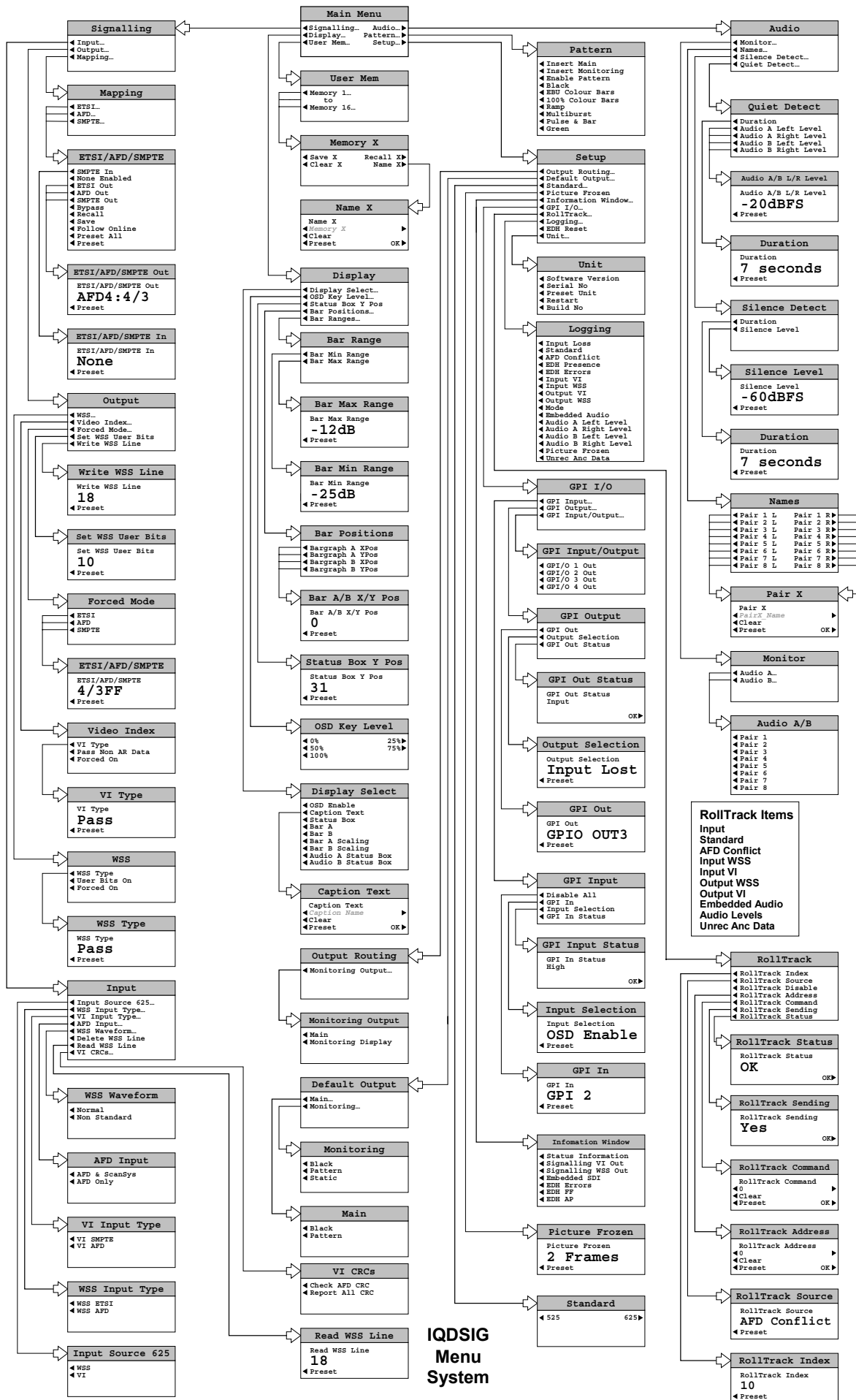
This screen explains the meanings of abbreviations used in the information window.



Help Signaling

This screen explains the meanings of abbreviations used in the information window associated with signaling.





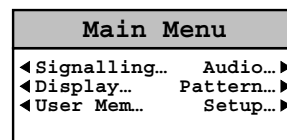
IQDSIG Menu System

(See IQDSIG Menu System drawing on previous page)

The system may be considered structured as a set of menus and sub-menus that are displayed in the LCD window.

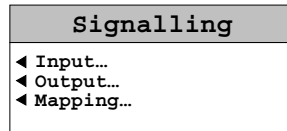
If necessary a sub-menu may be then be selected by pressing the push button adjacent to the arrowhead in the text line of the menu name.

This sub-menu will then be displayed in the window and will have the option of selecting another sub-menu in the same manner, or allow the adjustment of a particular parameter. Parameters enabled will appear as highlighted reverse text (white text on a black background)



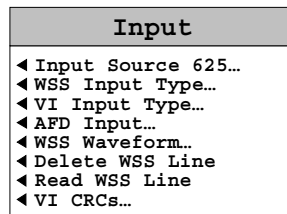
◀ Signaling

This allows the parameters relating to the input and output source of automatic aspect ratio control to be selected.



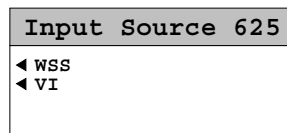
◀ Input...

This allows the parameters relating to the source of automatic aspect ratio control to be selected.



◀ Input Source 625...

This function allows the fundamental type of signaling that the unit will respond to.



Either

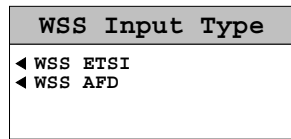
◀ WSS (Wide Screen Signaling)

or

◀ VI (Video Index) may be selected.

◀ **WSS Input Type**

This allows the type of WSS signal to be selected.

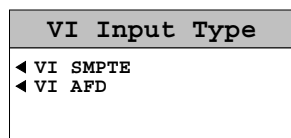


Selections are:

- ◀ WSS ETSI Wide screen signaling (European Telecommunications Standards Institute)
- ◀ WSS AFD Wide screen signaling Active Format Descriptor

◀ **VI Input Type...**

This allows the type of Video Index signal to be selected.

