



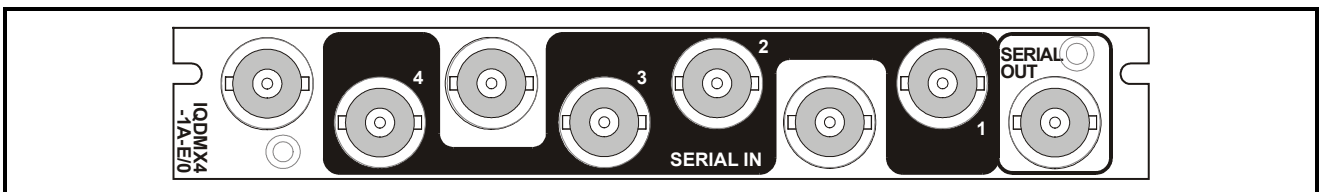
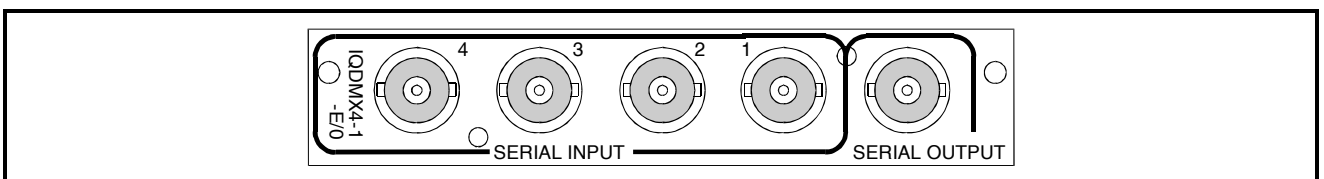
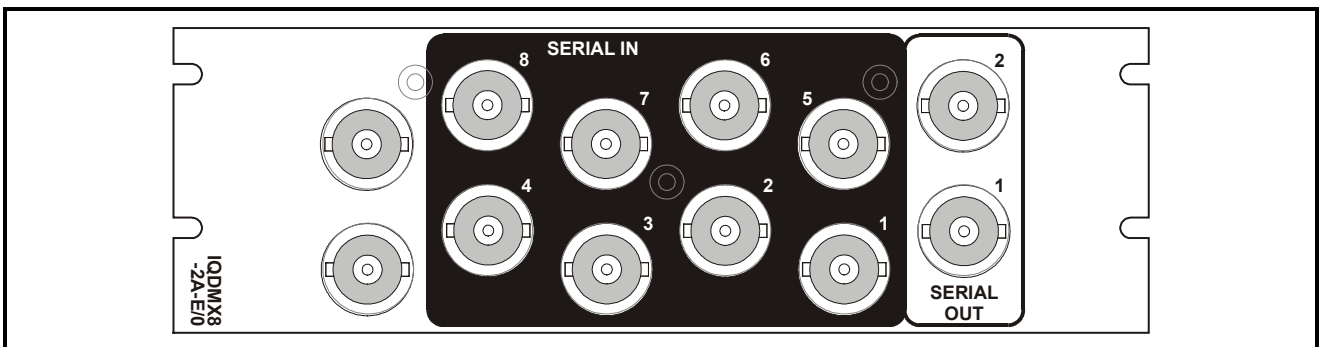
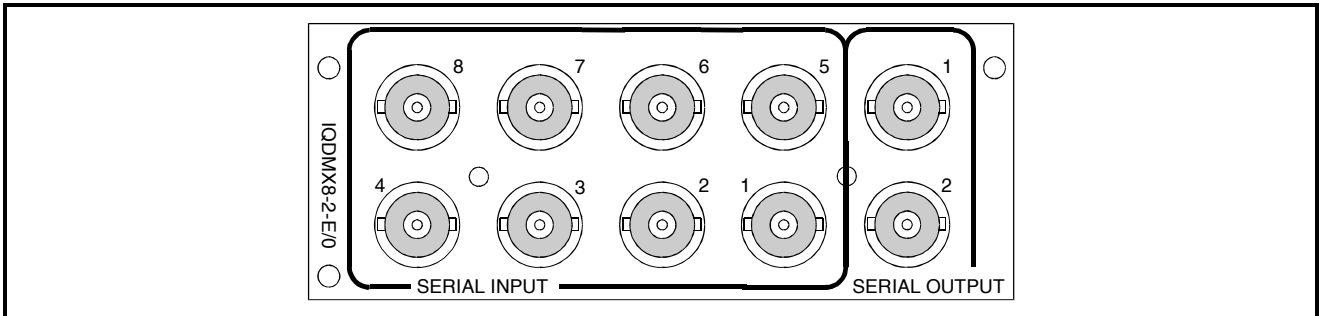
IQDMX4/8 Routers

