

# IQDAVM SDI DA with Audio and Composite Video Monitor



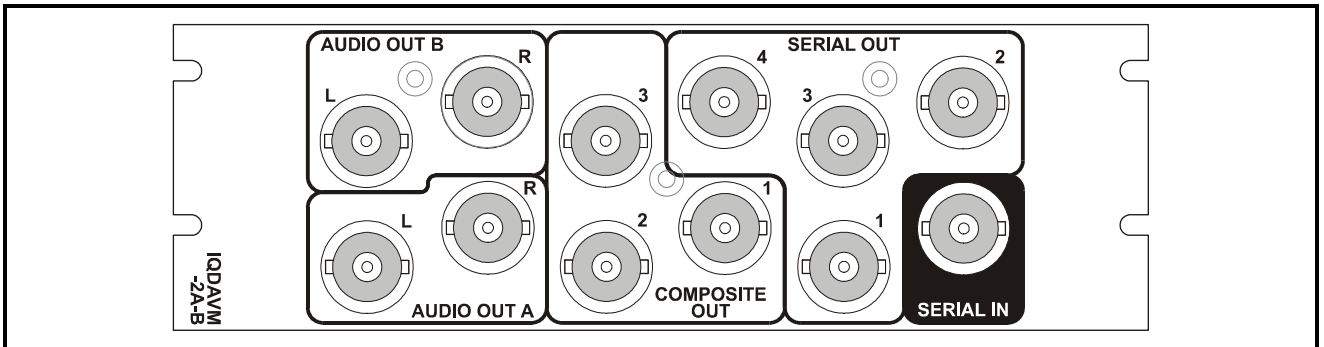
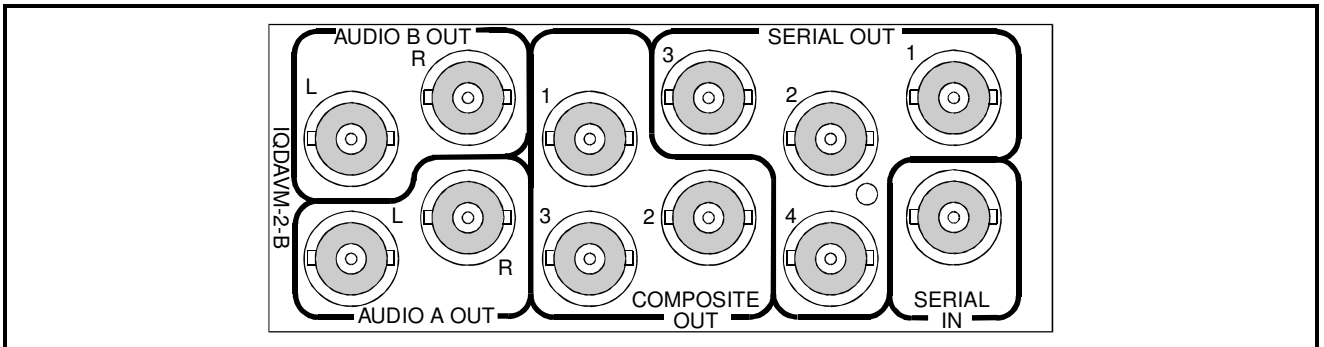
## Module Description

The IQDAVM accepts a serial 4:2:2 input to provide up to four equalized and re-clocked outputs, three monitoring composite outputs and

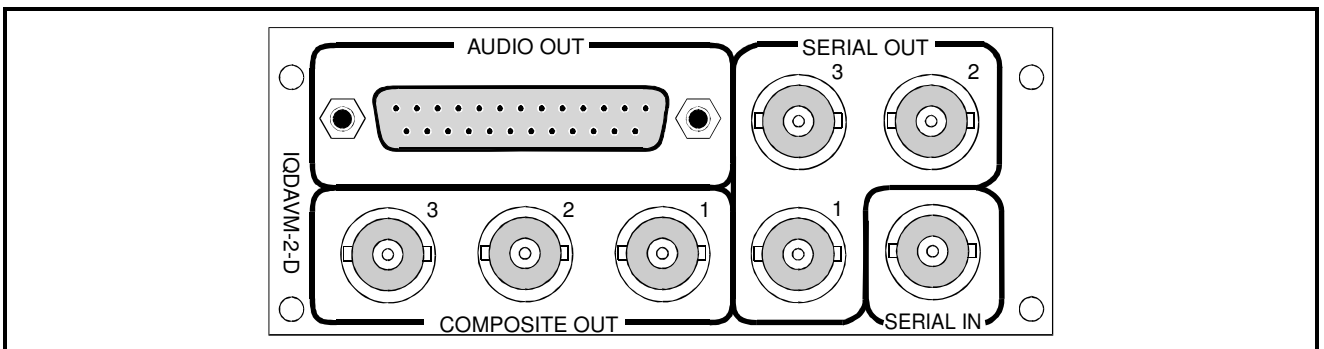
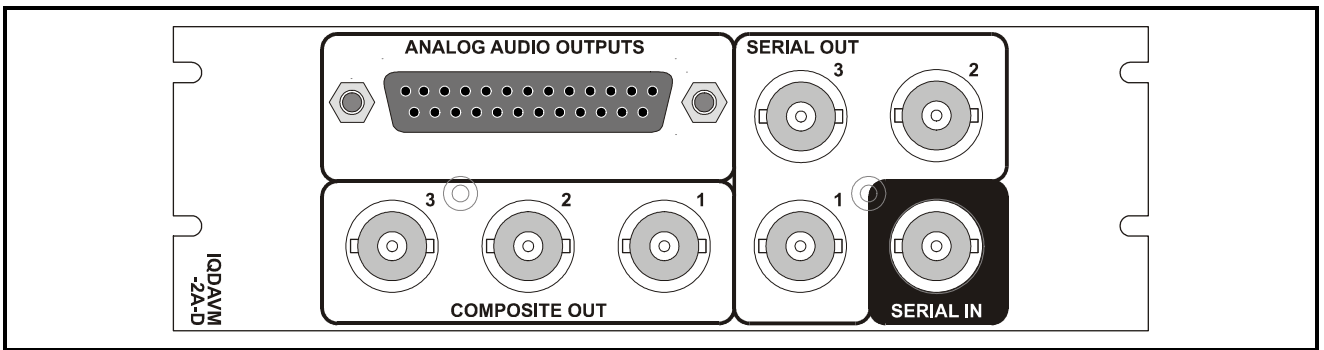
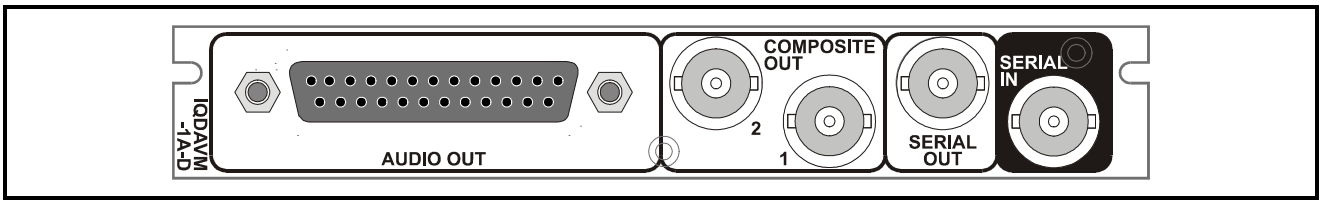
four embedded audio analog outputs. On-screen audio 'confidence' displays of four embedded audio channels are provided on the -M version.

## REAR PANEL VIEWS

### Unbalanced Audio Interfaces



Balanced Audio Interfaces



Versions of the module cards available are:

IQDAVM-1A-D Audio & Video Monitoring Encoder. Balanced Audio.

IQDAVM-1A-D-M Audio & Video Monitoring Encoder with on-screen display. Balanced Audio.

IQDAVM-2A-D Audio & Video Monitoring Encoder. Balanced Audio.

IQDAVM-2A-D-M Audio & Video Monitoring Encoder with on-screen display. Balanced Audio.

IQDAVM-2A-B Audio & Video Monitoring Encoder. Unbalanced Audio.

IQDAVM-2A -B-M Audio & Video Monitoring Encoder with on-screen display. Unbalanced Audio.

IQDAVM-2-D Audio & Video Monitoring Encoder. Balanced Audio.

IQDAVM-2-D-M Audio & Video Monitoring Encoder with on-screen display. Balanced Audio.

IQDAVM-2-B Audio & Video Monitoring Encoder. Unbalanced Audio.

IQDAVM-2-B-M Audio & Video Monitoring Encoder with on-screen display. Unbalanced Audio.

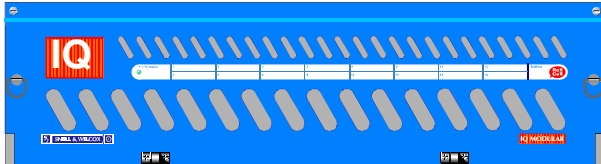
### Product Comparison

Product	Audio Outputs		SDI Outputs	Audio on-screen Monitoring	Composite Monitoring Outputs	Width & Style
	Channels	Type				
IQDAVM-1A-D	4	BAL	1	No	2	Single A
IQDAVM-1A-D-M	4	BAL	1	Yes	2	Single A
IQDAVM-2A-D	4	BAL	3	No	3	Single A
IQDAVM-2A-D-M	4	BAL	3	Yes	3	Double A
IQDAVM-2A-B	4	U/B	4	No	3	Double A
IQDAVM-2A -B-M	4	U/B	4	Yes	3	Double A
IQDAVM-2-D	4	BAL	3	No	3	Double O
IQDAVM-2-D-M	4	BAL	3	Yes	3	Double O
IQDAVM-2-B	4	U/B	4	No	3	Double O
IQDAVM-2-B-M	4	U/B	4	Yes	3	Double O

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

#### 'A' Style Enclosure

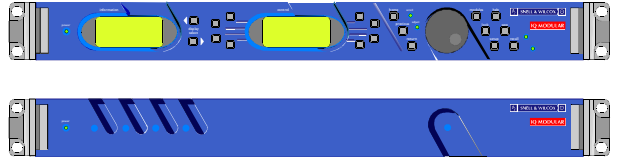
Rear panels **with** the suffix A may only be fitted into the 'A' style enclosure shown below.



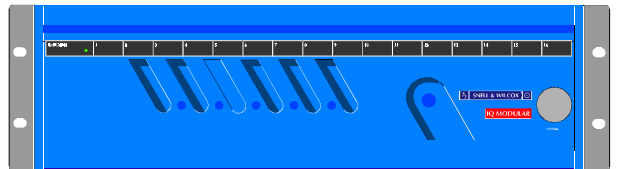
(Enclosure order codes IQH3A-E-0, IQH3A-E-P, IQH3A-0-0, IQH3A-0-P)

#### 'O' Style Enclosures

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



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

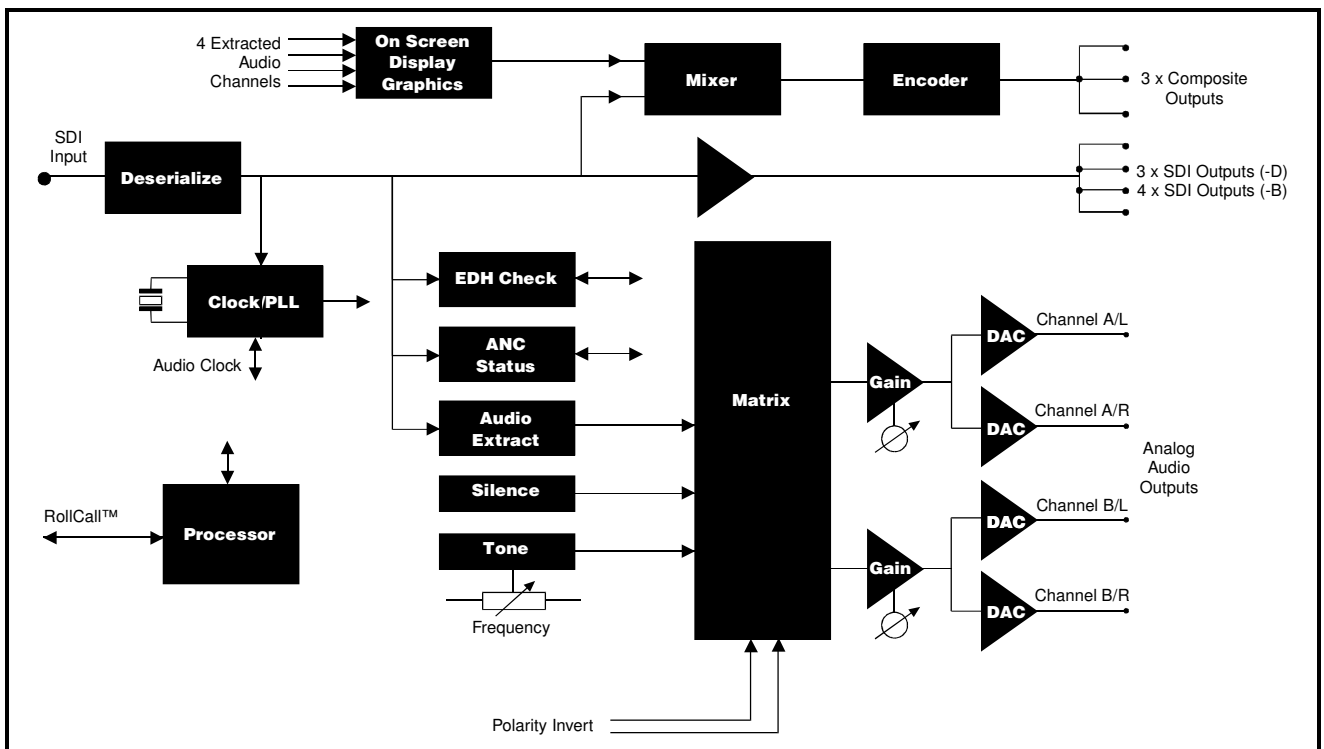


(Enclosure order codes IQH3N-0, IQH3N-P)



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

## BLOCK DIAGRAM



## Features

- 
- Up to four re-clocked serial 4:2:2 outputs
- Three monitoring composite PAL/NTSC/PAL-N outputs
- Four analog audio outputs or 2 stereo pairs
- Balanced audio output level adjustable +12 dBu to +24 dBu for 0 dB FS input (-D version)
- Unbalanced audio output level adjustable 1 Volt pk-pk to 4.5 Volts pk-pk into >50 k ohm, for 0 dB FS input (-B version)
- Audio selection from any embedded channel pair
- 20-bit digital-to-analog audio conversion, -95 dB THD+N typical (Full Scale)
- Audio polarity invert
- Embedded audio presence indication
- On screen display of audio level and status (-M versions only)
- Non-audio ancillary data presence indication
- EDH error detection and reporting
- Test signal generator (Color Bars/Black and -20 dBFS Tone/Silence)
- Automatic 525/625 line detection and no valid signal indication
- Card edge and RollCall remote control

## TECHNICAL PROFILE

### Signal Inputs

Serial Digital ..... 1 x SDI via BNC connector  
Standards.....SMPTE 259M-C-1997, SMPTE 272M-A-1994

### Signal Outputs

Serial Digital .....4 (-B version) 3 (-D version) x SDI via BNC connectors

### Card Edge Controls (also available via RollCall)

OSD Audio Monitoring .....On/Off (-M versions only)  
OSD Text.....On/Off (-M versions only)  
Pattern .....Color Bars Pattern On, off  
Standard.....Line standard = 625: PAL/PAL-N  
Line standard = 525: NTSC  
Pedestal .....On/Off (NTSC Only)  
Local.....Local/Remote Control  
EDH Reset .....Resets error flags  
Audio Channel Select .....Any Embedded Channel Pair