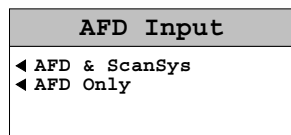


Selections are:

- ◀ VI SMPTE Video Index SMPTE
- ◀ VI AFD Video Index Active Format Descriptor

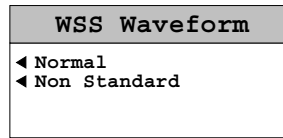
◀ **AFD Input**

The Active Format Descriptor input may be chosen from this menu.



- ◀ AFD & ScanSys Active Format Descriptor and the scan system used
- ◀ AFD only Active Format Descriptor only

◀ **WSS Waveform**

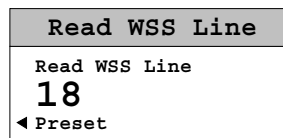


This item allows the unit to respond to wide screen signaling waveform that is either

- ◀ Normal or
- ◀ Non Standard

◀ **Read WSS Line**

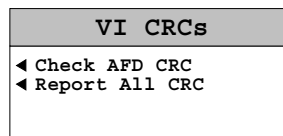
The wide screen signaling data would normally be read from line 23; this item allows any line from line 7 to line 23 to be chosen.



Preset is to Line 23.

◀ **VI CRC's**

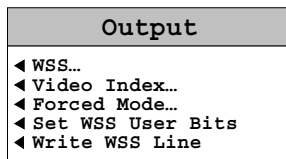
The Video Index Cyclic Redundancy Checksums may be selected with this menu.



- ◀ Check AFD CRC Check the Active Format Descriptor Cyclic Redundancy Checksum only and error if incorrect.
- ◀ Report All CRC Report all Cyclic Redundancy Checksum errors.

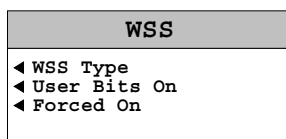
◀ Output

This allows the output data parameters relating to automatic aspect ratio control to be selected.



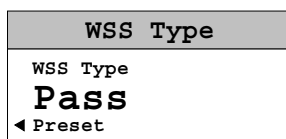
◀ WSS (Wide Screen Signaling)

This allows the parameters of the WSS signal to be selected.



◀ WSS Type

This allows the type of WSS signal to be selected.



- ◀ Pass If Wide Screen Signaling is present then regenerate the waveform with data unchanged otherwise delete the first half of selected line.
- ◀ ETSI ETSI format WSS data will be inserted
- ◀ AFD Insert WSS AFD only.
- ◀ AFD & ScanSys AFD and scanning system data will be inserted.
- ◀ Delete All WSS data will be deleted.

◀ User Bits On

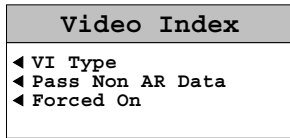
This will insert the user set enhanced WSS bits.

◀ Forced On

The appropriate values in forced mode will be output.

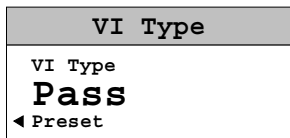
◀ Video Index

This allows the Video Index signal parameters to be selected.



◀ VI Type

This selects what form of video index output signal is generated.



Selections are:

- ◀ Pass When selected the input VI will be passed through the unit.
- ◀ AFD Insert VI AFD only.
- ◀ AFD & ScanSys AFD and scanning system data will be inserted.
- ◀ SMPTE SMPTE format VI data will be inserted
- ◀ Delete All data will be deleted.
- ◀ Pass non AR Data

When this item is selected all sets of signaling will be passed.

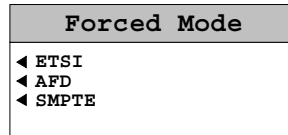
When not selected only Aspect Ratio data will be passed.

◀ Forced On

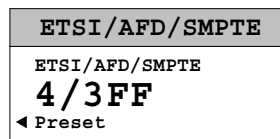
The appropriate values in forced mode will be output.

◀ Forced Mode

For each standard of signaling a value may be selected to be inserted when in appropriate forced mode and correct standard.

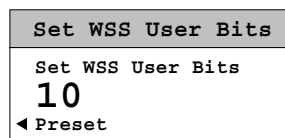


◀ ETSI/AFD/SMPTE



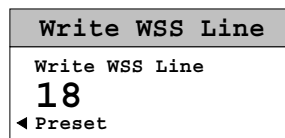
This menu allows the value to be chosen.

◀ Set WSS User Bits



This sets the 4 bits of the enhanced WSS system

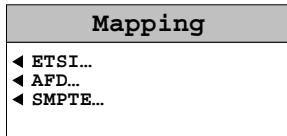
◀ Write WSS Line



The line to insert the Wide Screen Signaling may be selected using this item.

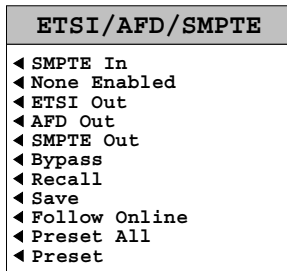
◀ Mapping

This function sets up how the unit responds to the input signaling of the input standard.

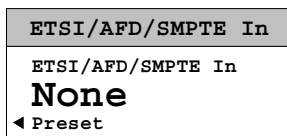


For each possible input signaling value the output signaling value must be configured.

◀ ETSI/AFD/SMPTE

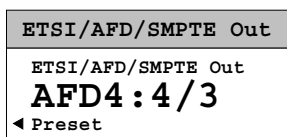


◀ ETSI/AFD/SMPTE In



This function allows a different output configuration to be selected for each input.

◀ ETSI/AFD/SMPTE Out



This function shows the selections for the mapped output signaling value for each of the input formats.

◀ Bypass

When selected this function acts as a bypass for the selected input.

◀ Recall

This function recalls the settings for the selected input signaling value.

◀ Save

This function saves the settings of this function for selected input signaling value.

Note that every input function must be saved individually.

◀ Follow OnLine

When selected, changes made are applied to the picture regardless of input signaling value. When not selected they are only applied when correct signaling value is read. To select this function, an input on the appropriate mapping page for the WSS/VI input type must already be selected.

◀ Preset All

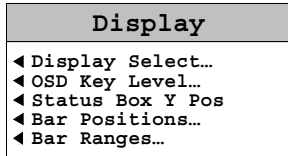
This function presets all parameters for the selected WSS/VI type.

