



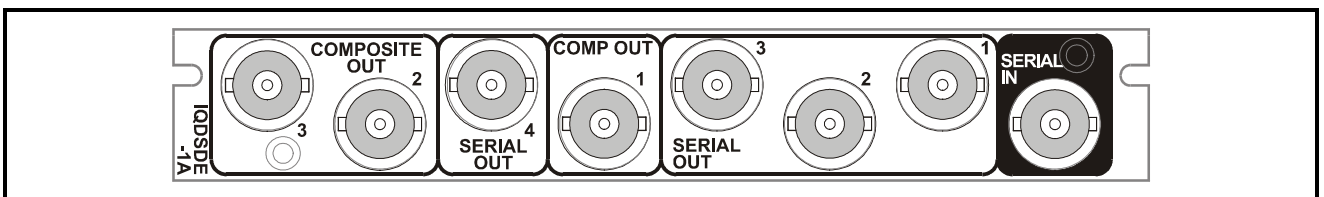
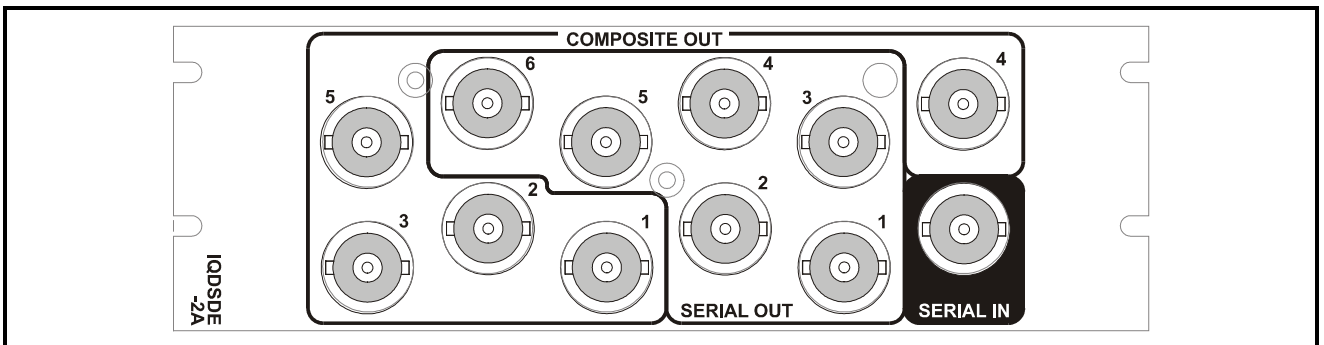
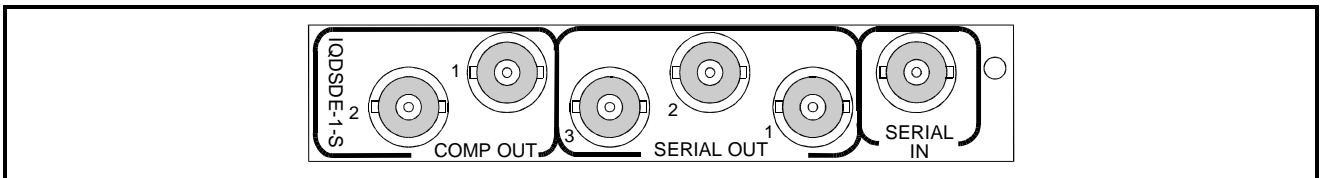
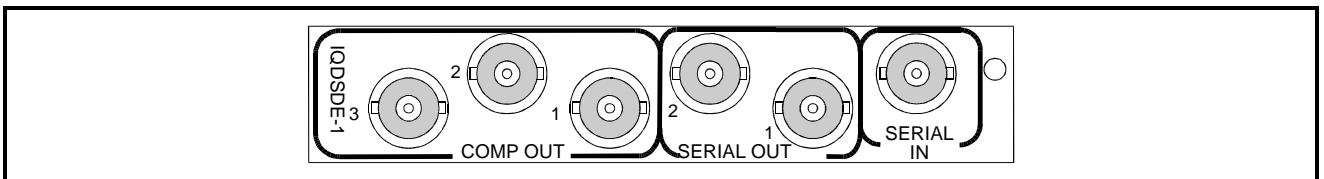
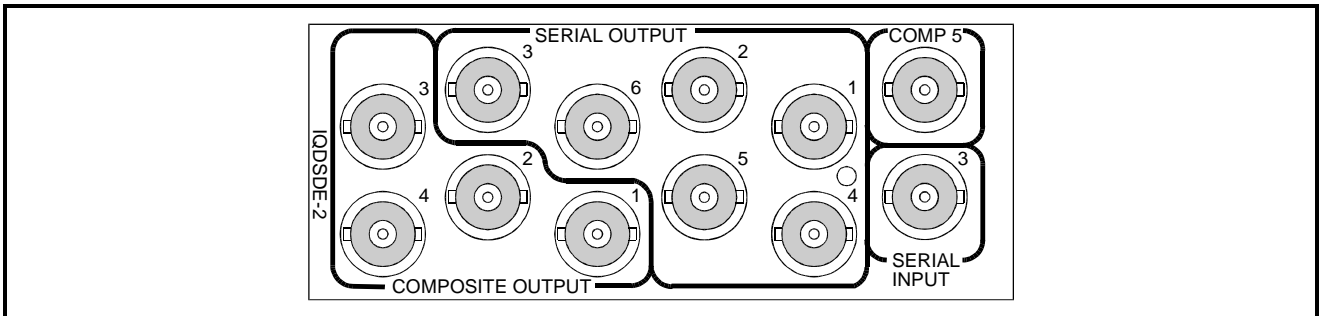
IQDSDE D1 Re-Clocking Serial D. A. & Encoder