### Indicators

Power O.K.  
Input Loss  
Audio presence .....On selected pairs  
EDH.....Present; Error-Minute: Error-Hour

### Functions Available via RollCall Only

Headroom (-D).....Adjustable from +12 to +24 dB  
Level (-B).....Adjustable from 1.0 V to 4.5 V pk-pk  
Analog Output Gain A/B .....Adjustable  $\pm 6$  dB in 0.2 dB steps  
Display Information  
Default pattern selection.....Color Bars or black (Default used on input loss)

Standards ..... SMPTE 259M-C-1997, SMPTE 272M-A-1994  
Composite Video ..... 3 at standard level via BNC connectors  
Standards ..... PAL/NTSC/PAL-N  
Analog Audio ..... 2 Stereo pairs Balanced via 25 way (-D version, broadcast level) or unbalanced via BNC (-B versions, low level)

Default audio selection ..... Tone or silence (Default used on extraction fail or input loss)  
Polarity ..... Invert polarity of extracted audio pair  
Logging..... Input Loss, Input Line Standard, Picture Frozen, Unrecognized ANC Data, EDH error, Presence of extracted audio, low-level audio and silence.  
Standard detection..... Auto 525/625 line rate detection  
Audio Gain control ..... Independent for each output pair  
Chroma bandwidth..... 1.6 MHz or 2 MHz  
Pedestal ..... On, off (NTSC only)  
Non-audio HANC data ..... Presence indication

### RollTrack Output

Unused  
Input state..... Input Loss, Input OK, Input standard, Embedded Pair Loss, Embedded Pair OK  
Picture State..... Chroma Bandwidth High/Low, Picture Frozen/not Frozen\*.  
Channel Status\* ..... Silence, Quiet, Overload, OK.  
\*IQDAVM-M only

## Specifications

SDI Input Return Loss .....Better than -15 dB at 270 MHz  
 Input Cable Length .....> 200 m of PSF1/2  
 SDI Output Return Loss .....Better than -15 dB at 270 MHz  
 Composite Video Output ....1 V pk-pk into 75 ohm (EBU Bars)  
 Internal Processing.....8-bit composite encoding with 9-bit  
 oversampled DAC's

### Video Signal

Luminance Frequency Response  
 0 – 4 MHz +0.1 dB, -0.5 dB  
 Chrominance Frequency Response  
 1.6 MHz or 2 MHz (selectable)  
 – 6 dB  
 Video Signal/Noise Ratio.....Better than – 68 dB (weighted – flat  
 field)  
 Better than –62 dB (weighted –  
 ramp)  
 Differential phase.....< 2°  
 Differential gain .....< 1 %  
 Processing Delay.....approx. 2 µs

### Audio Signal

THD+N at 24 dBu ..... Better than -80 dB (0 dBFS, 1 kHz)  
 Linear Freq. Response ..... +0.1 dB , - 0.3 dB  
 (20 Hz to 20 kHz w.r.t. 1kHz)  
 Conversion ..... 20-bit  
 Sampling ..... 48 kHz Synchronous to D1 video  
 stream  
 Dynamic Range ..... Better than 100 dB (Balanced)  
 Dynamic Range ..... Better than 98 dB (Unbalanced)  
 Output Level (Balanced) .... Level Adjustable +12 dBu to +24  
 dBu  
 Output Level (Unbalanced) Adjustable 1 V pk-pk to 4.5 V pk-pk  
 into >50 k ohm, for 0 dB FS input  
 Output Impedance (Balanced)  
 25 ohm Nominal  
 Output Impedance (Unbalanced)  
 75 ohm Nominal

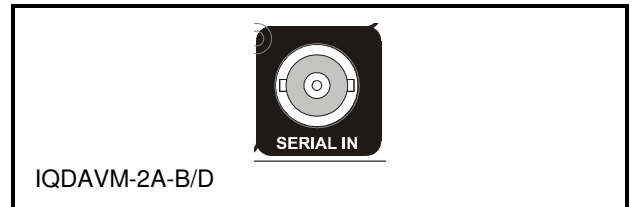
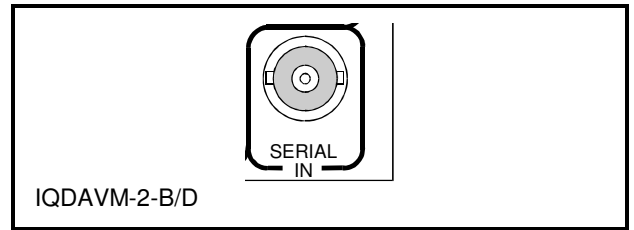
### Power Consumption

Module Power Consumption  
 8.5 W max (balanced versions)  
 6.5 W max (unbalanced versions)

INPUTS AND OUTPUTS

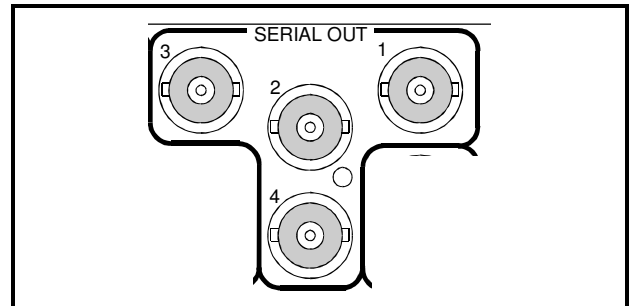
**Serial Input**

This is the single input for a component serial digital signal. The serial digital input to the unit is made via this BNC connector that terminates in 75 Ohms.



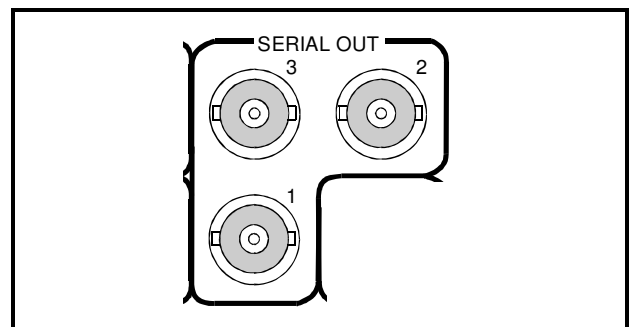
**SDI Outputs (-B versions)**

These are the four isolated serial digital outputs of the unit via BNC connectors for 75 Ohms.



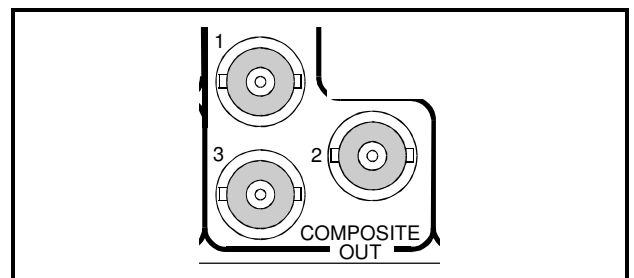
**SDI Outputs (-D version)**

These are the three isolated serial digital outputs of the unit via BNC connectors for 75 Ohms.



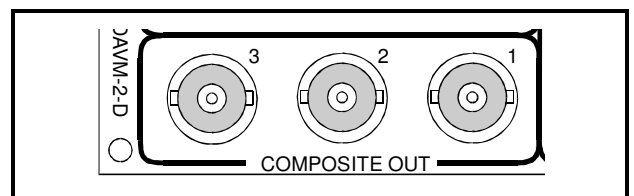
**Composite Outputs (-B versions)**

These are the three composite video outputs of the unit via BNC connectors for 75 Ohms.



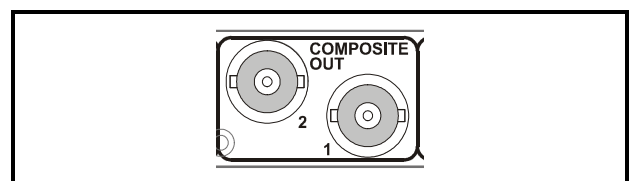
**Composite Outputs (-2-D versions)**

These are the three composite video outputs of the unit via BNC connectors for 75 Ohms.



**Composite Outputs (-1A-D version)**

These are the two composite video outputs of the unit via BNC connectors for 75 Ohms.

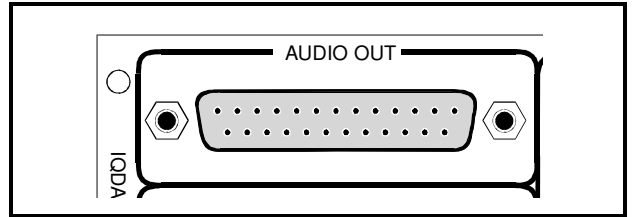




**Audio Outputs (-D versions)**

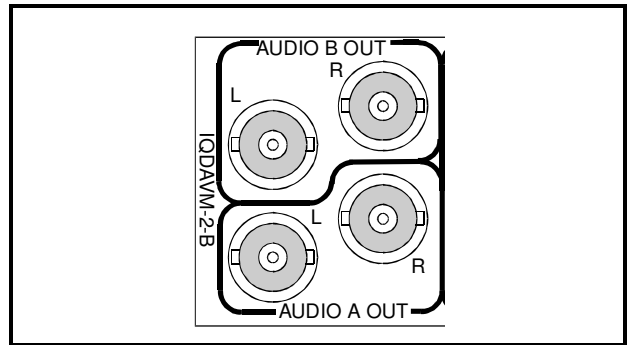
All audio output connections are made via this 25 way female D-type connector.

For connection data consult the tables on page 7.



**Audio Outputs (-B versions)**

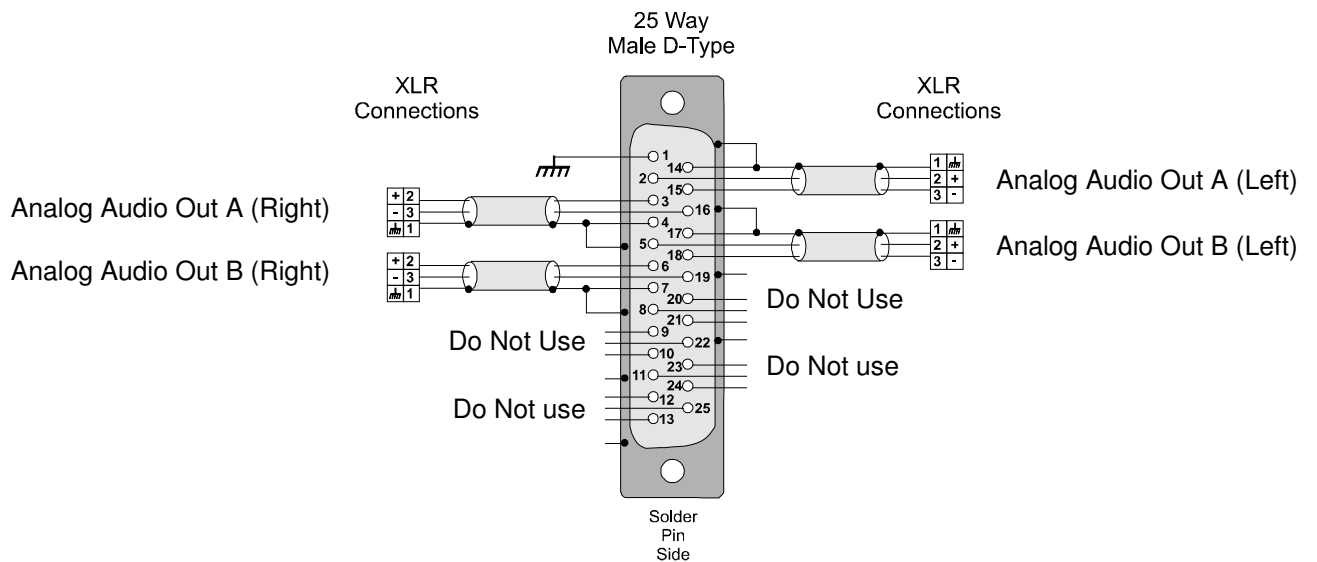
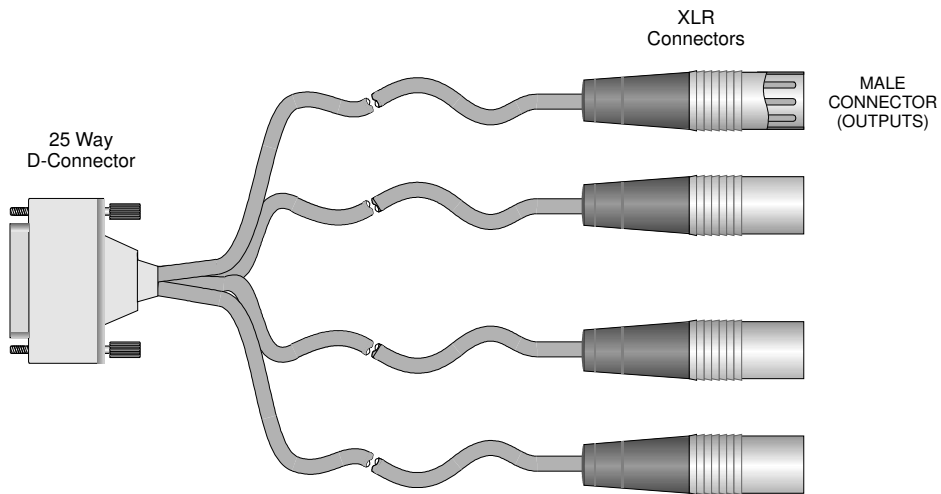
All audio output connections are made via these BNC connectors for 75 Ohms.



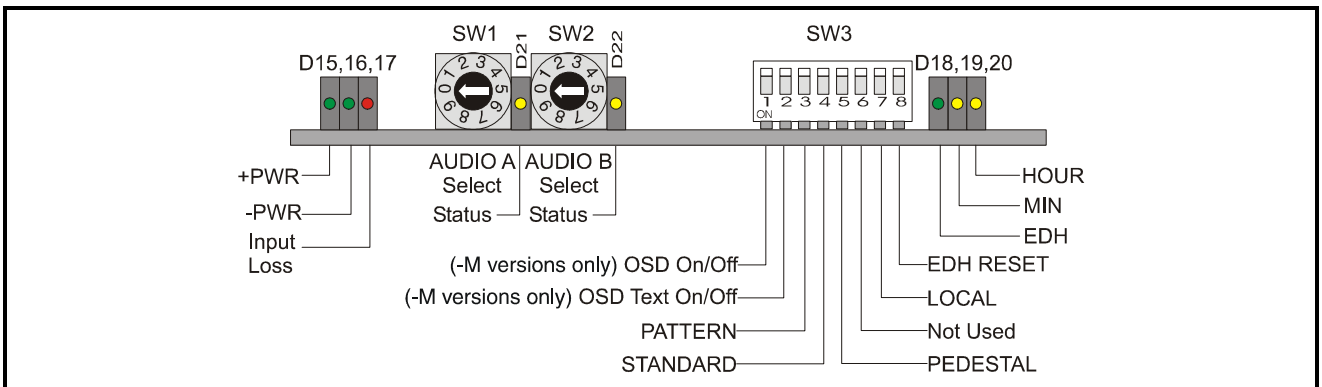
**Connection Details (-D Versions)**

25 Way D Connector Pin Number	Description	Ribbon Cable Strand Number	Standard Pin Assignment
1	Chassis	1	CHASSIS
14	ANALOG AUDIO 1 GND	2	GND1
2	ANALOG AUDIO OUT A + (Left)	3	1+
15	ANALOG AUDIO OUT A - (Left)	4	1-
3	ANALOG AUDIO OUT A + (Right)	5	2+
16	ANALOG AUDIO OUT A - (Right)	6	2-
4	ANALOG AUDIO A GND	7	GND2
17	ANALOG AUDIO B GND	8	GND3
5	ANALOG AUDIO OUT B + (Left)	9	3+
18	ANALOG AUDIO OUT B - (Left)	10	3-
6	ANALOG AUDIO OUT B + (Right)	11	4+
19	ANALOG AUDIO OUT B - (Right)	12	4-
7	ANALOG AUDIO B GND	13	GND4 (CH)
20		14	GND5
8		15	5+
21		16	5-
9		17	6+
22		18	6-
10		19	GND6
23		20	GND7
11		21	7+
24		22	7-
12		23	8+
25		24	8-
13		25	GND8

Example of Connection Details to XLR Connectors (-D Versions)



CARD EDGE CONTROLS



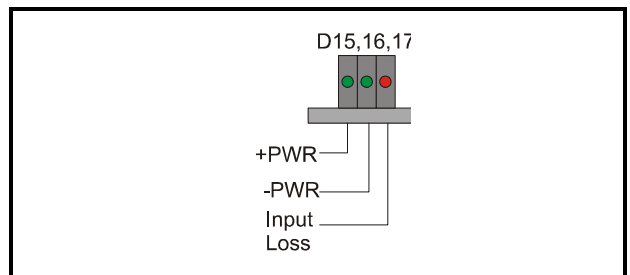
Adjustment of the settings of the **IQDAVM** is available either via card edge controls and/or via a more comprehensive remote control system using RollCall™

*Note that the availability of some of the controls will depend on the card version; see feature table for variations.*

LED INDICATORS

**+PWR D15 and -PWR D16**

These two indicators are illuminated when the positive and negative supplies are present.