◀ Preset

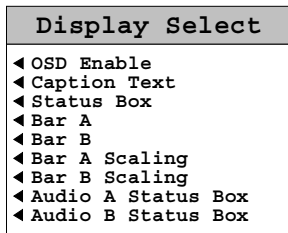
This function presets only the selected input WSS/VI type.

◀ **Display**

These items allow various parts of the Display to be switched on and off to suit the users application. (For more detailed information please see page 9)



◀ **Display Select**

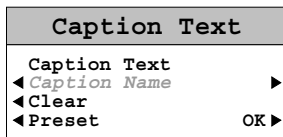


◀ **OSD Enable**

When selected the On Screen Display will be activated.

◀ **Caption Text**

This item allows a 19-character text caption to be setup.



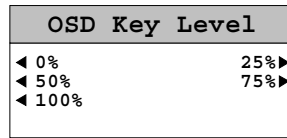
To compile/edit the text the right ► and left ◀ buttons adjacent to the upper text line in the menu should be used to select the character position in the text and the spinwheel used to select the character.

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

The ◀ **Preset** function loads the default text, Caption Name.

O.K. ► saves the text and returns to the main menu.

◀ **OSD Key Level**



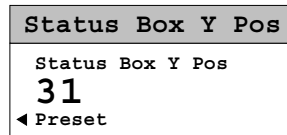
The intensity of the on-screen-display compared to the background picture level may be adjusted for optimum clarity. The underlying video is not changed.

When set to 100% the peak white level of the OSD signal is the same as the peak white level of the background signal.

The 75%, 50% and 25% settings provide reducing levels of the OSD signal.

0% removes the OSD completely.

◀ **Status Box Y Pos**

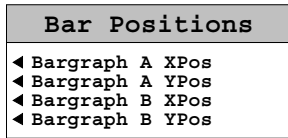


This item will allow the vertical position of the video status box to be adjusted.

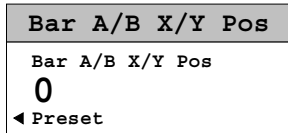
Using the spinwheel the position can be adjusted in unit steps. (A unit step is the height of one character)

◀ Bar Positions

This item will allow the horizontal and vertical position of each set of bargraphs to be adjusted.



◀ Bar A and B, X and Y Position



Using the spinwheel the **X** (horizontal) position can be adjusted in unit steps. (A unit step is a character width)

The range is from 0 to 40 units, however the bargraphs for each pair can not cross over so when one is moved across it limits the range available for the other.

Preset is with Pair 1 bargraphs on the left side of the screen and Pair 2 on the right. (0 and 40 respectively)

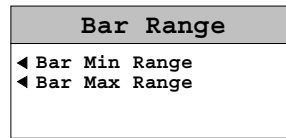
Using the spinwheel the **Y** (vertical) position can be adjusted in unit steps. (A unit step is the height of a character)

The range is from 0 to 20 units

Preset for both is 0 which positions both bargraphs at the top of the screen.

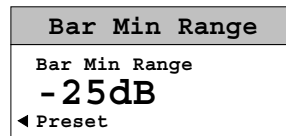
◀ Bar Ranges

The bargraphs used on the OSD are divided into three colored areas to indicate signal levels.



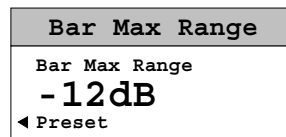
These functions allow the high and low ranges to be adjusted. (The height of the red and green bars)

◀ Bar Min Range



This item controls the range of the red bar. The range is from -1 to -50 units. Preset is 25.

◀ Bar Max Range



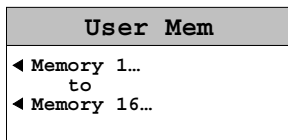
This item controls the range of the green bar. The range is from 0 to -49 units. Preset is 12

◀ User Mem

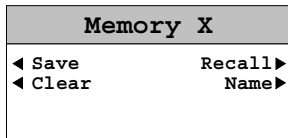
This function allows a number of particular setups of the IQDSIG to be saved and recalled. There are 16 memory locations available.

Note that not all items can be recalled using Memories. Below is a list of the items that can be recalled:

- *OSD Set up (Key Level, OSD Enable, Bargraphs on/off, status boxes on/off and caption text)*
- *Audio Monitoring items (quiet/silence threshold etc)*
- *Audio Names*
- *WSS/VI settings*
- *Picture Frozen settings*



Selecting a memory location will reveal the memory display that allows the current settings to be saved to or recalled from that memory location. The memory location may also be given a specific name.



◀ Save X

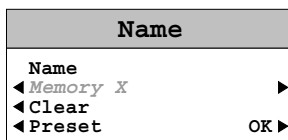
This item will save the current settings in the memory location.

Recall X ▶

This item will recall the settings in the memory location.

◀ Clear X

This item will return the contents of the memory location to the default (factory) values.



Name X ▶

This selection allows renaming of the memory location.

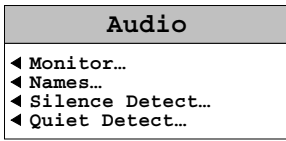
To compile/edit the text the right ▶ and left ◀ buttons adjacent to the upper text line in the menu should be used to select the character position in the text and the spinwheel used to select the character.

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

The **◀ Preset** function loads the default text, for example **Memory 1**.

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

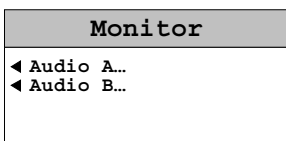
Audio ▶



This function allows audio pairs from the SDI input to be selected and various functions assigned to them.

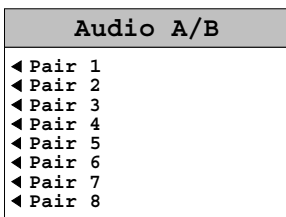
◀ Monitor

This item allows a particular audio channel to be selected for monitoring.



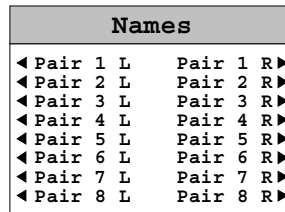
◀ Audio A/B

This item allows particular audio pairs to be selected for monitoring.