Module Description

The IQDSDE-1, IQDSDE-1-S and the IQDSDE-2 are SDI re-clocking Serial Digital distribution amplifiers/encoders providing serial outputs and outputs of composite video.

These modules handle 10-bit SDI signals and include equalization and buffering. The composite outputs may be in NTSC, PAL or PAL-N formats

REAR PANEL VIEWS



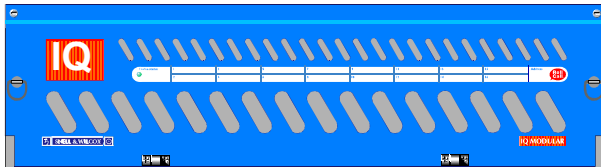
Versions of the module cards available are:

IQDSDE-2	SDI Distribution Amplifier + encoder: 6 SDI + 5 composite outputs	Double width module
IQDSDE-1	SDI Distribution Amplifier + encoder: 2 SDI + 3 composite outputs	Single width module
IQDSDE-1-S	SDI Distribution Amplifier + encoder: 3 SDI + 2 composite outputs	Single width module
IQDSDE-2A	SDI Distribution Amplifier + encoder: 6 SDI + 5 composite outputs	Double width module
IQDSDE-1A	SDI Distribution Amplifier + encoder: 4 SDI + 3 composite outputs	Single width module

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.



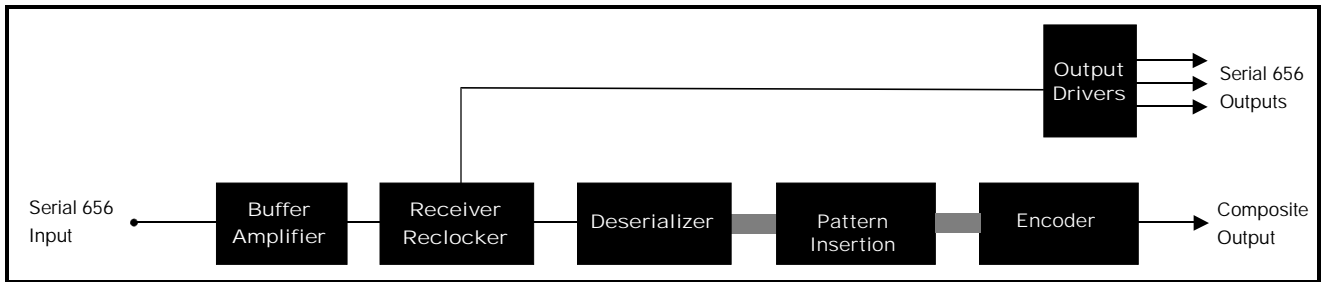
(Enclosure order codes IQH3A-E-O, IQH3A-E-P, IQH3A-N-O, IQH3A-N-P)