Module Description

The IQDMX4 and IQDMX8 are 4 and 8 input router/switchers for both serial 4:2:2 and 4fsc video signals.

-E versions provide EDH to SMPTE RP 165.

REAR PANEL VIEWS



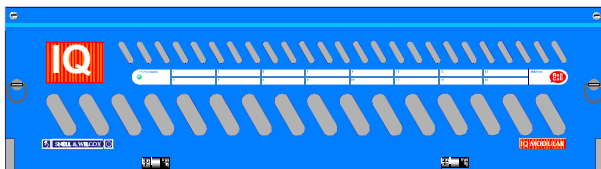
Versions of the module cards available are:

IQDMX4-1-0	4-input Serial Digital Switch	Single width module
IQDMX4-1-E	4-input Serial Digital Switch with EDH handling	Single width module
IQDMX8-2-0	8-input Serial Digital Switch	Double width module
IQDMX8-2-E	8-input Serial Digital Switch with EDH handling	Double width module
IQDMX4-1A-0	4-input Serial Digital Switch	Single width module
IQDMX4-1A-E	4-input Serial Digital Switch with EDH handling	Single width module
IQDMX8-2A-0	8-input Serial Digital Switch	Double width module
IQDMX8-2A-E	8-input Serial Digital Switch with EDH handling	Double 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

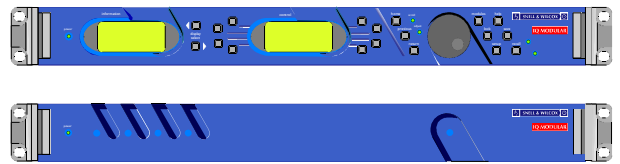
Rear panels **with** the suffix A may only be fitted into the ‘A’ style enclosure shown below.



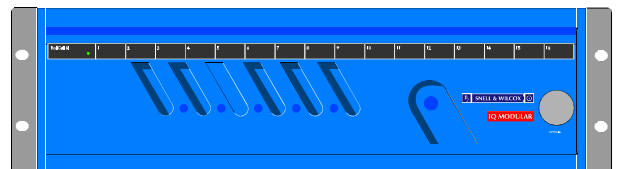
(Enclosure order codes IQH3A-E-O, IQH3A-E-P, IQH3A-N-O, IQH3A-N-P)