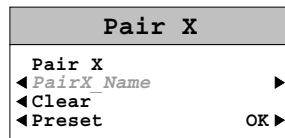
◀ Names

Default names are given to the embedded inputs that are little more than relative descriptions. These names may be edited to provide more meaningful information related to the equipment installation.



To change a name, select the pair from the list.

A naming screen will then appear.



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

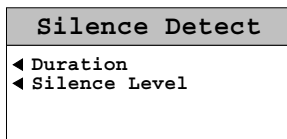
The **◀ Clear** function blanks out the selected character.

The **◀ Preset** function loads the default text, for example **Pair 2 L**.

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

◀ **Silence Detect**

This function will detect silence in the selected audio pair.

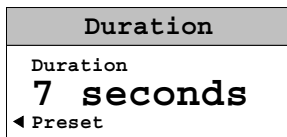


On-Screen-Display Action

When silence is detected the audio status box on the On-Screen-Display will flash yellow.

◀ **Duration**

This sets the length of time the audio must be below the silence threshold before indicating silence.

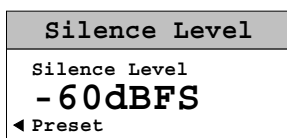


The range of adjustment is from 1 second to 120 seconds.

Preset is to 60 seconds.

◀ **Silence Level**

The definition of *Silence*. i.e the level the signal must drop below to be detected as silent may be set with this control.

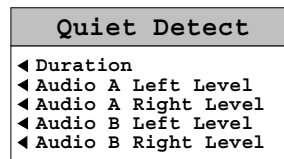


The range of adjustment is from -60 dBFS to -114 dBFS (Digital Blank)

Preset is to -60 dBFS.

◀ **Quiet Detect**

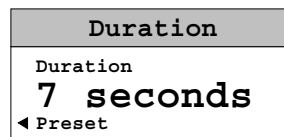
This function will detect a quiet condition in any of the four audio channels.



On-Screen-Display Action

When a quiet condition is detected the audio status box on the On-Screen-Display will change from green (OK) to yellow (Quiet).

◀ **Duration**



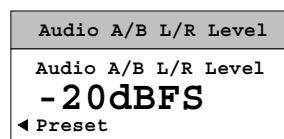
This sets the length of time the audio signal must be below the quiet threshold before indicating quiet.

The range of adjustment is from 1 second to 120 seconds.

Preset is to 60 seconds.

◀ **Audio A and Audio B Level (Left/Right)**

The definition of *Quiet* i.e. the level the signal must drop below to be detected as quiet. It may be individually set for Audio A (left and right channels) and Audio B (left and right channels) via these controls.



The range of adjustment is from -1 dBFS to -50 dBFS.

Preset is to -30 dBFS.

Pattern ►

This function will allow various patterns to be used as the output signal.

Pattern
◀ Insert Main
◀ Insert Monitoring
◀ Enable Pattern
◀ Black
◀ EBU Colour Bars
◀ 100% Colour Bars
◀ Ramp
◀ Multiburst
◀ Pulse & Bar
◀ Green

◀ Insert Main

When selected the pattern will be inserted into the main output.

◀ Insert Monitoring

When selected the pattern will be inserted into the monitoring output.

Note that the pattern may be inserted into either or both of the outputs.

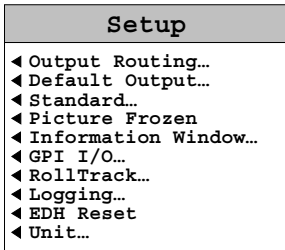
◀ Enable Pattern

When enabled, the pattern selected from the list will be inserted on the selected paths.

Note that if pattern is enabled on the monitoring output the OSD graphics will be overlaid on the pattern output.

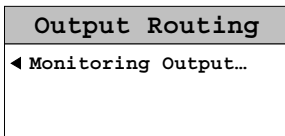
Setup ▶

This item allows various basic functions to be set up.



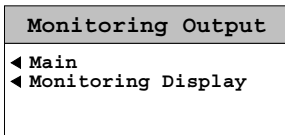
◀ Output Routing

This function controls the type of signal that appears at the outputs.



◀ Monitoring Output

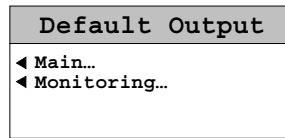
This function controls the type of signal that appears at the monitoring output.



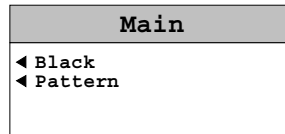
Either the Main signal or the Monitoring Display may be selected.

◀ Default Output

If the input signal fails the main and monitoring outputs may be configured.



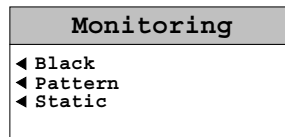
◀ Main



This item allows the main output to be configured to one of the following:

- Black
- Pattern The pattern selected on the Pattern template

◀ Monitoring



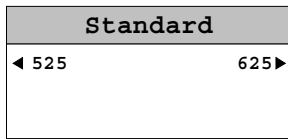
This item allows the monitoring output to be configured to one of the following:

- Black
- Pattern The pattern selected on the Pattern template.
- Static A correctly formatted picture of black and white noise

Note that the Static function is only available on the monitoring output.

◀ **Standard**

This item allows the input standard to be defined.



◀ 525

If this item is selected the unit will only accept a 525 line standard.

625 ▶

If this item is selected the unit will only accept a 625 line standard.

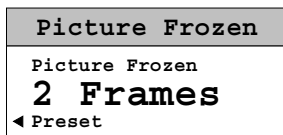
If both 525 and 625 are selected the unit will automatically operate at the incoming line standard.

If only one of the standards is selected, the unit will only accept that standard and will indicate an error if any other standard is applied.

If neither of the items are selected the unit will remain in the state of the last selection.

◀ **Picture Frozen**

This function will detect an input picture that has become digitally frozen.

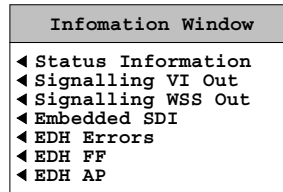


The spinwheel allows the number of frames the picture has remained frozen to be set before the detector operates.