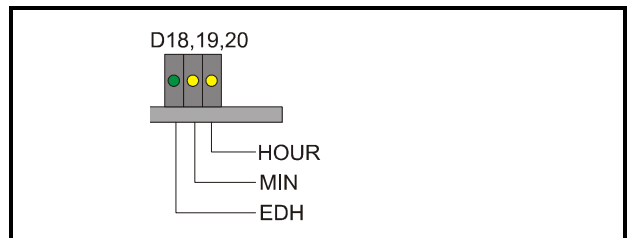
**Input Loss D17**

This indicator will become illuminated when the unit is not receiving a valid input signal.

**EDH Reporting D18, D19, D20**

The **EDH** 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 **Min** LED indicates that an error has occurred in the last minute.



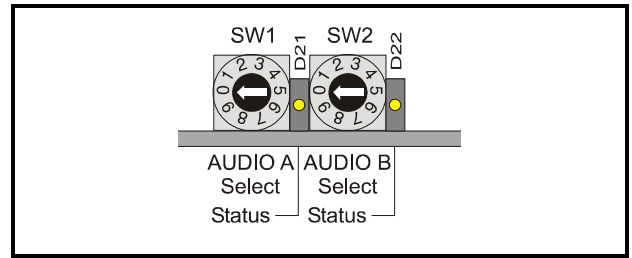
*Note that SW3/8 resets these indicators.*

**Select Switches SW1 & 2**

These switches are used to select audio pairs to be extracted from the SDI input. There are eight possible pairs, available by selecting positions 1 to eight. Internal tones are also available on positions 0 (Silence) and 9 (Tone)

**Channel Status LED's D21 and D22**

These LED's indicate the status of the two audio pair extractors. D21 is associated with Audio A and SW1 and D22 is associated with Audio B and SW2.



SW1 or SW2 selection	LED Status
Internal Tone or Silence	ON
Selected audio pair successfully extracted	OFF
Selected audio pair <b>can not</b> be extracted	Flashing

*Note that audio pairs and internal tones can also be selected using RollCall. In this case the position of the switch becomes irrelevant and the LED condition will correspond to the selection made via RollCall.*

**SW3**

Position 1 (-M versions only)

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

Position 2 (-M versions only)

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

Position 3

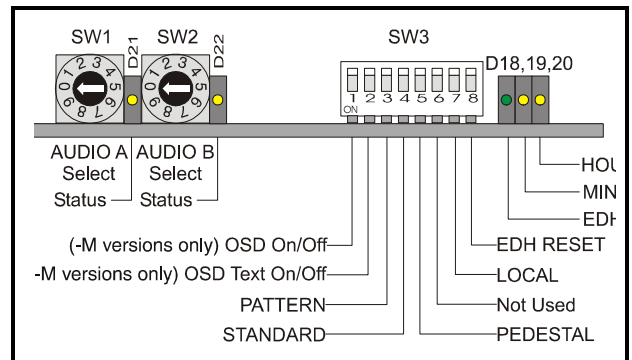
When this position is set to the Down position the video outputs will become a color bar test pattern.

Position 4

When this position is set to the Down position the operating standard will be PAL-N.

When this position is set to the Up position the operating standard will be 625 PAL.

*Note that this function is only available for the 625-line standard.*



Position 5

When set to the Up position a pedestal is added to the NTSC waveform (NTSC-M); when set to the Down position the pedestal is removed (NTSC-J)

*Note that this function is only available for the NTSC standard.*

Position 6

This position is not used.

Position 7

If at power-up this position is set to the Down position the unit will use default settings and read the switch positions.

If at power-up this position is set to the Up position the unit will retrieve the last used settings from the non-volatile memory.

Position 8

When this position is moved from Down to Up or from Up to Down the EDH counters will be reset to zero.

## 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.

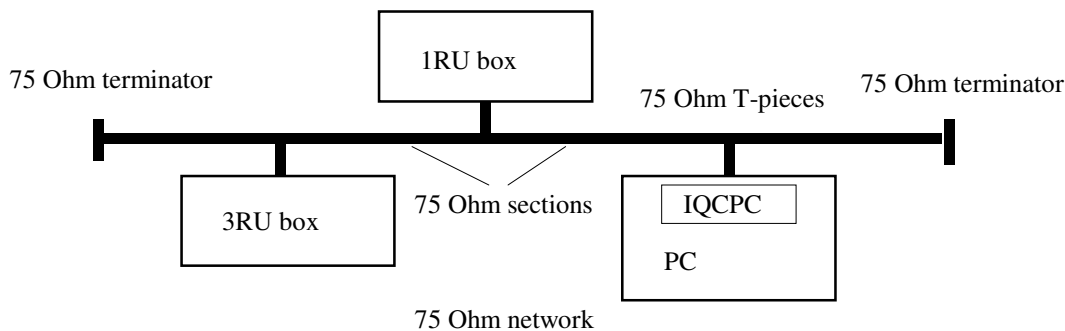
PC running Microsoft Windows 3.1x or Windows '95 .

Either a RollCall PC card (IQPC) or a RS232 to RS422 9 way converter fitted to the PC.

Connecting the hardware:

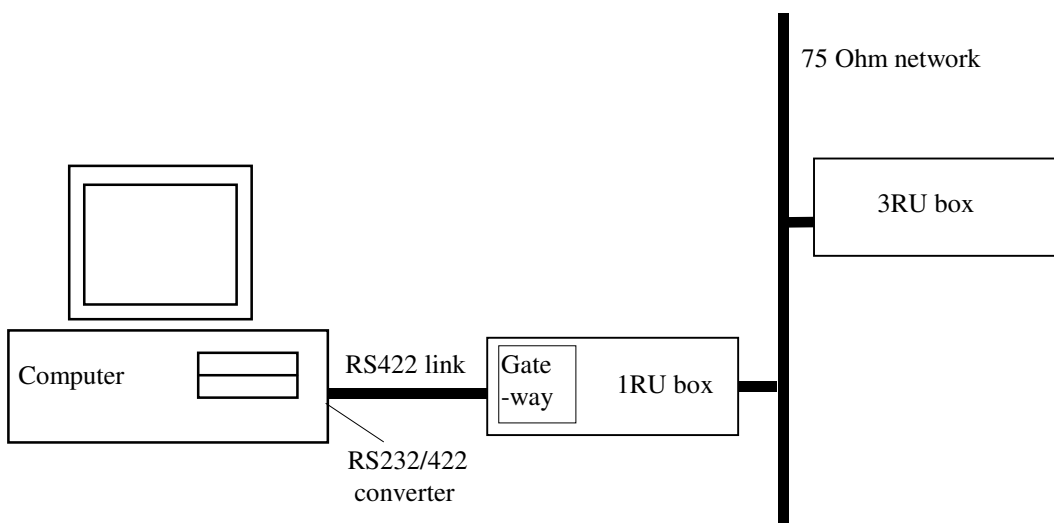
There are two choices for connecting the PC to the Modular IQ System:

1. 75 Ohm co-axial cable BNC for box-to-box connections running at 2.5 Mbs.



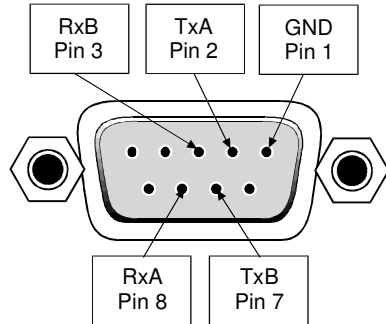
Each unit is physically joined via a T-piece connector. Each T-piece is connected by 75 Ohm co-ax cable to create a section. Each section of cable can be up to 400m. Each end of the network is terminated by a 75 Ohm terminator.

2. RS422 running at 38.4 kbs asynchronous:



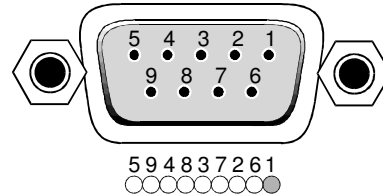
Connect the RS232/RS422 converter to COM1 or COM2 of the PC and connect this via RS422 cable to the 9 pin 'D' on the IQ modular unit. This interface is specifically designed for third party connections into the system. This allows PC's or any other serial device access to any of the units within the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



9-Way Ribbon connections

**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

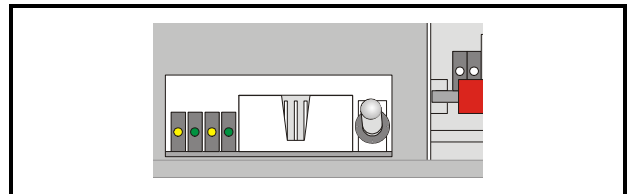
N.B. The D connector on the Gateway card could also be configured as RS485.

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



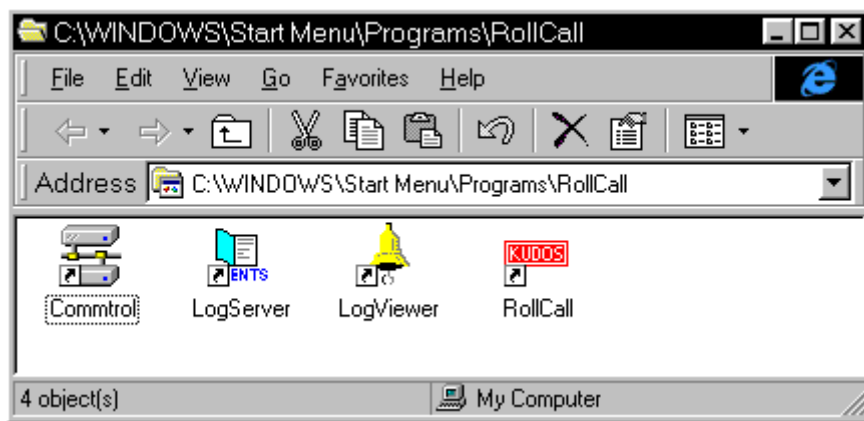
Switch set to RS485

**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 (rollog.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 PC Control Panel Screens for the IQDAVM

### Video and Audio Monitoring Overview

In a multi-channel broadcast environment it is important to monitor all the video and audio signals for integrity.

**Video signals** may be checked visually by an operator using a separate video monitor for each channel.

However the loss of a signal downstream from the monitoring environment may well produce a frozen picture (due to the common use of frame stores etc. set to auto-freeze-on-loss-of-input-signal being employed) and this failure needs to be detected.

The IQDAVM-M has a **Frozen Frame Detect** function that detects this failure (after an adjustable number of frozen frames are detected) and automatically generates a computer-logging message (via RollCall) that can then be used to alert the operator.

**Audio signals** however are far more difficult to check, as an operator would find it impossible to verify the integrity of more than one signal source.

The IQDAVM-M has powerful built-in facilities that allow the detection of audio fault conditions.

It can detect either silence or quiet conditions that occur over settable period of time and then automatically generate a computer-logging message (via RollCall) that can then be used to alert the operator.

The first screen is

#### Extract

#### Analogue Output A, B.

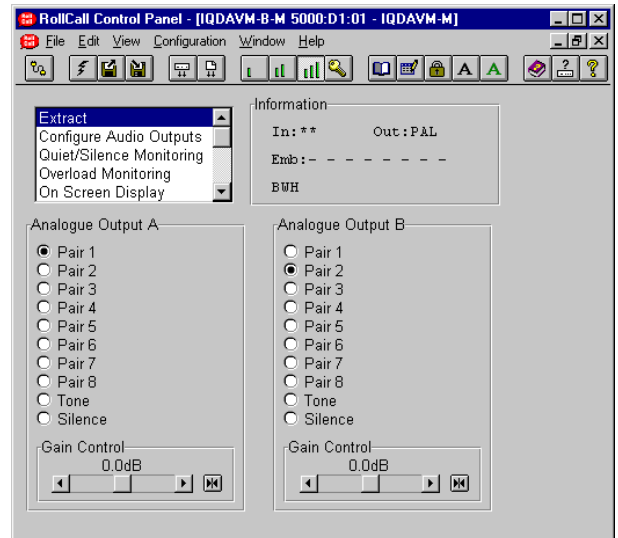
The analog outputs are independently assigned. They can be set to any one of the eight possible audio pairs, or can be fixed to an internally generated test signal (tone or silence).

#### Gain Control



This allows the analog gain to be set for both outputs.


The gain of output A and output B may be adjusted by  $\pm 6$  dB in steps of 0.2 dB using the scroll bar.

Preset is to 0 dB.



Note that for this and other screens the following applies to the scroll bars:

The  and  symbols at the ends of the scroll bar allow the value to be adjusted in discrete steps.

The numerical value will be shown above the scroll bars and selecting Preset  will return the setting to the calibrated value for that item.



## Configure Audio Outputs

This function allows outputs A and B to be configured.

### Analogue Output A, Analogue Output B

This function allows the polarity of the left and right channels of each of the output pairs to be independently inverted.

Other options available for each output channel are:

### Default Output

*The audio output signal produced at Output\_A or Output\_B, when no audio input is detected, may be set to either Silence or Tone.*

### Tone Frequency

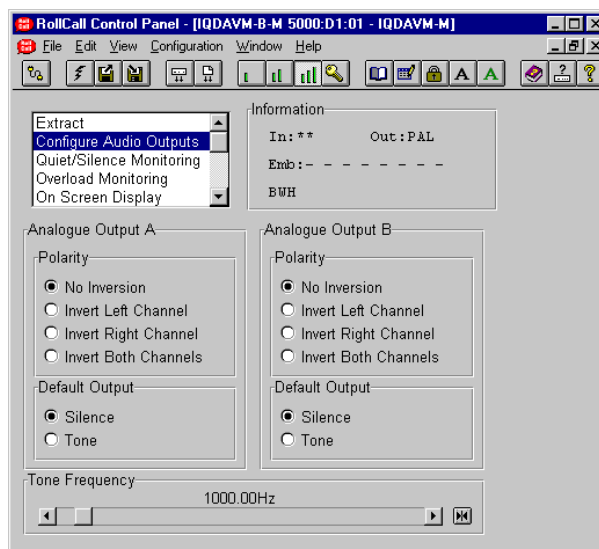
The tone can be selected as an output from the **Extract** menu and/or chosen as the default audio on the **Configure Audio Outputs** menu shown opposite.