‘O’ Style Enclosures

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



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

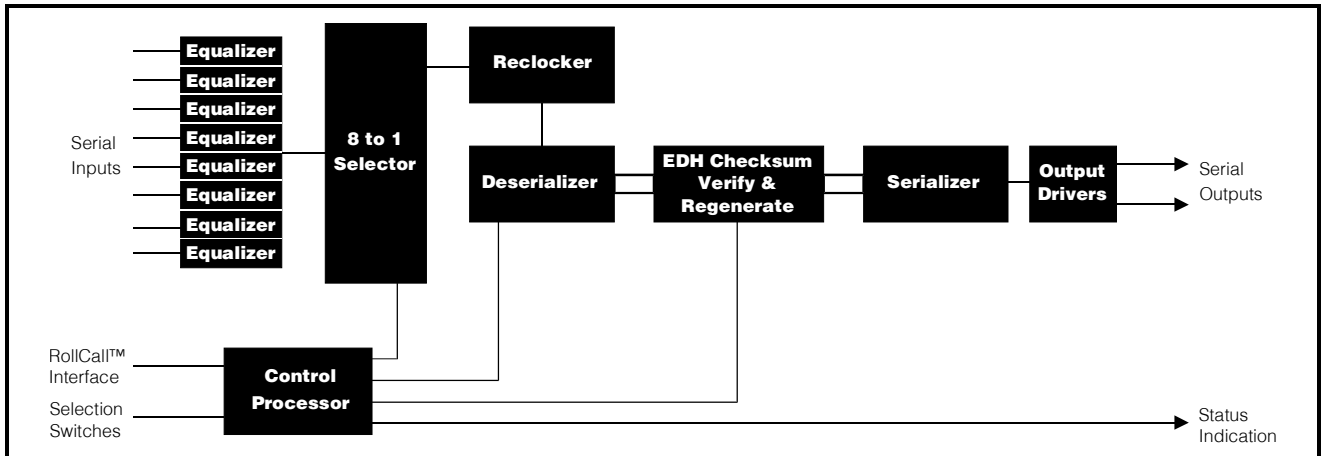


(Enclosure order codes IQH3N-O, IQH3N-P)



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

BLOCK DIAGRAM



Features

- 8(4) x 1(1) switcher/routers
- EDH as an option provides:
 - ◆ EDH code checking and insertion to SMPTE RP 165
 - ◆ EDH error statistics reporting over the RollCall™ network
 - ◆ EDH error history displayed on card edge LEDs
- ◆ Auto input format detect

Technical Profile

Features

Signal Inputs

Serial Input..... 4 (IQDMX4-1) or 8 (IQDMX8-2) SDI
 Standards SMPTE 259M-ABC-1997

Signal Outputs

Serial 1 (IQDMX-1) or 2 of the same source (IQDMX-2) serial digital
 Standards SMPTE 259M-ABC-1997

Card Edge Controls (also available via RollCall)

Channel Select 1 of 8 (4) channels

EDH Reset

Functions Available via RollCall™ Only (-E versions only)

Auto-Cycle Rate from 1 to 32,000 fields
 SDI Check..... Format Queried (525/625)
 EDH Error History
 Logging Channel Names
 EDH Errors
 Input Signal Status

Specifications

Note that these modules perform re-clocking.

Input Return Loss..... better than 15 dB to 270 MHz
 Maximum Input Cable Length
 125 m (D1 270 MHz)
 Output Return Loss..... better than 15 dB to 270 MHz
 D1 Video Delay approximately 10 ns
 approximately 425 ns (-E versions)