The range is from 2 to 150 frames and preset is to 2 frames.

◀ **Information Window**

This item allows the type of data shown in the information window, to be selected.



◀ **Status Information**

When this item is selected the display window will show details about the Input Signal and some of the processing controls.

◀ **Signaling VI out**

This displays: The input signaling type and value.
The VI output type and value.

◀ **Signaling WSS Out**

This displays: The input signaling type and value.
The WSS output type and value.

◀ **Embedded SDI**

This will show the status of the Embedded Audio pairs.

◀ **EDH Errors**

This will show the status of the EDH and the error count in seconds since the last EDH reset.

◀ **EDH FF**

This will show the Full Field checksum

◀ **EDH AP**

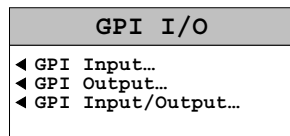
This will show the Active Picture checksum

◀ **GPI I/O**

The IQDSIG has 8 GPI inputs and an additional 4 that can be configured as are either inputs or outputs.

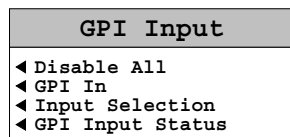
Note that the single width rear panel versions have only a single GPI connection. The functions of GPI/O 3 will be assigned to this connector.

This item allows the GPI connections to be configured and their actions defined.



◀ **GPI Input**

This item reveals the GPI input configuration menu.

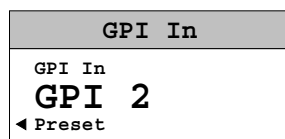


◀ **Disable All**

When selected, all GPI inputs will be disabled.

◀ **GPI In**

The GPI input may be selected using this item.



Selections available are:

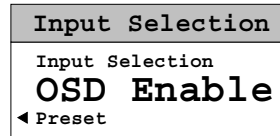
GPI 1 to GPI 8

and

GPIO IN 1 to GPIO IN 4

◀ **Input Selection**

The GPI inputs may be used for accepting information from mechanical switchers, relay contacts etc. The resulting action that the unit takes may be selected using this menu.



The GPI input functions that may be selected are as follows:

Unused The function is not active. This is also the Preset Setting.

Pattern On The unit will produce a pattern output on the selected paths. See *Insertion* function on the **Pattern** template.

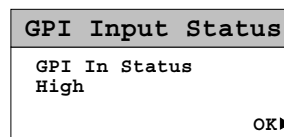
OSD Enable The On-screen graphics will appear on the screen. *Note that the OSD only appears on the monitoring output path.*

Memory 1 to 16 The unit will use the settings stored in the selected memory location.

Mem 1-2 The unit will toggle between the settings of memory locations 1 and 2. High to Low = Memory 1 settings. Low to High = Memory 2 settings.

◀ **GPI Input Status**

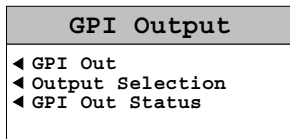
This displays the current status of the selected GPI input.



This may show either High or Low. When Low the associated function will be triggered.

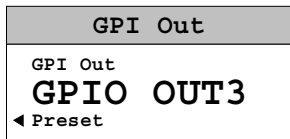
◀ **GPI Output**

This item reveals the GPI output configuration menu.



◀ **GPI Out**

The GPI output may be selected using this item.



Selections available are GPIO IN 1 to GPIO IN 4.

◀ **Output Selection**

The GPO may be configured to produce an output corresponding to one of the following conditions:

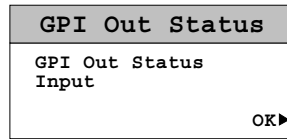
- Unused
- Input Loss
- Standard 625
- Freeze (Digital Picture Freeze)
- AFD Conflict
- Aud A L Quiet (Audio A Left channel – Quiet)
- Aud A L Silent (Audio A Left channel – Silent)
- Aud A R Quiet (Audio A Right channel – Quiet)
- Aud A R Silent (Audio A Right channel – Silent)
- Aud B L Quiet (Audio B Left channel – Quiet)
- Aud B L Quiet (Audio B Left channel – Silent)
- Aud B R Quiet (Audio B Right channel – Quiet)
- Aud B R Quiet (Audio B Right channel – Silent)

When the condition is not true, the output will float but when the condition is true, the output is closed to ground via a transistor.

The preset setting for each output is *Unused*.

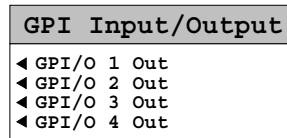
◀ **GPI Out Status**

This will display the current status of the selected GPI output.



This may show either Unused, Input (configured to be an input), open or closed.

◀ **GPI Input/Output**



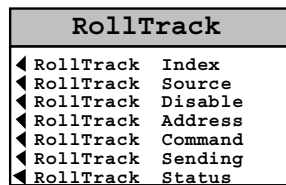
Four of the GPI inputs are configurable as GPI Outputs (GPI/O). When selected, the corresponding GPI input is reconfigured as a GPI output.

◀ RollTrack

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

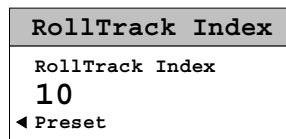
For example, it can enable compatible audio delay units to produce an audio delay dependent on this and other similar units. The audio delay unit will dynamically follow or track the received delay-time information. This allows processed video signals to be timed correctly with audio signals. This automatic tracking system via the RollCall™ network is call **RollTrack**.

For more detailed information, see the RollTrack section (Appendix) at the end of this manual.

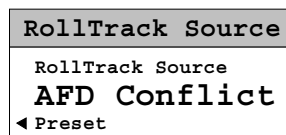


◀ RollTrack Index

This item allows up to 64 destinations to be selected.



◀ RollTrack Source



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

Input Standard	Output WSS
AFD Conflict	Output VI
Input WSS	Embedded Audio
Input VI	Audio Levels
	UAD Data

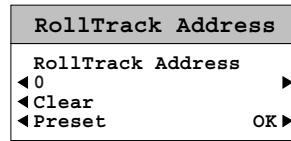
The destination for the information is set by the network code address as follows:

◀ RollTrack Disable

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

◀ RollTrack Address

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



To edit the text the buttons adjacent to the upper text line in the menu are used to select the character position in the text and the spinwheel used to select the character.