The tone frequency may be adjusted using the scroll bar.

The range of adjustment is from 250 Hz to 15750 Hz in 250 Hz steps.

Preset is to 1 kHz.

Note that the tone level is normally set to -20dBFS but may be adjusted with the analog output gain controls.



### Quiet/Silence Monitoring (-M versions only)

The extracted audio pair (as selected via the **Extract** menu) from the SDI input may be monitored for the following conditions:

#### Silence Detection

This function will detect silence in the selected extracted audio pair.

#### On-Screen-Display Action (-M versions only)

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.

The range of adjustment is from -60 dBFS to -114 dBFS (Digital Blank) in steps of 6 dB.

Preset is to -60 dBFS.

#### Quiet Detection

*This function will detect a quiet condition in the selected extracted audio pair. A quiet level threshold can be set for each of the four audio channels.*

#### On-Screen-Display Action (-M version only)

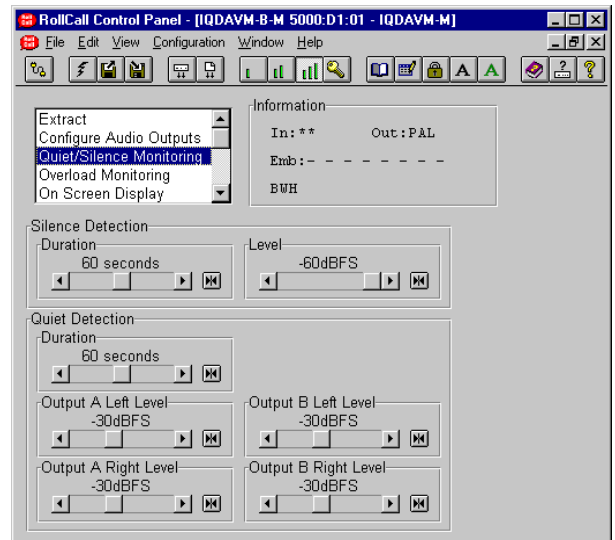
When a quiet condition is detected the audio status box on the On-Screen-Display will change from green (OK) to yellow (Quiet).

#### 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.



#### Output A, Output 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 (-M version only)

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

### Overload Monitoring (-M versions only)

*This function will detect an overload condition in the selected extracted audio pair.*

The overload level threshold can be set for each of the four audio channels.

#### Duration

This sets the length of time the audio signal must be above the overload level before indicating an overload.

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

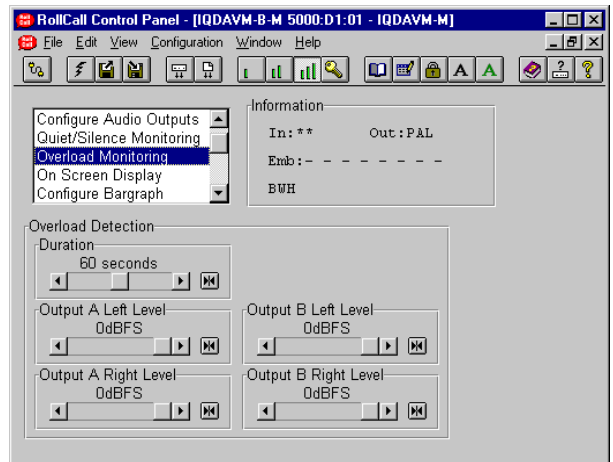
Preset is to 60 seconds.

#### Output A/B Left and Right Levels

The definition of *Overload* i.e. the level the signal must exceed to be detected as an overload. It may be individually set for Audio A (left and right channels) and Audio B (left and right channels) via these menus.

The range of adjustment is from 0 dBFS to -15 dBFS.

Preset is to 0 dBFS.



## On Screen Display (-M versions only)

### 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 composite monitoring output.

### The Bargraphs

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

Names of extracted 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.

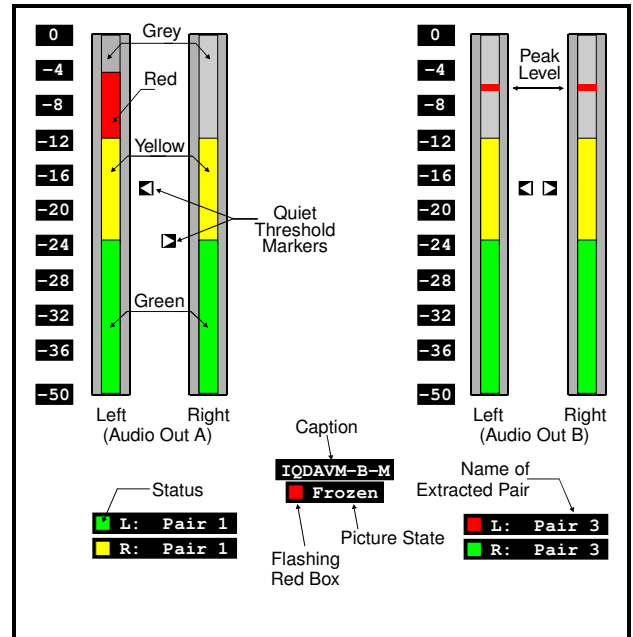
By means of colored boxes it also shows the status of the channel.

**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 extracted audio on that channel



### Attack and Decay Times

The response times may be changed in the **Configure Bargraphs** screen using the **Ballistics** item.

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

### Picture State Indicator

This indicator is only visible when the IQDAVM detects a frozen input. It will flash a red colored box and text displaying **Frozen** to indicate a video freeze condition.

Note that the freeze detector is designed to function with signals from digital sources. It may not indicate frozen video for signals from analog sources.

**On Screen Display**

This allows the on-screen-display to be configured.

**OSD Select**

This allows various OSD items to be turned on or off.

**OSD Enable**

When checked all selected screen items will be displayed. When unchecked the OSD will be turned off.

**Display Bar A, Display Bar B**

When checked the display bar and associated text will appear on the screen.

**Picture Frozen**

When checked the picture state text will appear on the screen.

**Caption**

When checked the caption text will appear on the screen.

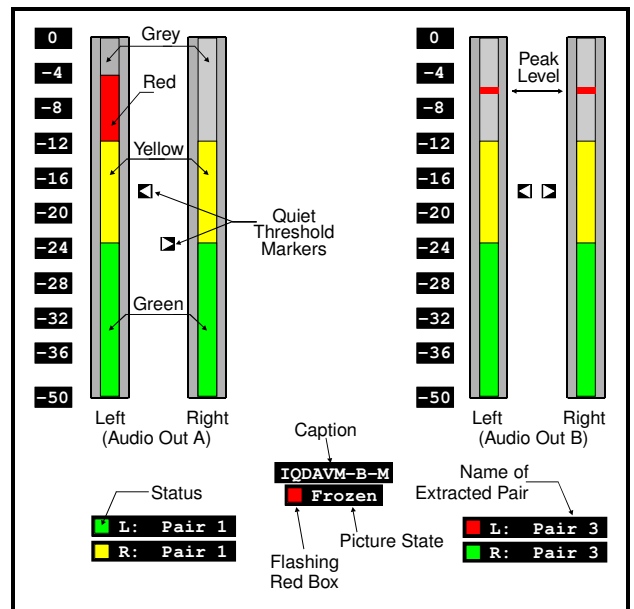
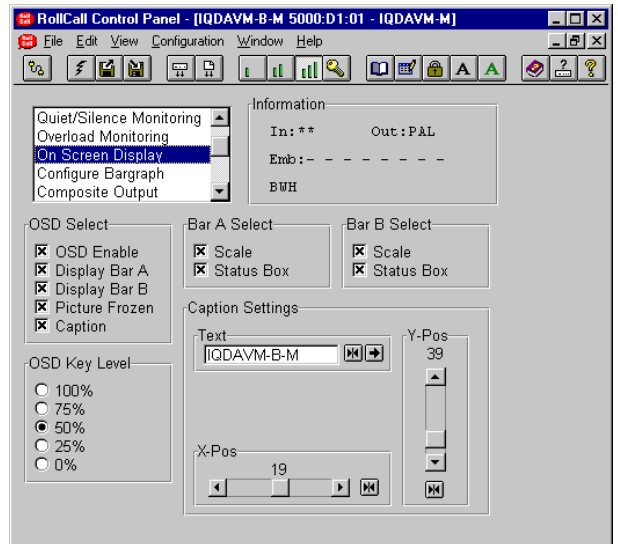
**OSD Key Level (-M versions only)**

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.



**Bar A and B Select**

These allow specific items to be removed from the on screen display for each audio pair.

**Scale**

When unchecked the numerical scaling of the bargraphs will be removed from the OSD for that audio pair.


**Status Box**


When unchecked this will remove the name and audio status box for that audio pair.

**On Screen Display (continued)**

**Caption settings**

This allows the caption text to be edited.

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

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

**X Position**

This function allows the horizontal position of the caption to be adjusted.

The range of control is from 0 to 37 units in steps of 1 unit.

*Note that a unit is the width of one character*

Preset sets the caption to the center of the screen as shown in the picture opposite (value = 19).

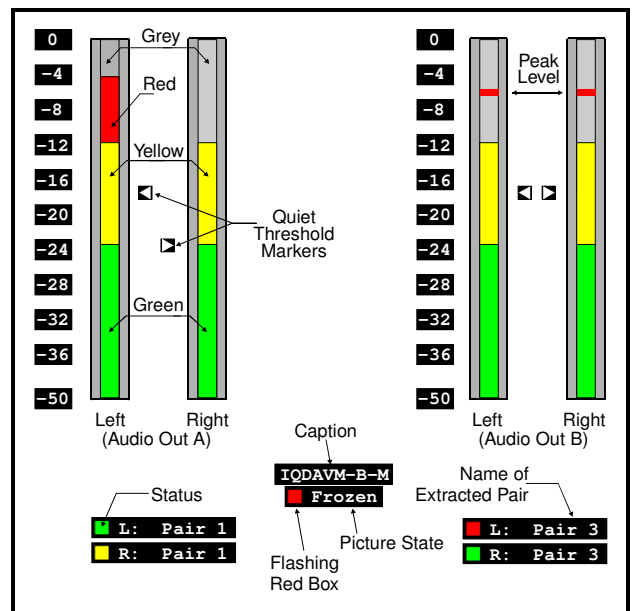
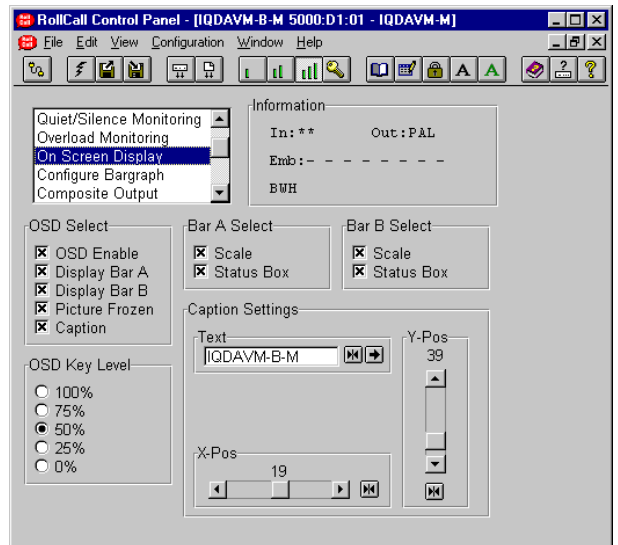
**Y Position**

This function allows the vertical position of the caption to be adjusted.

The range of control is from 0 to 43 (0 to 37 in 525 standard) units in steps of 1 unit.

*Note that a unit is the height of one character*

Preset sets the caption to the position as shown in the picture opposite (value = 39, 31 in 525 standard).



**Configure Bargraphs (-M versions only)**

This allows the characteristics of the bargraphs to be set up.

**A and B Y-Pos**

This function allows the vertical position of the bargraphs to be adjusted.

The range of control is from 0 to 20 units (0 to 12 in 525 standard) in steps of 1 unit.

*Note that a unit is the height of one character*

Preset is to 1 which positions both bargraphs to the position as shown in the picture opposite.

**A and B X-Pos**

This function allows the horizontal position of the bargraphs to be adjusted.

*Note that the A and B Bars cannot be made to pass each other in the X direction and their positions cannot be interchanged.*

The range of control is from 0 to 31 units for bargraph A and 8 to 39 units for bargraph B in steps of 1 unit.

*Note that a unit is the width of one character*

Preset is to A bargraphs to the position as shown in the picture opposite. (0 and 39 respectively).

**Bargraph Min Range/Max 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. i.e. the height of the red and green bars.

**Bar Max Range**

This function controls the maximum range of the red bar.

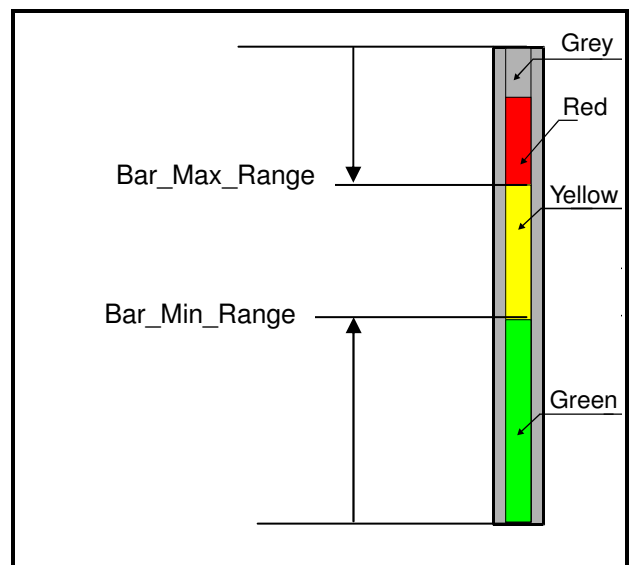
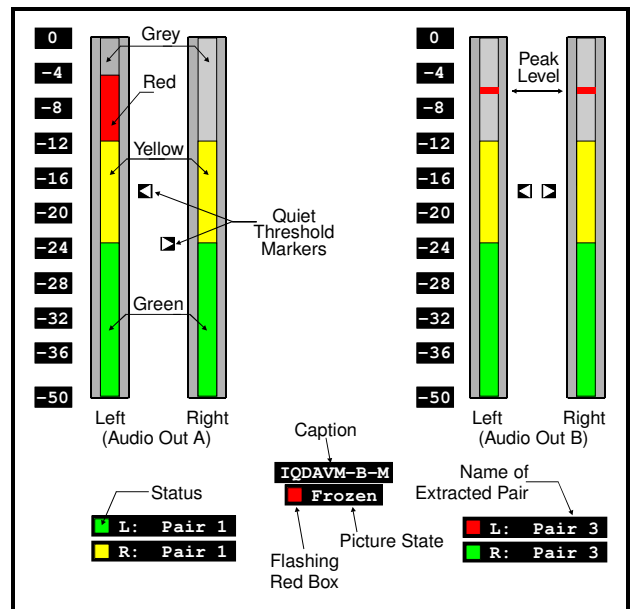
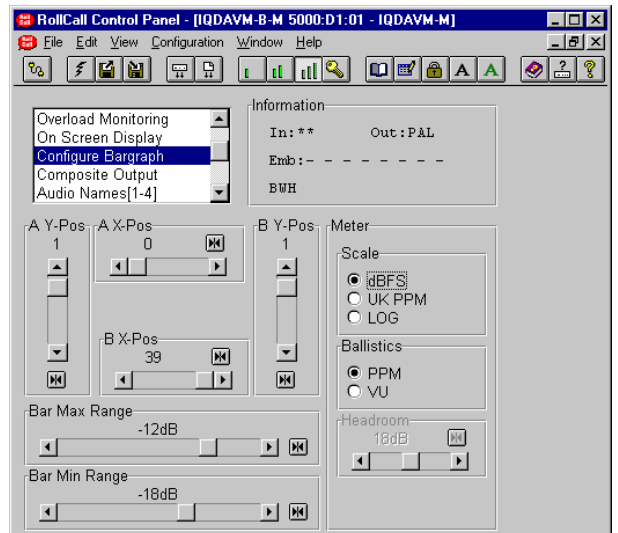
The range is from 0 to -50 dB in steps of 1 dB  
Preset is to -12 dB.