‘O’ Style Enclosures

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



BLOCK DIAGRAM



Features

- Reclocked serial 4:2:2 input
- Output combinations:
double width: 6 serial 4:2:2 and 5 composite
single width: 2/3(-S) serial 4:2:2 and 3/2(-S) composite
- Composite NTSC/PAL/PAL-N outputs
- EDH detection
- Automatic 525/625 detection and 'no signal' indication
- Select black or modulated ramp in absence of valid serial 4:2:2 (Composite outputs only).

TECHNICAL PROFILE

Features

Signal Inputs

Serial SDI 1 x D1 serial digital

Signal Outputs

Serial Digital D1 6 (IQDSDE-2), 2 (IQDSDE-1)
3 (IQDSDE-1-S)

Composite Video PAL, NTSC or PAL-N
4 (IQDSDE-2), 3 (IQDSDE-1)
2 (IQDSDE-1-S)

Preset Control Ranges

Output standard PAL/PAL-N or NTSC

Specifications

Input Return Loss..... Better than 15dB to 270 MHz
Serial Output Return Loss... Better than 15dB to 270 MHz
Y Frequency Response..... 5.0 MHz \pm 1dB
U & V Frequency Response 1.3 MHz or 0.65 MHz (selectable)
-3dB
Differential Gain Better than 2%
Differential Phase Better than 1°
Composite Output Return Loss
Better than 35dB to 5.5 MHz
Signal/Noise Ratio Better than 70dB unweighted
2T Pulse-Shape k- rating ... Better than 1%
Output D.C..... <50 mV
Subcarrier Rejection <5 mV on output

Default Output State..... Color Black/Modulated Ramp
EDH Reset On/Off
Chrominance Bandwidth ... 1.3 MHz or 0.65 MHz
ScH Phase..... 360° in 1° steps
Pattern Black/Modulated Ramp
NTSC Pedestal On/Off

Additional Controls via RollCall™ Remote Control System

Logging Input/Standard change, EDH
Errors

Chrominance Processing ... Low pass within CCIR Rep 624

EMC Performance Information

Environment Commercial and light industrial E2
Peak Mains Inrush Current following a 5 second mains
interruption
No mains input
Performance Information.... Immunity to conducted
common-mode RF interference
(EN 55103-2 immunity
phenomenon I6):
When the serial input is subjected
to modulated RF interference at a
level of 3 V, up to 20 mV pk-pk of
interference may be present at the
composite outputs.

Note that to ensure reliable transmission of serial digital signals without causing unacceptable levels of radiated emissions, only high quality 75 Ohm co-axial cable should be used. The cable must also be terminated with a precision 75 Ohm load.