(The right ► and left ◀ buttons select the cursor position and the spinwheel selects the character; the clear button sets the text line to all zero's and the OK button accepts the network address)

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

For example: 0000:10:01*99

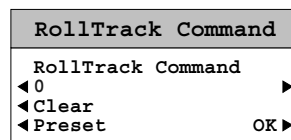
The first set (0000) is the network segment code number

The second set (10) is the number identifying the (enclosure/mainframe) unit

The third set (01) is the slot number in the unit

The fourth set (99) is a user settable ID number to help identify the sender in a multi-unit system

◀ RollTrack Command



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

For example: 84*156

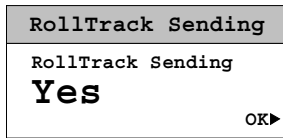
The first set (84) is the **RollTrack** command number

Note that only command numbers 14,15,16 and 17 should be used for audio delay

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

For details of the RollCall command values for specific units please contact your local Snell & Wilcox agent.

◀ RollTrack Sending



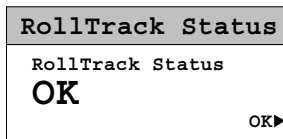
This item shows when the unit is actively sending the RollTrack command.

This may show:

- String A string value is always being sent.
- Number A number value is always being sent.
- No The message is not being sent.
- Yes The message is being sent.

Internal Type Error
 Inconsistent behavior; please contact your local Snell & Wilcox agent.

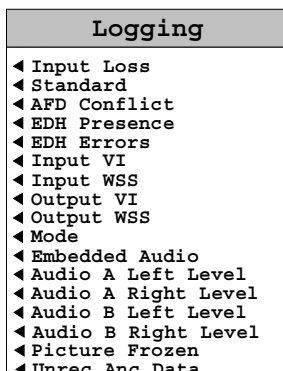
◀ RollTrack Status



This item will show the status of the RollTrack system.

◀ Logging

If a logging device is attached to the RollCall™ network, information about various parameters can be made available to such a device.



Any of the items may be selected from the list.

◀ Unit

This item allows information about the unit to be displayed and other functions to be activated.

◀ Software Version

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

◀ Serial No.

This item shows the serial number of the module

◀ Preset Unit

Selecting this item sets all adjustment functions that include a preset facility, to their preset values.

Note that this is a momentary action.

◀ Restart

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

◀ Build No

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

APPENDIX 1 – Video Index and Enhanced Line 23

Video index is a signal embedded in the D1 output stream that can be used to convey aspect ratio information. The basic version of video index is described in SMPTE document RP186. An enhanced version of video index incorporating more aspect ratio information has been introduced in the United Kingdom for control of MPEG encoders. The IQDSIG supports both forms of video index and, they are referred to as SMPTE186 and AFD Spec' version throughout. (AFD is active format descriptor). The serial data format of the video index is described in SMPTE document SMPTE125M-1995.

In the United Kingdom, a modified version of line 23 signaling which allows the embedding of the same information as that in AFD spec Video Index signals has been defined. The IQDSIG supports this AFD spec version of line 23 at both it's input and output. The new line 23 will be referred to as L23 AFD and the previous version of line 23 as L23 ETSI throughout.

BACKGROUND INFORMATION ON VIDEO INDEX

The original SMPTE RP186 video index scheme includes in the very first data byte (Class 1.1 data Octet 1) a scanning system field. This can signal either 4:3 or 16:9 using the bottom 3 bits of the data byte as shown below.

Octet Value	Meaning	B2	B1	B0
0	no information	0	0	0
1	525/59.94 4:3	0	0	1
2	625/50 4:3	0	1	0
3	Reserved	0	1	1
4	Reserved	1	0	0
5	525/59.94 16:9	1	0	1
6	625/50 16:9	1	1	0
7-255	Reserved	1	1	1

Within Europe an extension to this data byte has been defined and is known as the ARDSPEC version. AFD being Active Region Descriptor. This retains the meaning of the bottom 3 bits of the data byte as 4:3 or 16:9 but in addition, it defines the meanings of the next 3 bits as follows.

Active format	Intended aspect ratio of active region	B5	B4	B3
0	Active region is same as coded frame	0	0	0
1	4:3	0	0	1
2	16:9	0	1	0
3	14:9	0	1	1
4	Reserved for future use	1	0	0
5	4:3 with shoot-and-protect 14:9 centre	1	0	1
6	16:9 with shoot-and-protect 14:9 centre	1	1	0
7	16:9 with shoot-and-protect 4:3 centre	1	1	1

The enhanced version of Line 23 (L23 AFD) basically embeds the same information in the line 23 data. i.e. the Scanning system and AFD fields. In addition, it provides four User bits.

The video index information is inserted on line 11 and 324 for 625 line systems and lines 14 and 277 for 525 line systems.

The IQDSIG can read incoming aspect ratio signaling and output it. This means that the aspect ratio conversion it performs can be automatically controlled by the incoming video signaling. It is possible to program the action that the IQDSIG takes for each of the incoming signaling values.

RollTrack Audio Delay Tracking

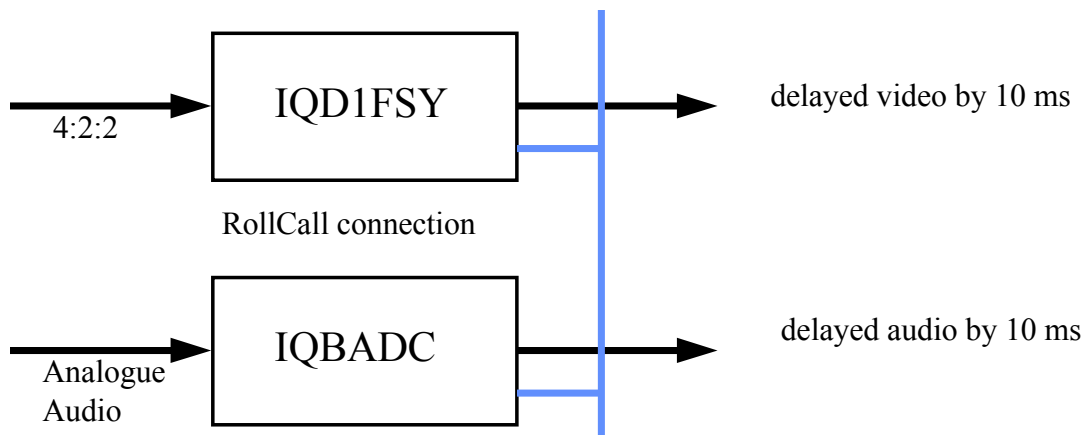
RollTrack is a feature of RollCall™ (Snell & Wilcox’s proprietary remote control system), that allows devices to communicate across the RollCall network with no direct user intervention.