**Bar Min Range**

This function controls the range of the green bar.

The range is from -1 to -51 dB in steps of 1 dB  
Preset is to -18 dB.

*Note that difference between the maximum range and the minimum range cannot be set below +1 dB.*



**Configure Bargraphs (-M versions only) cont.**

**Meter**

This allows the metering characteristics of the bargraphs to be set.

**Scale**

The scaling of the meters may be changed to three different types.

- dBFS

The scaling is in Decibels relative to Full Scale (maximum digital level).

- UK PPM

The scaling is in Peak Program Metering units.

- LOG

The scaling is in decibels for analog signals.

**Ballistics**

The dynamic response of the bargraphs to changes in level (attack and decay times) may set to two different characteristics.

- PPM

The response conforms to the standard Peak Program Metering characteristic.

Rise/Attack time: 10 ms. If a 1 kHz steady state tone is fed into a PPM meter, it will take 10 ms for the meter to stabilize.

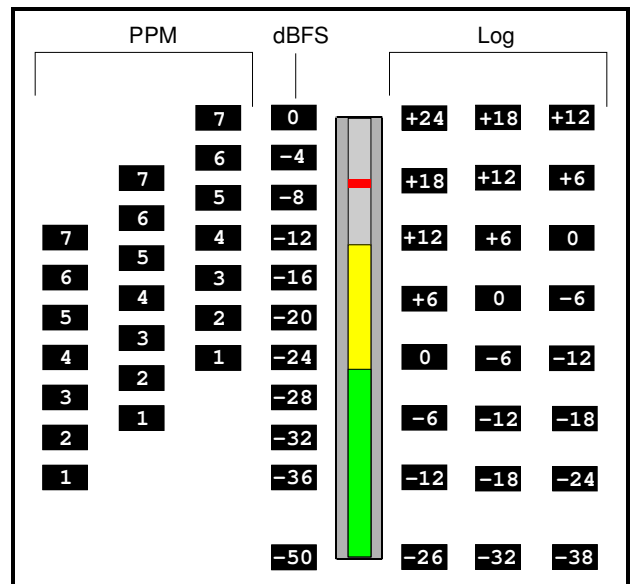
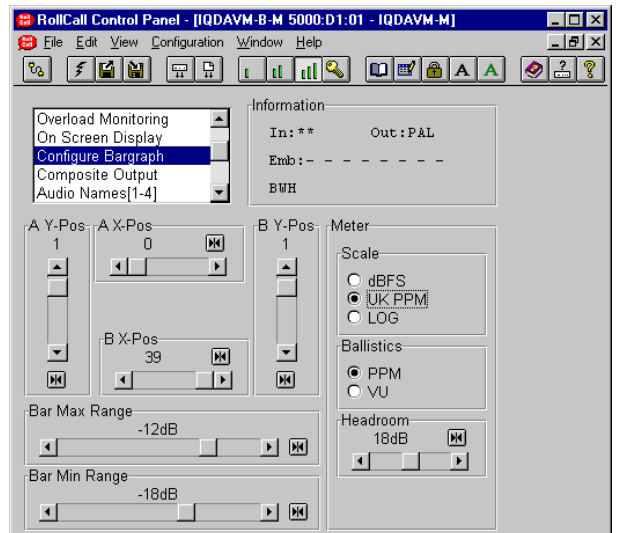
Fall time: About 8.7 dB/second.

- VU

The response conforms to the standard Volume Units characteristic.

Rise/Attack time: 300 ms. If a 1 kHz steady state tone is fed into a VU meter, it will take 300 ms for the meter to stabilize.

Fall time: 300 ms



Examples of different meter scales

**Headroom (not available for dBFS scaling)**

This allows the headroom (difference between clipping level and line-up level) for the metering to be set.

The PPM and Log scales will change position with different headroom settings as shown in the picture above.

The range is from 12 dB to 24 dB in steps of 2 dB.

Preset is to 18 dB.



## Composite Output

This menu allows the composite output parameters to be set.

### Pattern

When the **Pattern On** function is enabled a pattern, selected from the list below, will be forced to become the output.

*Black* Produces a color black output

*Bars* Produces a color bars output.

*Note that if **Pattern On** is not enabled the output will be normal video.*

### Standard

This allows the output standard of the unit to be set.

Settings available are:

PAL/NTSC  
PAL-N/NTSC

The output standard depends on two things:

1. The input standard
2. This setting

The unit will automatically detect either a 525 or 625 input standard.

If the detected input standard is 525 the output standard will be NTSC.

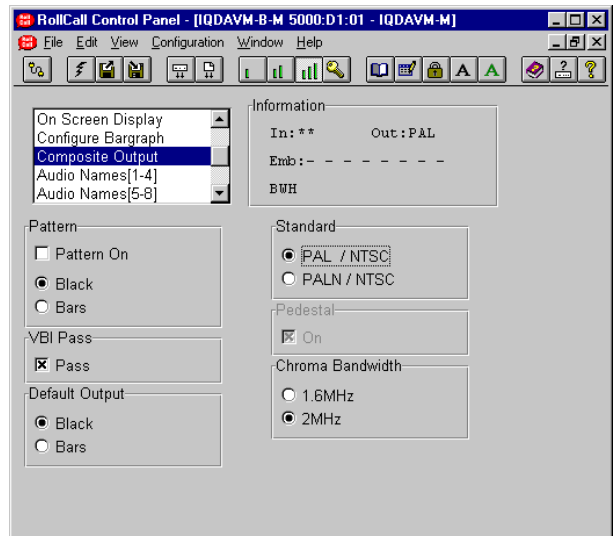
If the detected input standard is 625 and the PAL/NTSC mode selected, the output standard will be PAL.

If the detected input standard is 625 and the PAL-N/NTSC mode selected, the output standard will be PAL-N.

### Pedestal

*When the unit is producing an NTSC output, the output waveform will contain a standard pedestal (set-up). The pedestal is removed by deselecting this item.*

*Note that this function effects the default and pattern outputs but is not operative in PAL, or PAL-N modes.*



### VBI Pass

When selected, the vertical interval lines be passed through to the output. When not selected, the vertical interval lines are blanked.

*Note: When not selected in the 525 line standard, line 21, line 283 and the first half of line 284 are also blanked in addition to the VBI lines.*

### Chroma Bandwidth


This menu allows the chrominance bandwidth to be set to either 1.6 MHz or 2 MHz.


### Default Output

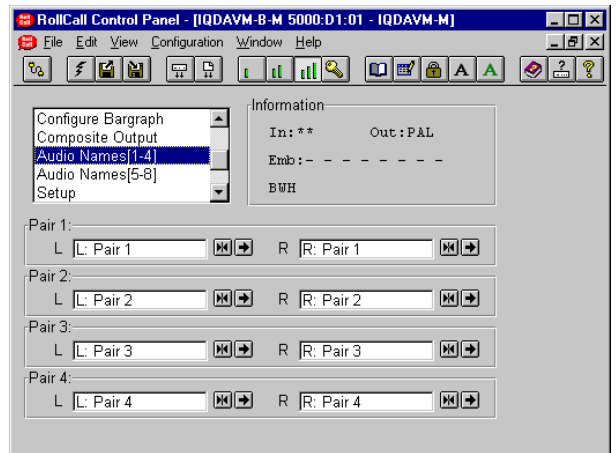
When no input is detected the default output signal can be set to either Black or Color Bars.

### Input Names (1-4 and 5-8)

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 Pair\_1-8).



**Setup**

This screen allows various functions to be set up.

*Note that some items are only available on the -M version.*

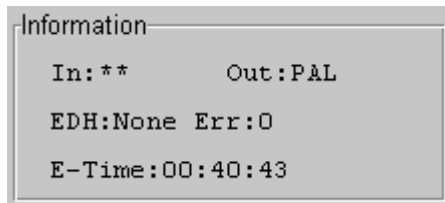


Selecting this item sets all adjustment functions that include a preset facility, to their preset values.

*Note that this is a momentary action.*

**EDH**

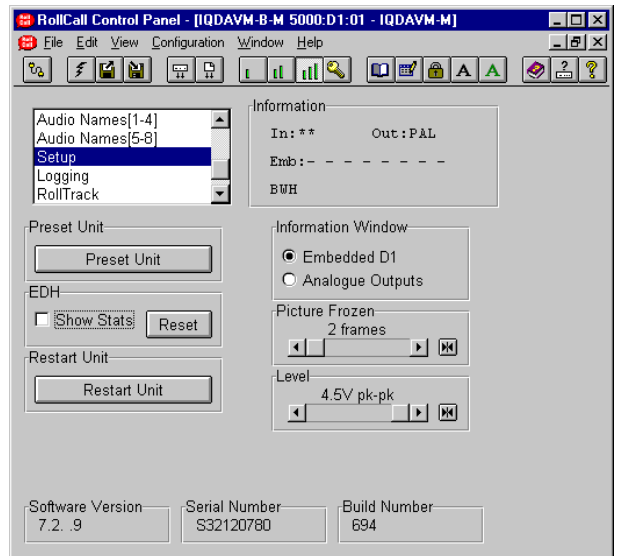
This menu allows the EDH detection system to show EDH statistics in the information window (select **Show Stats**)



and EDH statistics to be reset, resetting the error start time to zero (select **Reset Stats**).

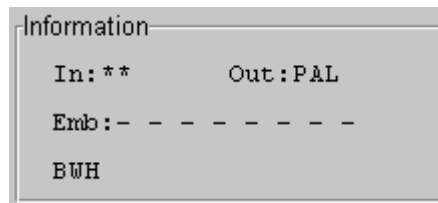


Selecting this function allows the unit to reboot and all power-up settings to be enabled.

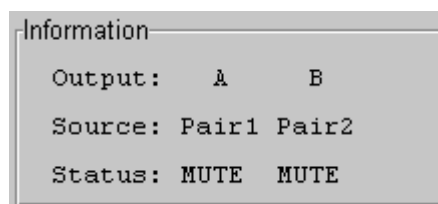


**Information Window**

If **Embedded D1** is selected the presence of any embedded audio on the input D1 stream is shown in the information window. (There can be up to 8 audio pairs embedded in one stream)



If **Analogue Outputs** is selected the information window will show what is currently present on the analog outputs. e.g. Extracted Audio, Tone or Silence.



**Setup (continued)**

**Picture Frozen (-M version only)**

A frame of frozen video in the SDI signal may be detected with this function.

The number of frames of frozen video that occur before they are detected as a frozen picture may be set with the scrollbar control.

*The range of adjustment is from 2 frames to 150 frames.*

*Preset is to 2 frames.*

**Level (Unbalanced versions)**

*This indicates the nominal peak-to-peak output voltage developed across a high impedance load (>50 k Ohms) for a 0 dBFS signal.*

*The operating level for the analog outputs may be set between 1.0 V and 4.5 V pk-pk in steps of 0.5 V.*

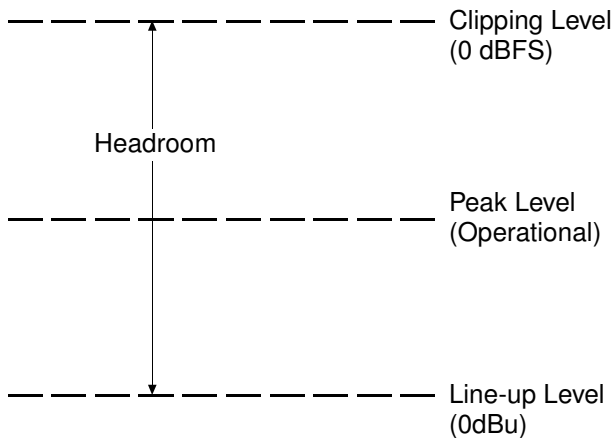
*Preset is to 4.5 V.*

**Headroom (Balanced versions)**

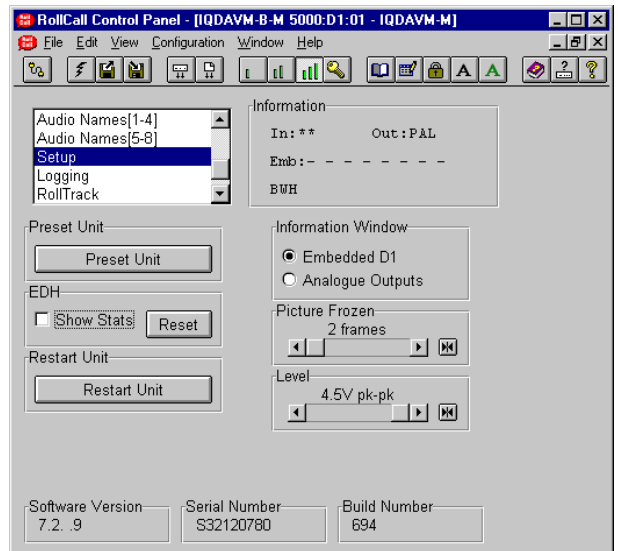
*The operating headroom for the analog outputs may be set between +12 dB and +24 dB in steps of 1 dB using the scrollbar.*

*Preset is to +24 dB.*

Note that in this product headroom is defined as:



Headroom = Clipping Level – Line-up level



**Software version**

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

**Serial Number**

*This item shows the serial number of the module*

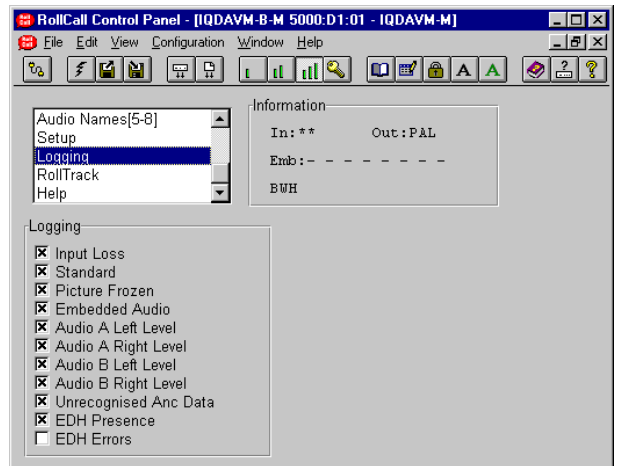
**Build Number**

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

**Logging**

This function enables changes in the selected status data to be sent to the logging device. To log the data the appropriate box should be checked.