INPUTS AND OUTPUTS

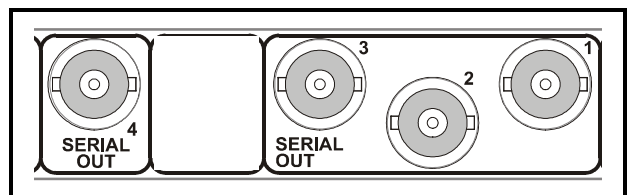
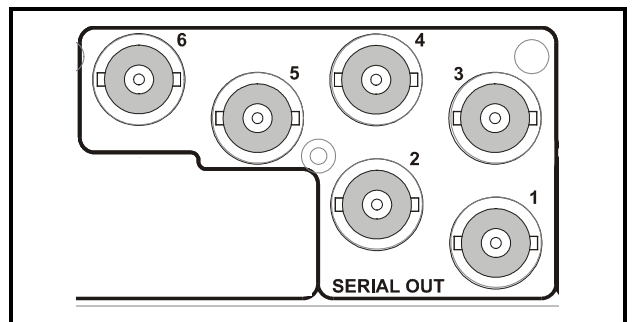
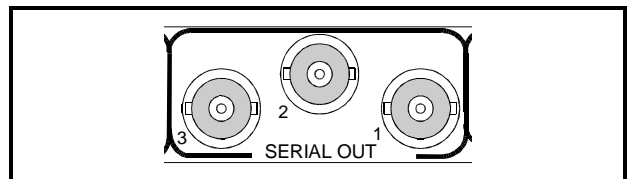
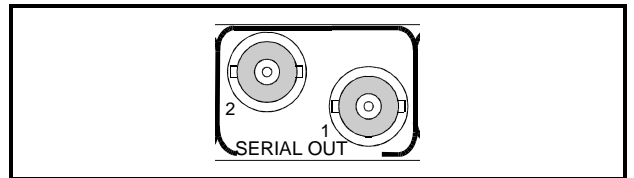
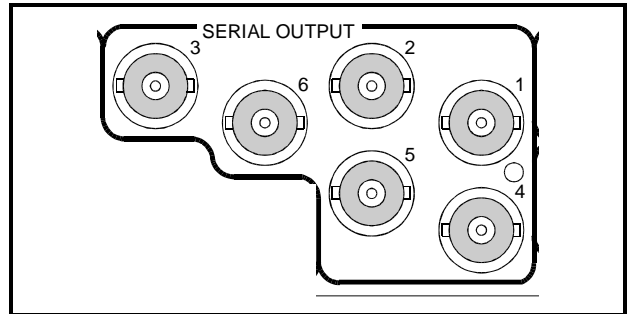
SERIAL INPUT

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



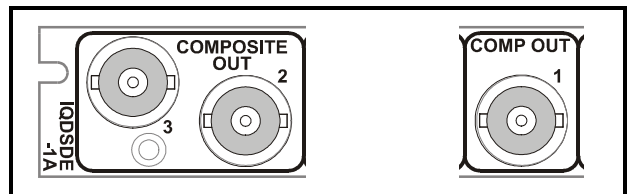
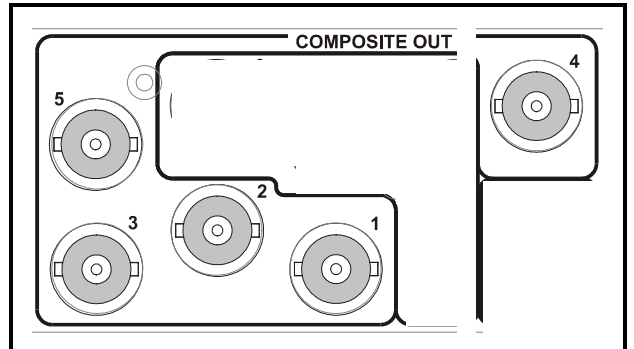
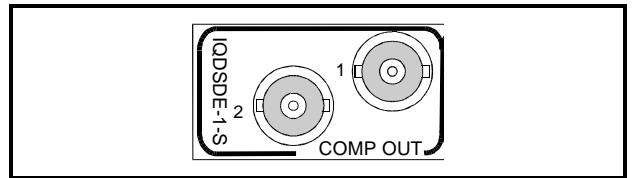
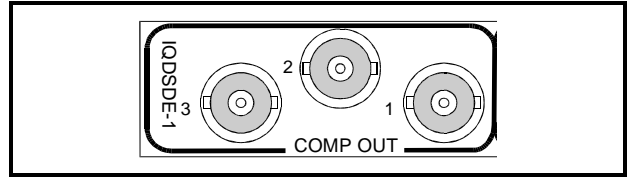
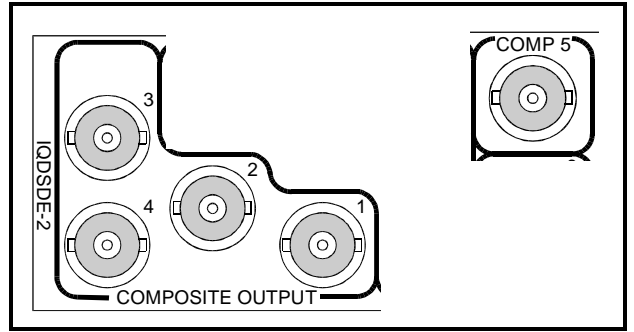
SERIAL OUTPUTS