RollTrack Audio Delay Tracking enables Snell & Wilcox RollCall™ compatible audio delay products to track delay introduced by RollCall™ compatible video processing products.

The current products that implement RollTrack Audio Delay Tracking are:

Audio Delay Modules	Video Modules	Other Products	
IQBAAD	IQD1FSY	ALCHEMIST	MDD3000
IQBADC	IQDMSDS	CPP100	MDD550
IQBDAC	IQDAFS	CPP200	MDD560
IQBDAD	IQDMSDS	NRS500	MDD570
IQBSYN	IQDMSDP	HD5050	MDD2000
IQBADCD	IQDSYN		

The simplest configuration is a single video unit and a single audio delay in a RollCall™ system. The audio delay will have the same delay as through the video path. If the delay changes the audio delay will track.



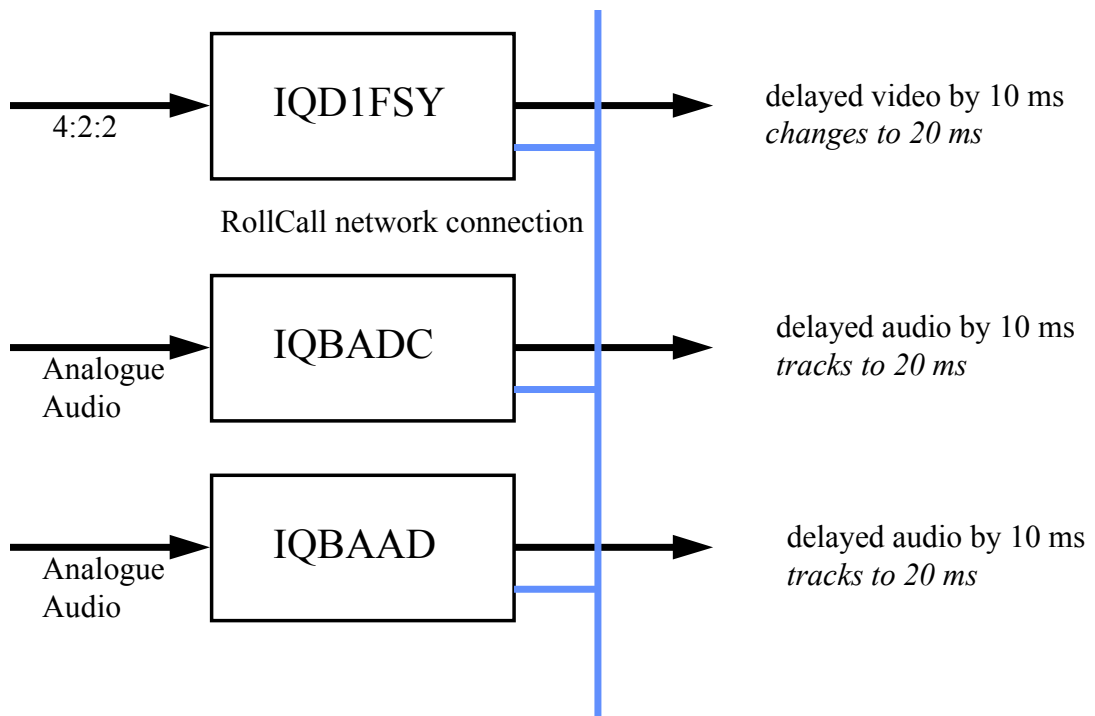
The next level of configuration is where there are multiple Frame Synchronizers (for example) each connected through RollCall™ to their own tracking Audio Delay. (It is worth stating that the synchronizers and audio delays do not have to be in the same enclosure; the addressing scheme, discussed later, allows for the units to be positioned anywhere in the RollCall™ domain.)

The maximum number of video units and audio delays in a RollCall™ system is set by the maximum limit of the number of modules in a RollCall™ network and is currently 3840 on a single network without bridges.

The unique identification of the destination unit (a decimal number) for various modules is as follows:

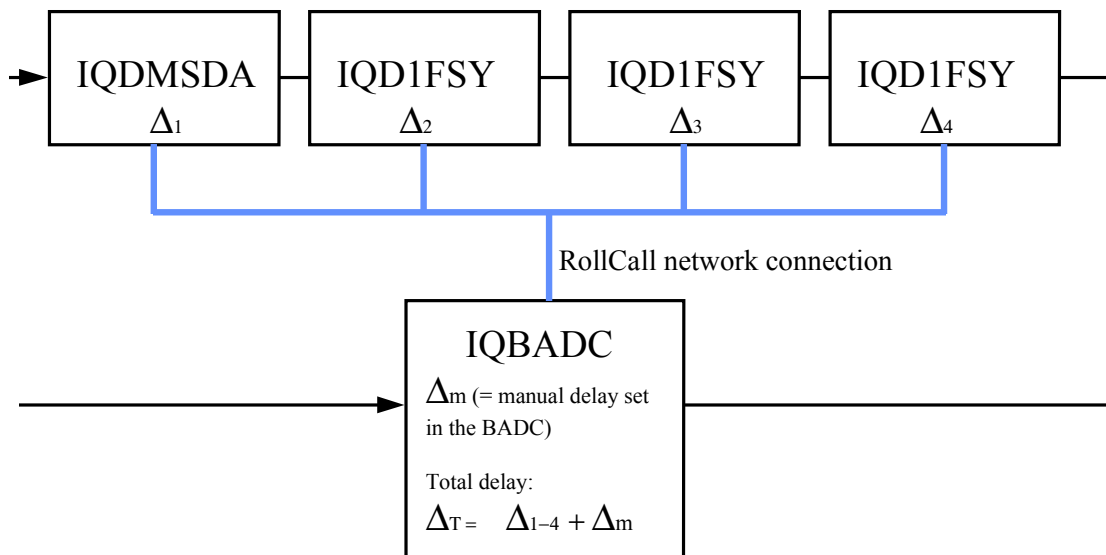
Module	ID
IQBADC	51
IQBDAC	52
IQBAAD	53
IQBDAD	54
IQBSYN	89
IQBADCD	107

The next level of complexity is a *vertical delay cluster* where a video unit can have up to eight audio delays tracking - of the same or different types.