*Note that the Audio Levels, Unrecognized ANC data and Picture Frozen selection boxes are only available on the -M version.*



**ROLLCALL LOG FIELDS**

Log Field	Log Value	Description
INPUT=	OK LOST	Valid input signal Input signal lost
STD=	NTSC NTSC-J N44 PAL-M PAL-N UNKNOWN	Output standard NTSC Output standard NTSCJ Output standard PAL Output standard PAL-M Output standard PAL-N No input present
PICTURE=	FREEZE OK	Output picture frozen Output picture not frozen
AUDIO=	- 1-8	No audio channels present All 8 audio channels present
AUDIO_A_LEFT=	SILENT QUIET OVERLOAD	Below silence level for more than time set Below quite level for more than time set Above overload level for more than time set
AUDIO_A_RIGHT=	SILENT QUIET OVERLOAD	Below silence level for more than time set Below quite level for more than time set Above overload level for more than time set
AUDIO_B_LEFT=	SILENT QUIET OVERLOAD	Below silence level for more than time set Below quite level for more than time set Above overload level for more than time set
AUDIO_B_RIGHT=	SILENT QUIET OVERLOAD	Below silence level for more than time set Below quite level for more than time set Above overload level for more than time set
UAD=	UAD No_UAD	Unknown ANC Data detected
EDH=	OK FAIL NONE RESET	EDH present on input and is OK EDH present on input and errors found No EDH detected on input EDH error and count reset
ERRSEC=	xxxx	Number of seconds which contained EDH errors since the last EDH reset. XXXX =0 After a EDH Reset
SN=	Runtime string	Serial number of unit
FAULT=	FAIL:LOCAL_MODE	Module is in Local mode.

**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 called **RollTrack**.

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

**RollTrack Index**

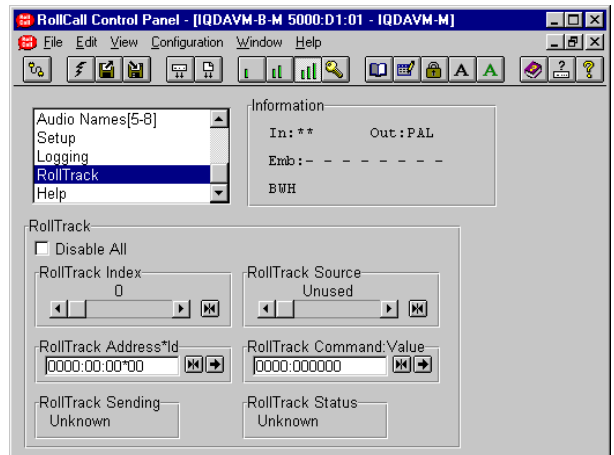
This item allows up to 16 (0 to 15) destinations to be selected.

**RollTrack Source**

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

1. Unused (Off)	22. Chroma B/W High
2. Input Loss	23. Chroma B/W Low
3. Input OK	24. Picture Frozen*
4. Input 525	25. Picture not Frozen*
5. Input 625	26. Silence AL*
6. Emb Pr 1 Loss	27. Silence AR*
7. Emb Pr 2 Loss	28. Silence BL*
8. Emb Pr 3 Loss	29. Silence BR*
9. Emb Pr 4 Loss	30. Quiet AL*
10. Emb Pr 5 Loss	31. Quiet AR*
11. Emb Pr 6 Loss	32. Quiet BL*
12. Emb Pr 7 Loss	33. Quiet BR*
13. Emb Pr 8 Loss	34. Overload AL*
14. Emb Pr 1 OK	35. Overload AR*
15. Emb Pr 2 OK	36. Overload BL*
16. Emb Pr 3 OK	37. Overload BR*
17. Emb Pr 4 OK	38. Audio AL OK*
18. Emb Pr 5 OK	39. Audio AR OK*
19. Emb Pr 6 OK	40. Audio BL OK*
20. Emb Pr 7 OK	41. Audio BR OK*
21. Emb Pr 8 OK	*IQDAVM-M only


Where Emb = Embedded  
 Pr = Pair  
 A = Output A  
 B = Output B  
 L = Left  
 R = Right  
 B/W = Bandwidth



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

**Network Address**

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

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



(Preset) returns to the default destination

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

For example: 0000:10:01\*99

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

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

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

The fourth set (99) is a user settable number that is a unique identification number for the destination unit in a multi-unit system. This ensures that only the correct unit will respond to the command. If left at 00 an incorrectly fitted unit may respond inappropriately.

**RollTrack (continued)****RollTrack Command Value**

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.*

**Disable All**

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

**RollTrack Sending**

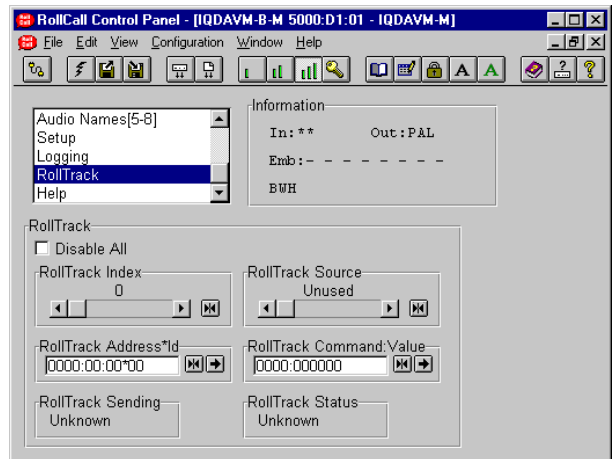
*This item shows when the unit is actively sending the RollTrack command.*

*This may show:*

Unknown    A

No            The message is not being sent.

Yes            The message is being sent.

**RollTrack Status**

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

*This may show:*

OK            RollTrack message sent and received OK.

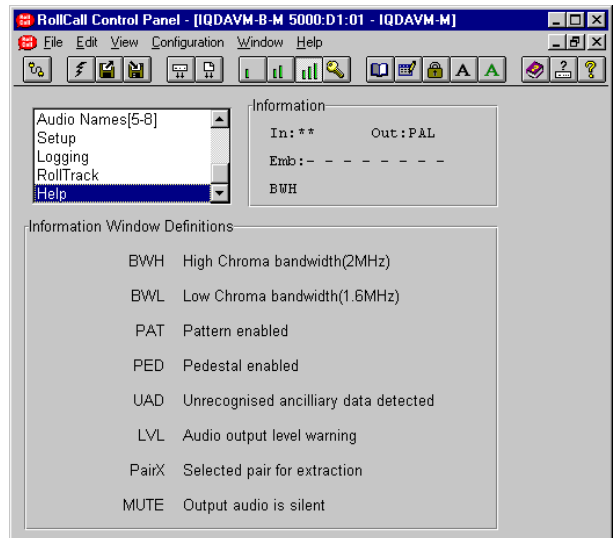
Unknown    Rolltrack message has been sent but it has not yet completed.

Timeout    RollTrack message sent but acknowledgement not received. This could be because the destination unit is not at the location specified.

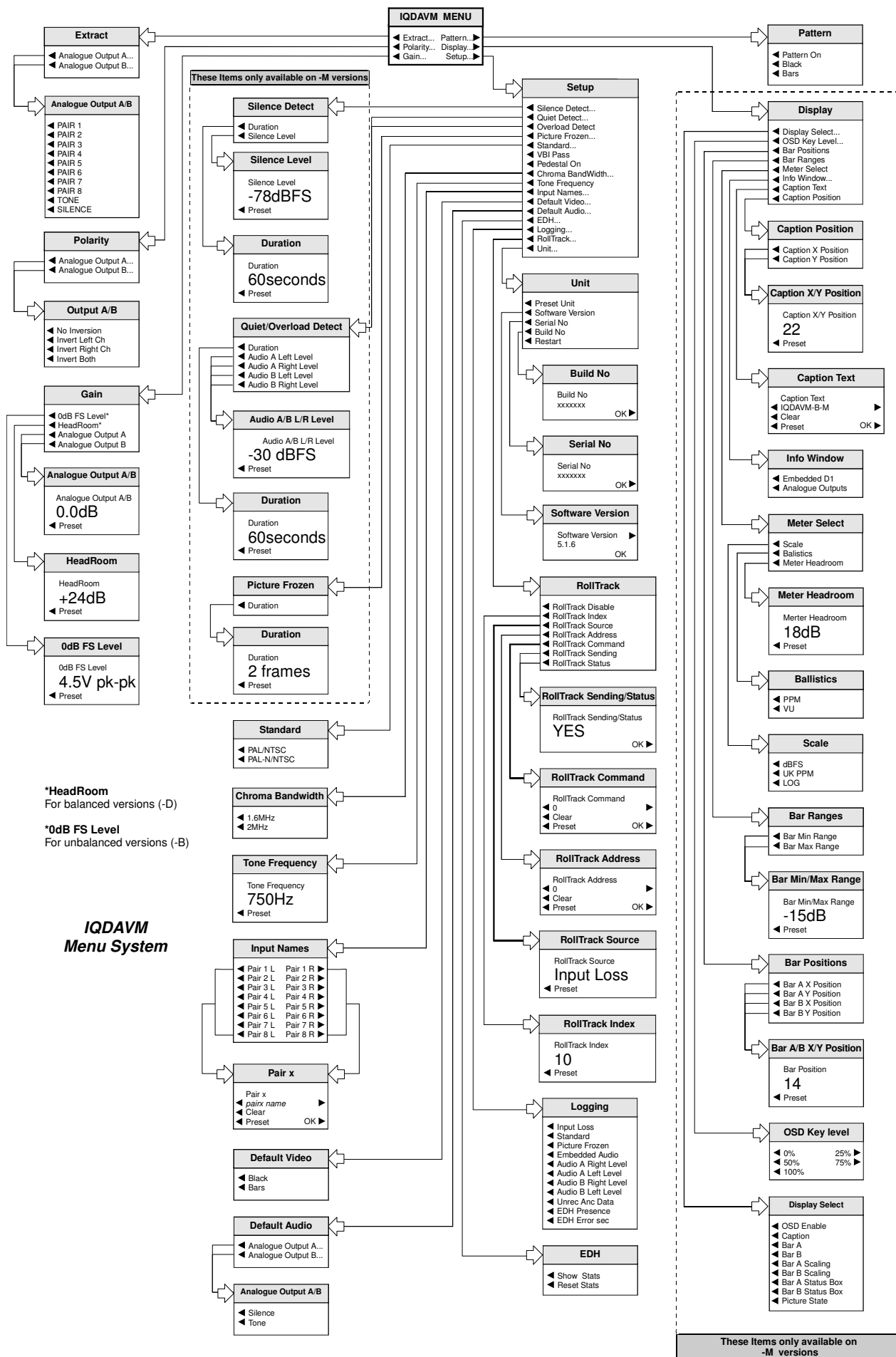
Bad            This indicates a broken RollCall packet.

## Help

*This screen lists the abbreviations used in the Information window and their meanings.*







\*HeadRoom  
For balanced versions (-D)

\*0dB FS Level  
For unbalanced versions (-B)

***IQDAVM Menu System***

## OPERATION FROM AN ACTIVE CONTROL PANEL

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

The menus available for this card are shown on the previous page and will appear in the Control display window.

Operational details for the remote control panel will be found in SECTION 1 of the Modular System Operator's Manual.

### MENU DETAILS

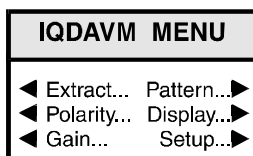
(see IQDAVM Menu System on previous page)

#### MAIN MENU

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

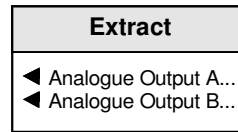
Note that where a menu item is followed by three dots (...) this indicates that a further sub-menu may be selected.

Whenever a menu item is selected the parameters of that selection will be displayed in the Information window of the front panel. Where the selection is purely a mode selection and does not enable a sub-menu, the text will become reversed (white-on-black) indicating that the mode is active. If the mode is not available for selection the text will remain normal.



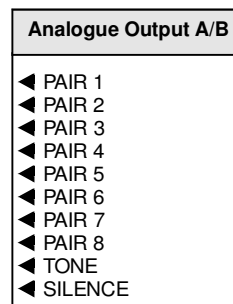
This menu allows various sub-menus that may be selected.

#### ◀ Extract

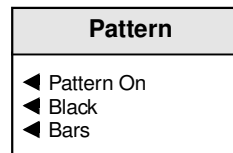


The analog outputs are independently assigned. They can be set to any one of the eight audio pairs, or can be fixed to an internally generated test signal (tone or silence).

The following settings may be applied to Output A and Output B:



#### ▶ Pattern ▶



When the ◀ **Pattern On** function is enabled a pattern, selected from the list below, will be forced to become the output.

#### ◀ Black

Produces a black output.

#### ◀ Bars

Produces a color bar output.

*Note that if **Pattern On** is not enabled the output will be normal video.*

◀ **Polarity**

Polarity
◀ Analogue Output A...
◀ Analogue Output B...

This function allows the polarity of the left and right channels of each of the output channels to be independently inverted.

Options available for each output channel are:

Output A/B
◀ No Inversion
◀ Invert Left Ch
◀ Invert Right Ch
◀ Invert Both

▶ **Display**

These items allow various parts of the Display to be switched on and off to suit the users application.

Note that this menu on the-M versions will contain eight Display options and their associated submenus whereas the basic version will contain the **Info Window** item only.

Display
◀ Display Select...
◀ OSD Key Level...
◀ Bar Positions
◀ Bar Ranges
◀ Meter Select
◀ Info Window...
◀ Caption Text
◀ Caption Position

-M versions

Display
◀ Info Window...

Standard version

◀ **Display Select**

This allows various items to be displayed on the screen.

Display Select
◀ OSD Enable
◀ Caption
◀ Bar A
◀ Bar B
◀ Bar A Scaling
◀ Bar B Scaling
◀ Bar A Status Box
◀ Bar B Status Box
◀ Picture State

◀ **OSD Enable**

This toggle function allows the on-screen-display to be turned On and Off.

◀ **Caption**

When highlighted the caption will appear on the screen.

◀ **Bar A**

When highlighted this item will allow the bargraph for channel A to be displayed on screen.

◀ **Bar B**

When highlighted this item will allow the bargraph for channel B to be displayed on screen.

◀ **Bar A Scaling**

When highlighted the scaling text for channel A will be displayed on screen.

◀ **Bar B Scaling**

When highlighted the scaling text for channel B will be displayed on screen.

◀ **Bar A Status Box**

When highlighted the status box for channel A will be displayed on screen.

◀ **Bar B Status Box**

When highlighted the status box for channel B will be displayed on screen.

◀ **Picture State**

When highlighted the picture state box will be displayed on screen.

◀ OSD Key Level (-M versions only)

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.

OSD Key level	
◀ 0%	25% ▶
◀ 50%	75% ▶
◀ 100%	

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.

◀ Bar Positions

This allows either the X (horizontal) or Y (vertical) position to be selected for adjustment.

Bar Positions
◀ Bar A X Position
◀ Bar A Y Position
◀ Bar B X Position
◀ Bar B Y Position

◀ Bar A/B X Position

This function allows the horizontal position of the bargraphs to be adjusted.

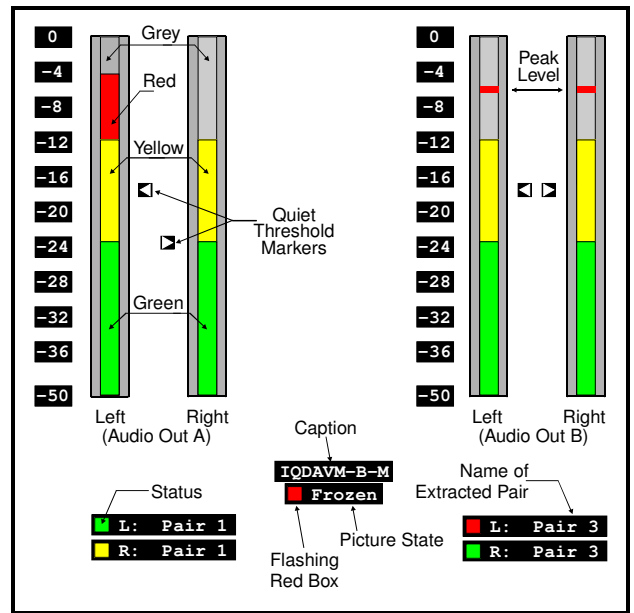
Bar A/B X/Y Position
Bar Position
<b>14</b>
◀ Preset

*Note that the A and B Bars cannot be made to pass each other in the X direction and their positions cannot be interchanged.*

The range of control is from 0 to 31 units for bargraph A and 8 to 39 units for bargraph B in steps of 1 unit.