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

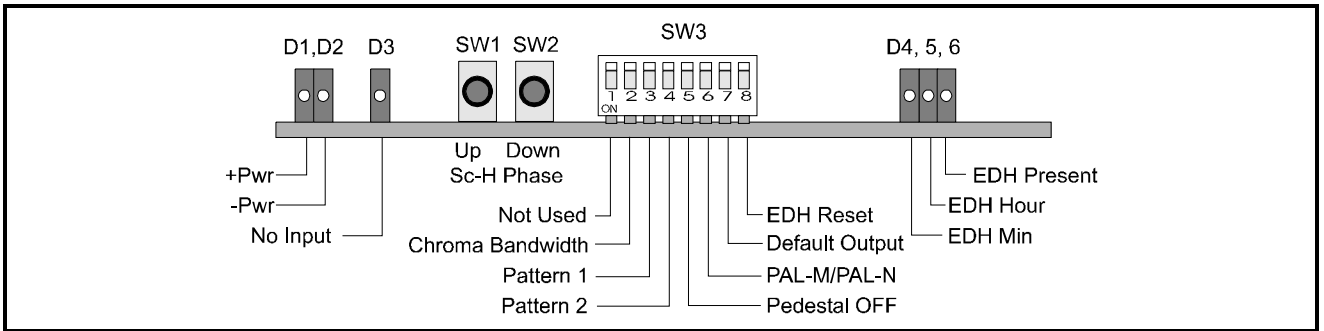


COMPOSITE OUTPUTS

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



CARD EDGE CONTROLS



SW1 & SW2 ScH Phase

These momentary push button switches allow the ScH of the composite output signal to be adjusted over a range of 360° in increments of 1°

SW1 (UP) increases the ScH.
SW2 (DOWN) decreases the ScH.

SW3

This switch allows various functions to be set.
Note that SW3 position 1 has no function

SW3/2 Chroma Bandwidth

In the ON position the Chroma bandwidth is ±1.3 MHz and in the OFF position the bandwidth is ± 650 kHz.

SW3/3 and SW3/4

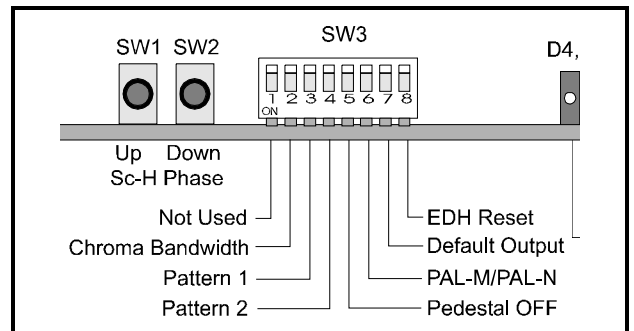
These two positions force the output to a particular state as shown in the table below:

Pattern 1 (SW3/3)	Pattern 2 (SW3/4)	Output
OFF	OFF	Video
ON	OFF	Black
OFF	ON	Modulated Ramp
ON	ON	Not Used

SW3/5 Pedestal OFF

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

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



SW3/6 PAL-N Output Standard

The output standard depends on two things:

1. The input standard
2. The setting of this switch position

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

If the detected input standard is 625 line this switch position can set the output standard to PAL (OFF) or PAL-N (ON)

Note that this switch function is not active if an input signal is not detected.