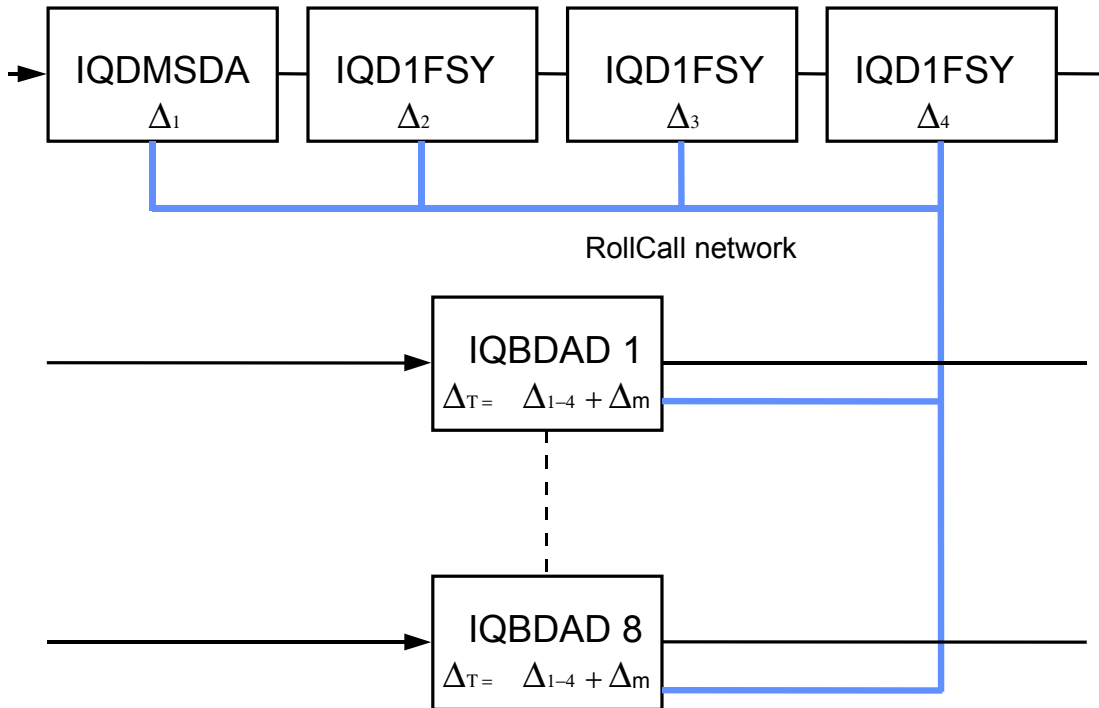
From one to eight audio delay products can be connected via RollCall™ to a single frame synchronizer, for example. If the synchronizer delay changes, then however many audio delays are connected will track the delay. The audio delays can also have a manual delay which will be added to the RollTrack delay.

The next level of complexity is a *horizontal delay cluster* where an audio delay can track up to four video units.



The total delay time through the audio delay is then the sum of the individual delays introduced by the video units plus the manual delay of the audio unit. The manual delay can be set to compensate for any fixed propagation delay in the video path or may be set to zero.

The next level of complexity is a *matrix delay cluster* where each audio delay (up to eight) can track up to four video units. This configuration is in effect a four by eight matrix of video units and audio delay units. The total delay time through the audio delay units is then the sum of the individual delays introduced by the video units plus the manual delay of the audio unit.



As any of the delay times change in the video path so will the audio delay time track this delay. A virtual connection is made between from, say, an IQD1FSY to an IQBDAD by:

- selecting the *Setup...* Menu of the IQD1FSY
- then selecting the *Audio_Delay...* Menu
- then choosing from *Unit_1* to *Unit_8*
- then entering the unique network address of the IQBDAD in the form *nnnn:xx:yy*z*d*
- where *nnnn* = network address and in most cases will be 0000(hex);
- xx* = IQ enclosure address (hex);
- yy* = slot address of the IQBDAD (hex)
- z* = the connection (or channel) number (decimal) - see table below.
- d* = the unique identification of the destination unit (decimal) The ID entered must match the receiving units own ID or else the command will be ignored. If the ID value is set to 00, the receiving unit does not perform an ID match and will always accept the incoming command
- then selecting the *Delay...* Menu of the IQBDAD
- then selecting *RollTrack*

Example of Network Addresses with Channel Numbers and ID Numbers

	D1FSY 1	D1FSY 2	D1FSY 3	D1FSY 4
Audio delay 1	0000:10:01*14*54	0000:10:01*15*54	0000:10:01*16*54	0000:10:01*17*54
Audio delay 2	0000:10:03*14*54	0000:10:03*15*54	0000:10:03*16*54	0000:10:03*17*54
Audio delay 3	0000:10:05*14*54	0000:10:05*15*54	0000:10:05*16*54	0000:10:05*17*54
Audio delay 4	0000:10:07*14*54	0000:10:07*15*54	0000:10:07*16*54	0000:10:07*17*54
Audio delay 5	0000:10:09*14*54	0000:10:09*15*54	0000:10:09*16*54	0000:10:09*17*54
Audio delay 6	0000:10:0B*14*54	0000:10:0B*15*54	0000:10:0B*16*54	0000:10:0B*17*54
Audio delay 7	0000:10:0D*14*54	0000:10:0D*15*54	0000:10:0D*16*54	0000:10:0D*17*54
Audio delay 8	0000:10:0F*14*54	0000:10:0F*15*54	0000:10:0F*16*54	0000:10:0F*17*54

The most complex system would be an array of matrix delay clusters