Power Consumption

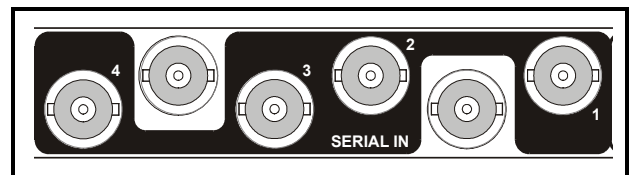
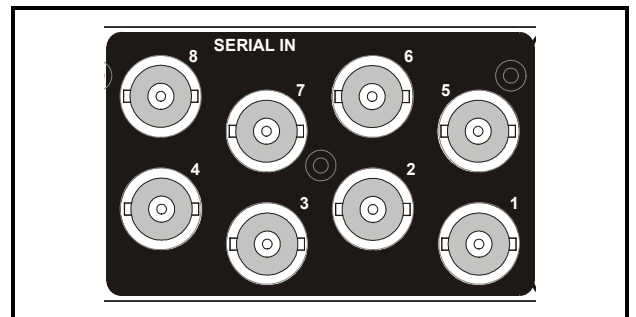
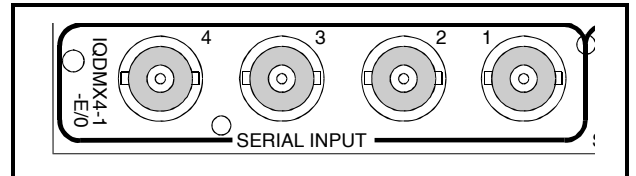
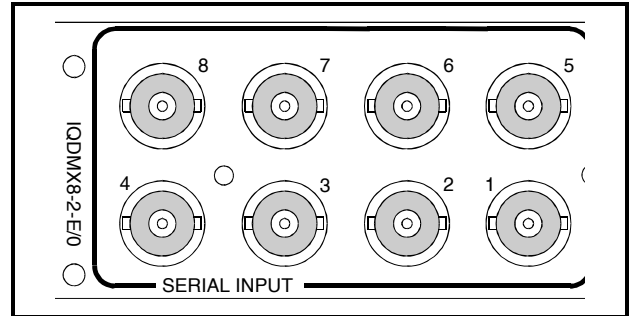
Module Power Consumption
 IQDMX4-E - 5.1 W max
 IQDMX4-0 - 5 W max
 IQDMX8-E - 6.2 W max
 IQDMX8-0 - 5 W max

INPUTS AND OUTPUTS

Serial Inputs

These are the serial digital inputs to the unit via BNC connectors which terminate in 75 Ohms.

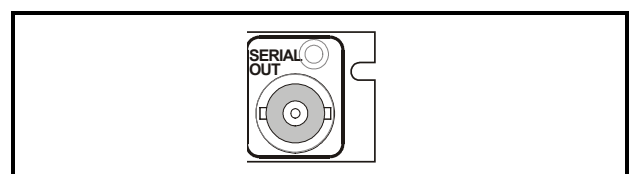
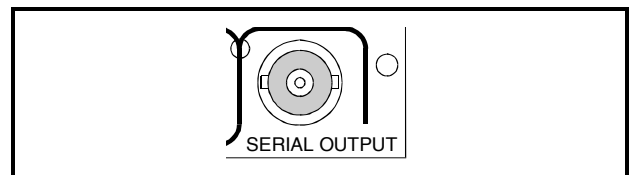
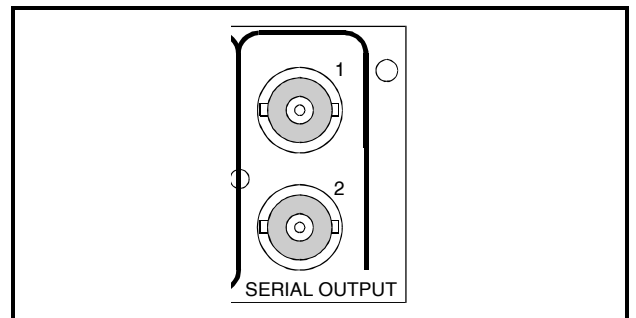
There are eight channels on the -2 versions and four on the -1 versions.