SW3/7 Default Output State

If no signal is detected at the serial input this switch determines the output signal produced. When the switch is in the ON position a modulated ramp signal will be produced; when it is in the OFF position a colour black signal will be produced.

SW3/8 EDH Reset

Setting this to the ON position resets the EDH log indicators D4 and D5.

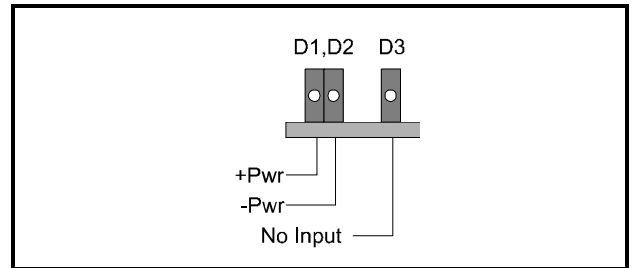
LED INDICATORS

Power Supplies

When illuminated, D1 and D2 indicate that the +5V and the -5V power supplies are present.

No Input

When D3 is illuminated this indicates that there is no serial input signal. The encoder will then be in the default output state set by SW3 position 7.

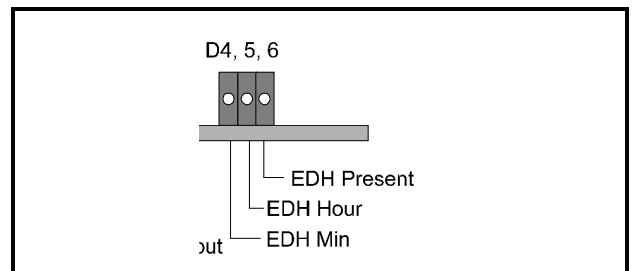


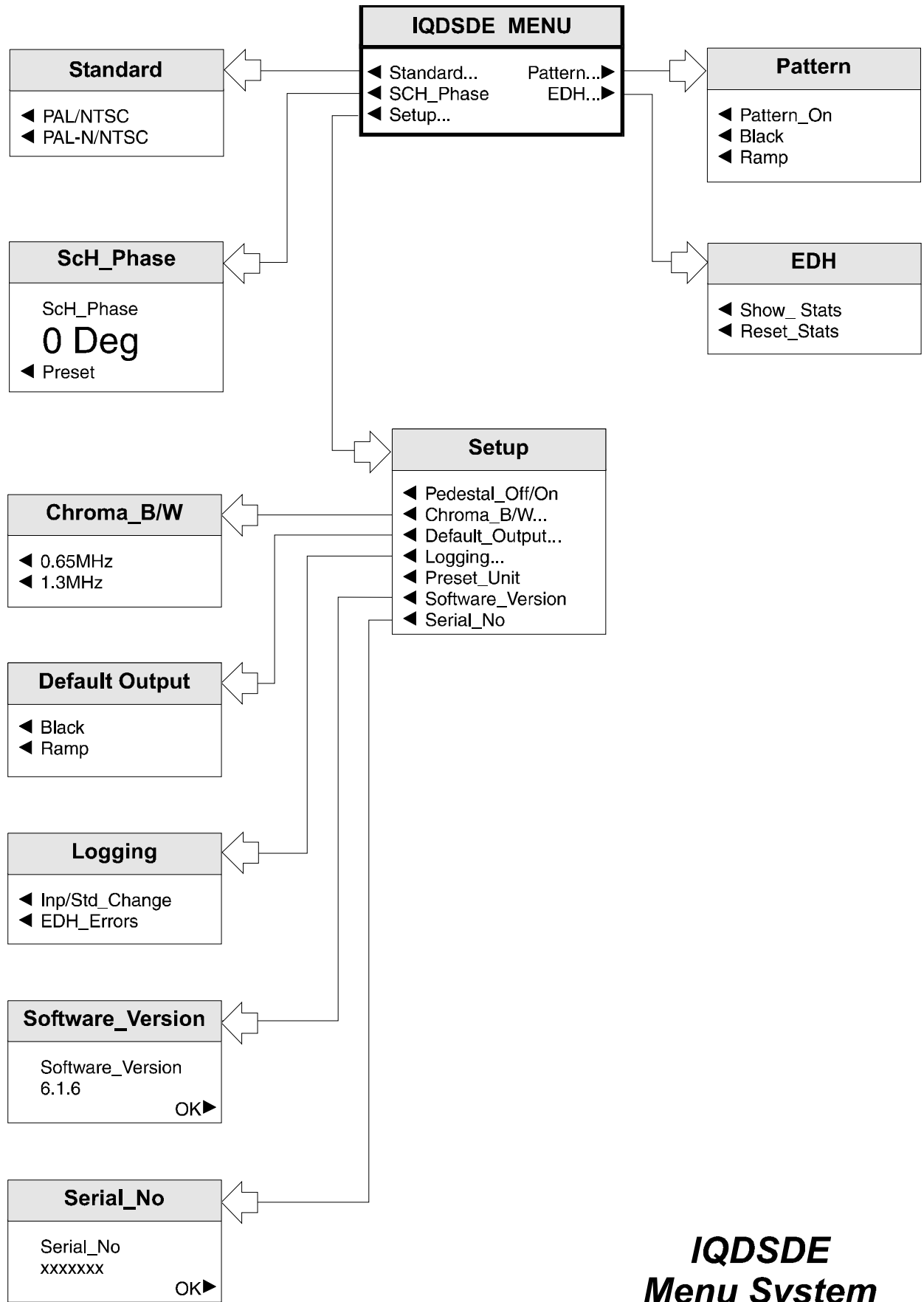
EDH Reporting

D6 will be illuminated if EDH data is present on the incoming signal

D4 indicates that an error has occurred in the last minute and D5 indicates that an error has occurred in the last hour.

Note that SW3/5 resets these indicators.





IQDSDE 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 page opposite 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 IQDSDE Menu System Opposite)

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.

◀ 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.

◀ ScH_Phase

The phasing relationship between subcarrier and the horizontal sync pulse edge may be set using this function and rotating the spinwheel. The range is 0° to 359° with a resolution of one degree.

Selecting Preset returns the setting to zero.

◀ SETUP