*Note that a unit is the width of one character*

Preset is to A bargraphs to the position as shown in the picture opposite. (0 and 39 respectively).



◀ Bar A/B Y Position

This function allows the vertical position of the bargraphs to be adjusted.

The range of control is from 0 to 20 units (0 to 12 in 525 standard) in steps of 1 unit.

*Note that a unit is the height of one character*

Preset is to 1 which positions both bargraphs to the position as shown in the picture above.

◀ Bar Ranges

The bargraphs used in the OSD are divided into three colored areas to indicate bands of audio level.

Bar Ranges
◀ Bar Min Range
◀ Bar Max Range

The Bar Min/Max Range functions allows the high and low ranges to be adjusted. i.e. the height of the red and green bars.

◀ Bar Min Range

Bar Min/Max Range
Bar Min/Max Range
<b>-15dB</b>
◀ Preset

This function controls the range of the green bar.

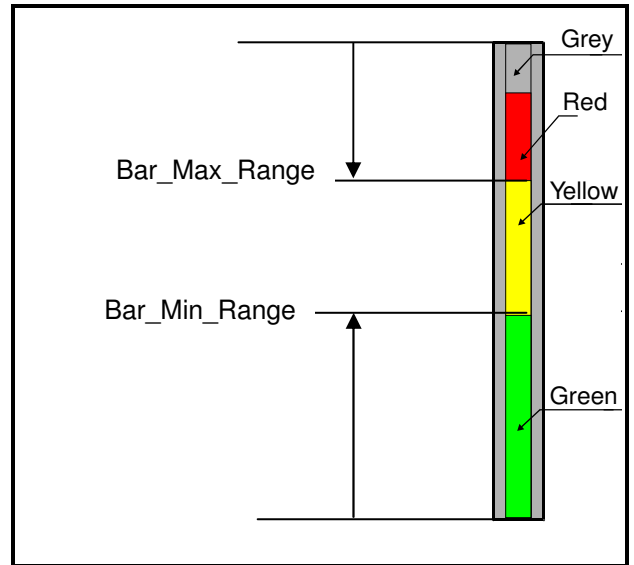
The range is from -1 to -51 dB in steps of 1 dB  
Preset is to -18 dB.

◀ Bar Max Range

This function controls the maximum range of the red bar.

The range is from 0 to -50 dB in steps of 1 dB  
Preset is to -12 dB.

*Note that difference between the maximum range and the minimum range cannot be set below +1 dB.*



◀ Meter Select

This allows the metering characteristics of the bargraphs to be set.

Meter Select
◀ Scale
◀ Ballistics
◀ Meter Headroom

◀ Scale

The scaling of the meters may be changed to three different types.

Scale
◀ dBFS
◀ UK PPM
◀ LOG

◀ dBFS

The scaling is in Decibels relative to Full Scale (maximum digital level).

◀ UK PPM

The scaling is in Peak Program Metering units.

◀ LOG

The scaling is in decibels for analog signals.

◀ Ballistics

The dynamic response of the bargraphs to changes in level (attack and decay times) may set to two different characteristics.

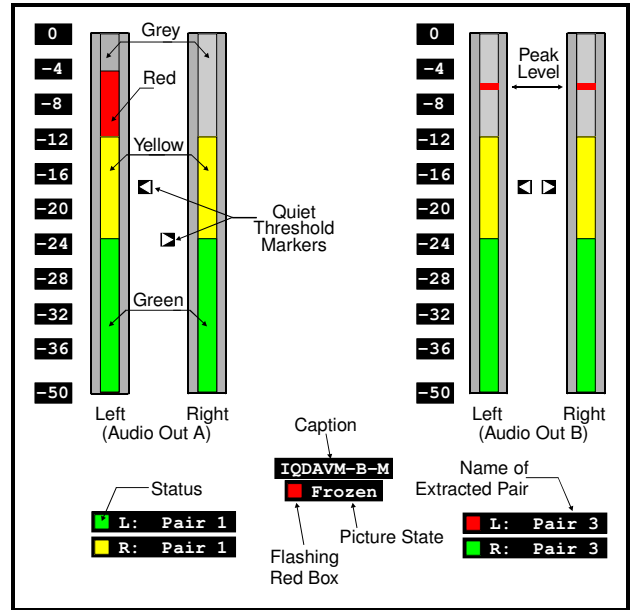
Ballistics
◀ PPM
◀ VU

◀ PPM

The response conforms to the standard Peak Program Metering characteristic.

Rise/Attack time: 10 ms. If a 1 kHz steady state tone is fed into a PPM meter, it will take 10 ms for the meter to stabilize.

Fall time: About 8.7 dB/second.



◀ VU

The response conforms to the standard Volume Units characteristic.

Rise/Attack time: 300 ms. If a 1 kHz steady state tone is fed into a VU meter, it will take 300 ms for the meter to stabilize.

Fall time: 300 ms

◀ Meter Headroom (not for dBFS scaling)

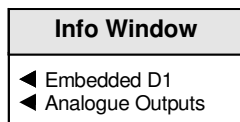
Meter Headroom
Meter Headroom
<b>18dB</b>
◀ Preset

This allows the headroom (difference between clipping level and line-up level) for the metering to be set.

The range is from 12 dB to 24 dB in steps of 2 dB.

Preset is to 18 dB.

### ◀ Info Window (-M and standard versions)

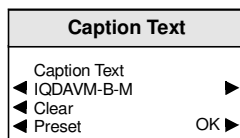


If **Embedded D1** is selected, the presence of any embedded audio on the input D1 stream is shown in the information window. (There can be up to 8 audio pairs embedded in one stream)

If **Analog Outputs** is selected, the information window will show what is currently present on the analog outputs. e.g. Extracted Audio, Tone or Silence.

### ◀ Caption Text

This allows the caption text to be edited.



To 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 (IQDAVM).

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

◀ **Caption Position**

This allows the position of the caption to be adjusted.

Caption Position	
◀	Caption X Position
◀	Caption Y Position

◀ **Caption X Position**

This function allows the horizontal position of the caption to be adjusted.

Caption X/Y Position	
	Caption X/Y Position
	<b>22</b>
◀	Preset

This function allows the horizontal position of the caption to be adjusted.

The range of control is from 0 to 37 units in steps of 1 unit.

*Note that a unit is the width of one character*

Preset sets the caption to the center of the screen as shown in the picture opposite (value = 19).

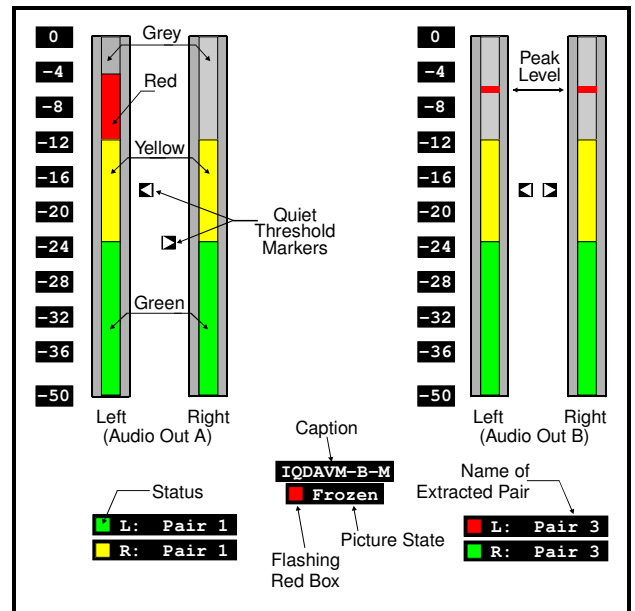
◀ **Caption Y Position**

This function allows the vertical position of the caption to be adjusted.

The range of control is from 0 to 43 (0 to 37 in 525 standard) units in steps of 1 unit.

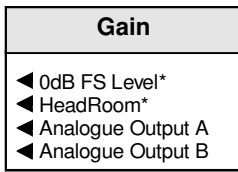
*Note that a unit is the height of one character*

Preset sets the caption to the position as shown in the picture opposite (value = 39, 31 in 525 standard).



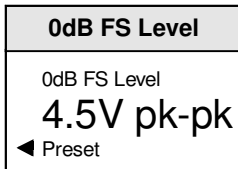


◀ **Gain**



This menu allows the headroom/level to be set and the analog gain to be set for both outputs.

◀ **0dB FS Level** (Unbalanced -B versions)

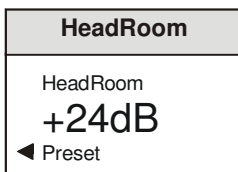


This indicates the nominal peak-to-peak output voltage developed across a high impedance load (>50 k Ohms) for a 0 dBFS signal.

The operating level for the analog outputs may be set between 1.0 V and 4.5 V pk-pk in steps of 0.5 V using the spinwheel.

Preset is to 4.5 V.

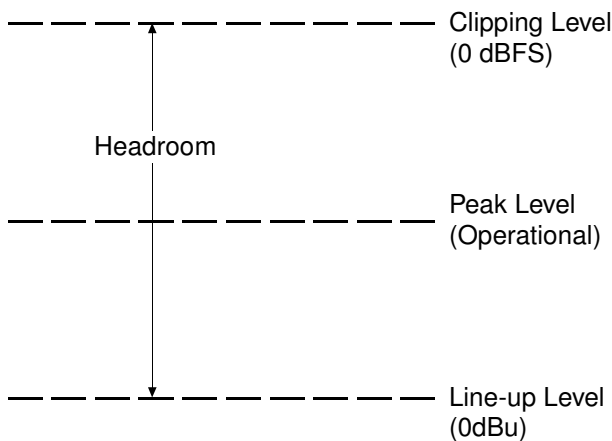
◀ **Headroom** (Balanced -B versions)



The operating headroom for the analog outputs may be set between +12 dB and +24 dB in steps of 1 dB using the spinwheel.

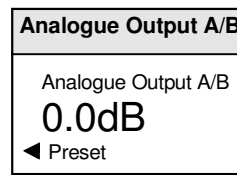
Preset is to +24 dB.

*Note that in this product headroom is defined as:*



Headroom = Clipping Level – Line-up level

◀ **Analogue Output A/B**



This control allows fine adjustment of the signal level.

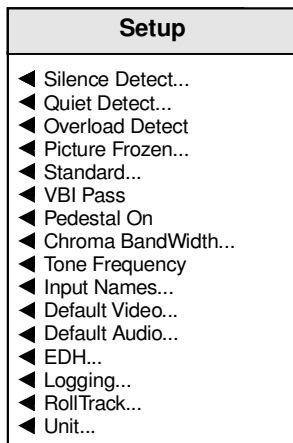
The gain of output A and output B may be adjusted by ±6 dB in steps of 0.2 dB using the spinwheel.

Preset is to 0 dB.

**Setup ▶**

This function allows various system parameters to be setup.

Note that some items are only available on the -M version.

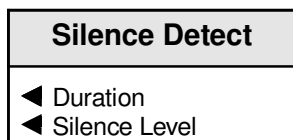


**AUDIO MONITORING AND DETECTION (-M version only)**

The extracted audio pair (as selected via the **Extract** menu) from the SDI input may be monitored for the following conditions:

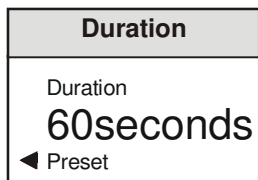
**◀ Silence Detect (-M version only)**

When enabled this function will detect silence in the selected extracted audio pair.



**◀ Duration**

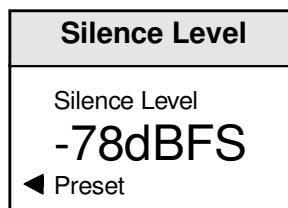
*This sets the length of time the audio must be below the silence threshold before indicating silence.*



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.



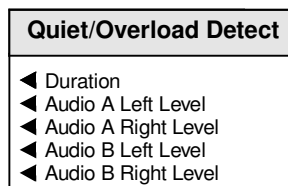
The range of adjustment is from -60 dBFS to -114 dBFS (Digital Blank) in steps of 6 dB.

Preset is to -60 dBFS.

**◀ Quiet/Overload Detect (-M version only)**

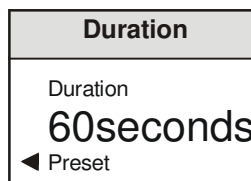
*This function will detect a quiet and overload condition in the selected extracted audio pair.*

A quiet and overload level threshold can be set for each of the four audio channels.



**◀ Duration**

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



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

Preset is to 60 seconds.

## ◀ Audio A/B Left/Right Level

## Quiet

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 menus.

Audio A/B L/R Level
Audio A/B L/R Level <b>-30 dBFS</b> ◀ Preset

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

Preset is to – 30 dBFS.

## Overload

The definition of *Overload* i.e. the level the signal must exceed to be detected as an overload. It may be individually set for Audio A (left and right channels) and Audio B (left and right channels) via these menus.

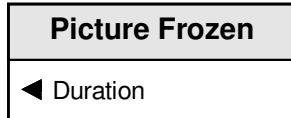
Audio A/B L/R Level
Audio A/B L/R Level <b>-30 dBFS</b> ◀ Preset

The range of adjustment is from 0 dBFS to -15 dBFS.

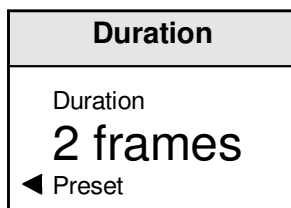
Preset is to – 0 dBFS.

**VIDEO MONITORING AND DETECTION****◀ Picture Frozen**

This function detects frozen video in the SDI signal.

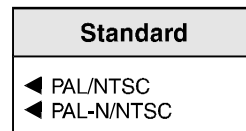
**◀ Duration**

The number of frames of frozen video that occur before they are detected as frozen may be set with this function.



The range of adjustment is from 2 frames to 150 frames.

Preset is to 2 frames.

**◀ Standard**

This menu selection allows the output standard of the unit to be set.

Settings available are:

- ◀ PAL/NTSC**
- ◀ PAL-N/NTSC**

The output standard depends on two things:

1. The input standard
2. This setting

The unit will automatically detect either a 525 or 625 input standard.

If the detected input standard is 525 the output standard will be NTSC.

If the detected input standard is 625 and the PAL/NTSC mode selected, the output standard will be PAL.

If the detected input standard is 625 and the PAL-N/NTSC mode selected, the output standard will be PAL-N.

**◀ VBI Pass**

When highlighted, the vertical interval lines be passed through to the output. When not selected, the vertical interval lines are blanked.

*Note: When not selected in the 525 line standard, line 21, line 283 and the first half of line 284 are also blanked in addition to the VBI lines.*

**◀ Pedestal On**

When the unit is producing an NTSC output, the output waveform will contain a standard pedestal (set-up). The pedestal is removed by deselecting this item.

*Note that this function effects the default and pattern outputs but is not operative in PAL, or PAL-N modes.*

## ◀ Chroma Bandwidth

Chroma Bandwidth
◀ 1.6MHz
◀ 2MHz

This menu allows the chrominance bandwidth to be set to either 1.6 MHz or 2 MHz.