This function allows various system parameters to be setup.

◀ Pedestal_Off/On

When the unit is producing an NTSC output, the output waveform will contain a standard pedestal (set-up) This pedestal may be removed by selecting this function (the text will change from reversed to normal text) and the output level automatically restored to 140 IRE units p-p.

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

◀ Chroma_B/W

This menu allows the chrominance bandwidth to be set to either 0.65 MHz or 1.3 MHz.

◀ Default_Output

Selecting this sub-menu allows the output signal produced, when no input is detected, to be set to either colour Black or a Modulated Ramp.

◀ Logging

This sub-menu enables particular data to be sent to the logging device.

This data may be Input Loss/Standard Change or EDH Errors or both.

◀ Preset_Unit

Selecting this function will preset the unit to a known setup state as below;

Standard	PAL/NTSC
Pedestal	ON
ScH Phase	0°
Pattern	OFF

◀ Software_Version

This sub-menu will display the software version number fitted in the module. Press OK to quit and return to the previous menu.

◀ Serial No

This displays the serial number of the unit. Select OK to return to the setup menu

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 colour black output

◀ Ramp

Produces a modulated ramp output suitable for differential phase and gain measurements (ScH=0°)

*Note that if **Pattern_On** is not enabled normal processed video will be the output.*

◀ 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 (select Reset_Stats) resetting the error start time to zero.