## ◀ Tone Frequency

The tone can be selected as an output in the **Extract** menu and/or chosen as the default audio in the **Configure Audio Output** menu.

The tone frequency may be adjusted using the spinwheel.

Tone Frequency
Tone Frequency
750Hz
◀ Preset

The range of adjustment is from 250 Hz to 15750 Hz in 250 Hz steps.

Preset is to 1 kHz

*Note that the tone level is normally set to -20dBFS but may be adjusted with the analog output gain controls.*

## ◀ Input Names

Input Names
◀ Pair 1 L    Pair 1 R ▶
◀ Pair 2 L    Pair 2 R ▶
◀ Pair 3 L    Pair 3 R ▶
◀ Pair 4 L    Pair 4 R ▶
◀ Pair 5 L    Pair 5 R ▶
◀ Pair 6 L    Pair 6 R ▶
◀ Pair 7 L    Pair 7 R ▶
◀ Pair 8 L    Pair 8 R ▶

*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.*

Selecting **Input Names** will reveal a menu that allows an input name to be selected from the above list.

Select the desired name (this will reveal an editing window) and edit the name using the spinwheel/push buttons.

Pair x
Pair x
◀ pairx name ▶
◀ Clear ▶
◀ Preset                      OK ▶

*To 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.*

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

**◀ Default Video**

Default Video
◀ Black
◀ Bars

When no input is detected the default output signal can be set to become either Black or Color bars.

**◀ Default Audio**

Default Audio
◀ Analogue Output A...
◀ Analogue Output B...

**◀ Analogue Output A and B**

Analogue Output A/B
◀ Silence
◀ Tone

*The audio output signal produced at Output A or Output B when no audio input is detected may be set to either **Silence** or **Tone**.*

**◀ EDH**

EDH
◀ Show Stats
◀ Reset Stats

This menu allows the EDH detection system to show EDH statistics in the information window (select **◀ Show Stats**) and EDH statistics to be reset setting the error start time to zero. (Select **◀ Reset\_Stats**)

## ◀ Logging

Logging
◀ Input Loss
◀ Standard
◀ Picture Frozen
◀ Embedded Audio
◀ Audio A Right Level
◀ Audio A Left Level
◀ Audio B Right Level
◀ Audio B Left Level
◀ Unrec Anc Data
◀ EDH Presence
◀ EDH Error sec

This sub-menu enables changes in the selected status data to be sent to the logging device.

*Note that the Audio Levels, Unrecognized ANC data and Picture Frozen items are only available on the -M version.*

## ROLLCALL LOG FIELDS

Log Field	Log Value	Description
INPUT=	OK LOST	Valid input signal Input signal lost
STD=	NTSC NTSC-J N44 PAL-M PAL-N UNKNOWN	Output standard NTSC Output standard NTSCJ Output standard PAL Output standard PAL-M Output standard PAL-N No input present
PICTURE=	FREEZE OK	Output picture frozen Output picture not frozen
AUDIO=	- 1-8	No audio channels present All 8 audio channels present
AUDIO_A_LEFT=	SILENT QUIET OVERLOAD	Below silence level for more than time set Below quite level for more than time set Above overload level for more than time set
AUDIO_A_RIGHT=	SILENT QUIET OVERLOAD	Below silence level for more than time set Below quite level for more than time set Above overload level for more than time set
AUDIO_B_LEFT=	SILENT QUIET OVERLOAD	Below silence level for more than time set Below quite level for more than time set Above overload level for more than time set
AUDIO_B_RIGHT=	SILENT QUIET OVERLOAD	Below silence level for more than time set Below quite level for more than time set Above overload level for more than time set
UAD=	UAD No_UAD	Unknown ANC Data detected
EDH=	OK FAIL NONE RESET	EDH present on input and is OK EDH present on input and errors found No EDH detected on input EDH error and count reset
ERRSEC=	xxxx	Number of seconds which contained EDH errors since the last EDH reset. XXXX =0 After a EDH Reset
SN=	Runtime string	Serial number of unit
FAULT=	FAIL:LOCAL_MODE	Module is in Local mode.

◀ **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**.

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

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

◀ RollTrack Index

RollTrack Index
RollTrack Index
<b>10</b>
◀ Preset

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

◀ RollTrack Source

RollTrack Source
RollTrack Source
<b>Input Loss</b>
◀ Preset

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

1. Unused (Off)	22. Chroma B/W High
2. Input Loss	23. Chroma B/W Low
3. Input OK	24. Picture Frozen*
4. Input 525	25. Picture not Frozen*
5. Input 625	26. Silence AL*
6. Emb Pr 1 Loss	27. Silence AR*
7. Emb Pr 2 Loss	28. Silence BL*
8. Emb Pr 3 Loss	29. Silence BR*
9. Emb Pr 4 Loss	30. Quiet AL*
10. Emb Pr 5 Loss	31. Quiet AR*
11. Emb Pr 6 Loss	32. Quiet BL*
12. Emb Pr 7 Loss	33. Quiet BR*
13. Emb Pr 8 Loss	34. Overload AL*
14. Emb Pr 1 OK	35. Overload AR*
15. Emb Pr 2 OK	36. Overload BL*
16. Emb Pr 3 OK	37. Overload BR*
17. Emb Pr 4 OK	38. Audio AL OK*
18. Emb Pr 5 OK	39. Audio AR OK*
19. Emb Pr 6 OK	40. Audio BL OK*
20. Emb Pr 7 OK	41. Audio BR OK*
21. Emb Pr 8 OK	*IQDAVM-M only

Where Emb = Embedded  
 Pr = Pair  
 A = Output A  
 B = Output B  
 L = Left  
 R = Right  
 B/W = Bandwidth



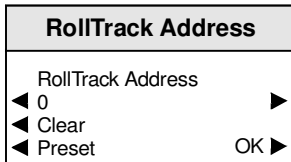
The destination for the information is set by the network code address.

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

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

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

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

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

For example: 0000:10:01\*99

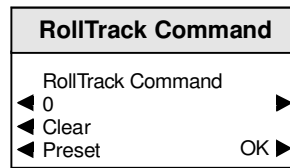
The first set (0000) is the network segment code number

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

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

The fourth set (99) is a user settable number that is a unique identification number for the destination unit in a multi-unit system. This ensures that only the correct unit will respond to the command. If left at 00 an incorrectly fitted unit may respond inappropriately.

◀ RollTrack Command



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

For example: 84\*156

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

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

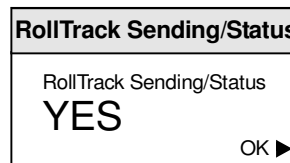
The second set (156) is the value sent with the **RollTrack** command number.

*Note that when video delay or audio delay is selected as the **RollTrack** source the value sent with the **RollTrack** command is the video delay value not the value set.*

*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:

- Unknown    A
- No            The message is not being sent.
- Yes            The message is being sent.

◀ RollTrack Status

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

This may show:

*OK* RollTrack message sent and received OK.

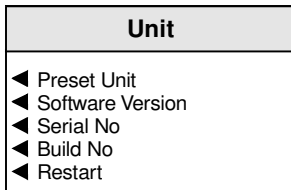
*Unknown* Rolltrack message has been sent but it has not yet completed.

*Timeout* RollTrack message sent but acknowledgement not received. This could be because the destination unit is not at the location specified.

*Bad* This indicates a broken RollCall packet.

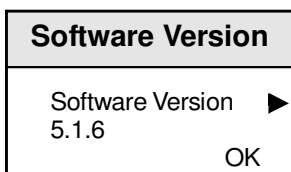
◀ Unit

This provides various items of information about the unit.



◀ Software Version

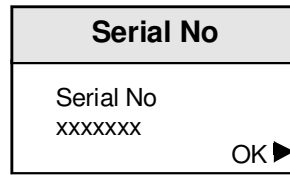
This item reveals a display showing the version of the software fitted in the module.



Select OK to return to the Unit Menu.

◀ Serial No

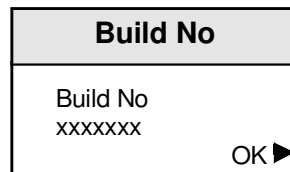
This item reveals a display showing the serial number of the module.



Select OK to return to the Unit Menu.

◀ 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.



Select OK to return to the Unit Menu.

◀ Restart

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

## IQDAVM-M RollCall Commands

## Supervisor Level

Command No.		Command Name	Values			
Hex	Dec					
0001	1	Serial No	Static Display (no control)			
0002	2	Software Version	Static Display (no control)			
0003	3	Preset Unit	1=Preset Unit			
0004	4	Restart Unit	1=Restart			
0005	5	Standard	0=PAL / NTSC	1=PALN / NTSC		
0006	6	Pattern	0=Black	1=Bars		
0007	7	Pattern On	clear=0 set=1 (toggle=2)			
0008	8	Chroma Bandwidth	0=1.6MHz	1=2MHz		
0009	9	Show Stats	clear=0 set=1 (toggle=2)			
000A	10	EDH	1=Reset Stats			
000B	11	Default Video	0=Black	1=Bars		
0010	16	Pedestal On	clear=0 set=1 (toggle=2)			
0011	17	Tone Frequency	min=250	max=15750	Step=250	
0012	18	Analogue Output A	0=PAIR 1	1=PAIR 2	2=PAIR 3	3=PAIR 4
			4=PAIR 5	5=PAIR 6	6=PAIR 7	7=PAIR 8
			8=TONE	9=SILENCE		
0013	19	Analogue Output B	0=PAIR 1	1=PAIR 2	2=PAIR 3	3=PAIR 4
			4=PAIR 5	5=PAIR 6	6=PAIR 7	7=PAIR 8
			8=TONE	9=SILENCE		
0014	20	Default Analogue Output_A	0=Silence	1=Tone		
0015	21	Default Analogue Output_B	0=Silence	1=Tone		
0016	22	Polarity Analogue Output A	0=No Inversion	1=Invert Left Ch	2=Invert Right Ch	
			3=Invert Both			
0017	23	Polarity Analogue Output B	0=No_Inversion	1=Invert Left Ch	2=Invert Right Ch	
			3=Invert Both			
0018	24	OSD Key Level	0=0%	1=25%	2=50%	3=75%
			4=100%			
0019	25	PAIR 1 L	Edit String			
001A	26	PAIR 2 L	Edit String			
001B	27	PAIR 3 L	Edit String			
001C	28	PAIR 4 L	Edit String			
001D	29	PAIR 5 L	Edit String			
001E	30	PAIR 6 L	Edit String			
001F	31	PAIR 7 L	Edit String			
0020	32	PAIR 8 L	Edit String			
0021	33	Analogue Output A	min=-60	max=60	Step=2	Div=10
0022	34	Analogue Output B	min=-60	max=60	Step=2	Div=10
0023	35	Headroom	min=12	max=24	Step=1	
0024	36	0dB FS Level	min=10	max=45	Step=5	Div=10 Units=pk-pk
0025	37	Info Window	0=Embedded D1 1=Analogue Outputs			
0027	39	OSD Enable	clear=0 set=1 (toggle=2)			
0028	40	Bar A X position	min=0	max=31	Step=1	
0029	41	Bar A Y position	min=0	max=28	Step=1	
002A	42	Audio A Left Level	min=-50	max=-1	Step=1	
002B	43	Audio A Right Level	min=-50	max=-1	Step=1	
002C	44	Audio B Left Level	min=-50	max=-1	Step=1	
002D	45	Audio B Right Level	min=-50	max=-1	Step=1	
002E	46	Duration	min=1	max=120	Step=1	
002F	47	Duration	min=1	max=120	Step=1	
0032	50	Duration	min=2	max=150	Step=1	
0034	52	Bar Min Range	min=-51	max=0	Step=1	
0035	53	Bar Max Range	min=-51	max=0	Step=1	
0036	54	Build No	Static Display (no control)			
0037	55	Bar B X position	min=0	max=31	Step=1	
0038	56	Bar B Y position	min=0	max=28	Step=1	
003A	58	Bar A	clear=0 set=1 (toggle=2)			
003B	59	Bar B	clear=0 set=1 (toggle=2)			
003C	60	Bar A Scaling	clear=0 set=1 (toggle=2)			
003D	61	Bar B Scaling	clear=0 set=1 (toggle=2)			
0040	64	Bar A Status Box	clear=0 set=1 (toggle=2)			
0041	65	Bar B Status Box	clear=0 set=1 (toggle=2)			
0042	66	Picture State	clear=0 set=1 (toggle=2)			
0043	67	Silence Level	min=-114	max=-60	Step=6	
0044	68	VBI Pass	clear=0 set=1 (toggle=2)			
0045	69	Audio A Left Level	min=-15	max=0	Step=1	
0046	70	Audio A Right Level	min=-15	max=0	Step=1	
0047	71	Audio B Left Level	min=-15	max=0	Step=1	
0048	72	Audio B Right Level	min=-15	max=0	Step=1	
0049	73	Duration	min=1	max=120	Step=1	
004A	74	OSD Bar Scale	0=dBFS	1=UK PPM	2=LOG	
004B	75	OSD Bar Scale Ballistics	0=PPM	1=VU		
004C	76	Meter Headroom	min=12	max=24	Step=2	
004D	77	Caption Text	Edit String			
004E	78	Caption	clear=0 set=1 (toggle=2)			
004F	79	PAIR 1 R	Edit String			

0050	80	PAIR 2 R	Edit String
0051	81	PAIR 3 R	Edit String
0052	82	PAIR 4 R	Edit String
0053	83	PAIR 5 R	Edit String
0054	84	PAIR 6 R	Edit String
0055	85	PAIR 7 R	Edit String
0056	86	PAIR 8 R	Edit String
0057	87	Input Loss	clear=0 set=1 (toggle=2)
0058	88	Standard	clear=0 set=1 (toggle=2)
0059	89	Picture Frozen	clear=0 set=1 (toggle=2)
005A	90	Embedded Audio	clear=0 set=1 (toggle=2)
005B	91	Audio A Left Level	clear=0 set=1 (toggle=2)
005C	92	Audio A Right Level	clear=0 set=1 (toggle=2)
005D	93	Audio B Left Level	clear=0 set=1 (toggle=2)
005E	94	Audio B Right Level	clear=0 set=1 (toggle=2)
005F	95	Unrec Anc Data	clear=0 set=1 (toggle=2)
0060	96	EDH Presence	clear=0 set=1 (toggle=2)
0061	97	EDH Error sec	clear=0 set=1 (toggle=2)
0062	98	Caption X Position	min=0 max=37 Step=1
0063	99	Caption Y Position	min=0 max=43 Step=1
0064	100	RollTrack Disable	clear=0 set=1 (toggle=2)
0065	101	RollTrack Index	min=0 max=15 Step=1
0066	102	RollTrack Source	min=0 max=40 Step=1
0067	103	RollTrack Address	Edit String
0068	104	RollTrack Command	Edit String
0069	105	RollTrack Status	Static Display (no control)
006A	106	RollTrack Sending	Static Display (no control)

***Manual Revision Record***

Date	Version No.	Issue No.	Change	Comments
251199	1	1		First Issue
140801	1	2	OSD and Template data added	New issue released
290801	1	3	OSD and menu changes and PPM standard data removed	New issue released
241001	1	4	Audio out renamed to A, B, throughout, OSD drawing updated et al.	
130202	1	5	-M version & headroom data clarified	New issue released
280302	1	6	Now includes information for the 3A enclosure modules	New manual issued
310702	1	7	-0 removed from product codes	New manual issued
090403	1	8	Power consumption added to techspec	New manual issued
180205	1	9	RollTracks, RollCall commands, Logging fields added and OSD updated	New manual issued
050407	1	10	XLR gender data added	New manual issued