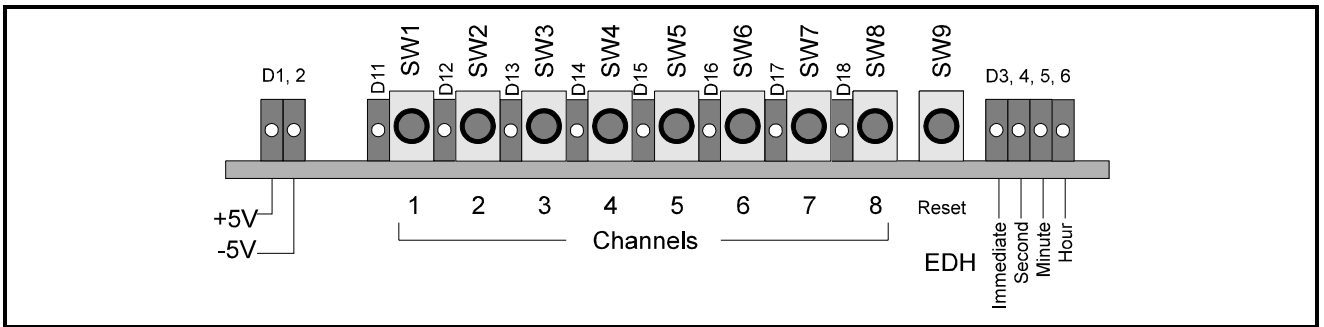
Serial Outputs

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

There are two outputs on the -2 versions and one on the -1 versions.



CARD EDGE CONTROLS

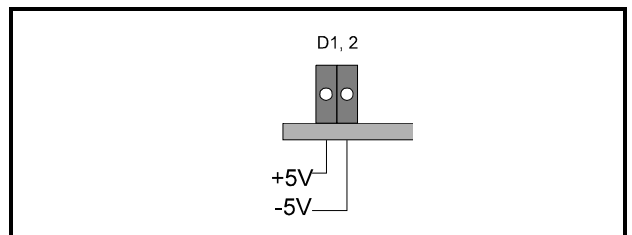


The unit will respond to both local and remote control, one system overriding the settings of the other. For cards using the RollCall™ remote control system, activating these switches will override the remote control settings. The RollCall™ control panel will then follow these settings.

LED INDICATORS

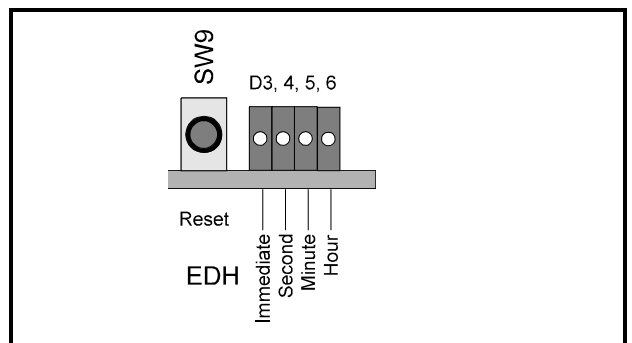
+5 V and -5 V

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



EDH System (-E units only)

These modules perform EDH checking and checksum re-insertion to SMPTE RP 165. EDH error history is indicated by the four LED's D3, 4, 5, and 6 showing when the last error occurred (immediately, in the last second, minute or hour), and can also be monitored over the network. Additionally, detailed statistics of errors per second over the previous minute can be accessed by the network.



The EDH error status of the module can be reset remotely via the network or via a push-button SW9.

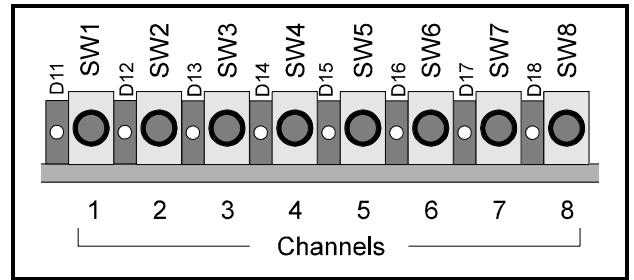
Note that when in AutoCycle mode SW9 also resets the AutoCycle rate to zero.

If the selected channel does not contain EDH data the Hour LED will flash at a 1 Hz rate and new EDH data will be inserted.

CHANNEL SELECT BUTTONS SW1-SW8

These are the buttons that select the input signal that is routed through to the output. The LED's adjacent left of the buttons report the signal status of the selected channel:

- ON Channel selected
- OFF Channel not selected
- Flashing No signal present



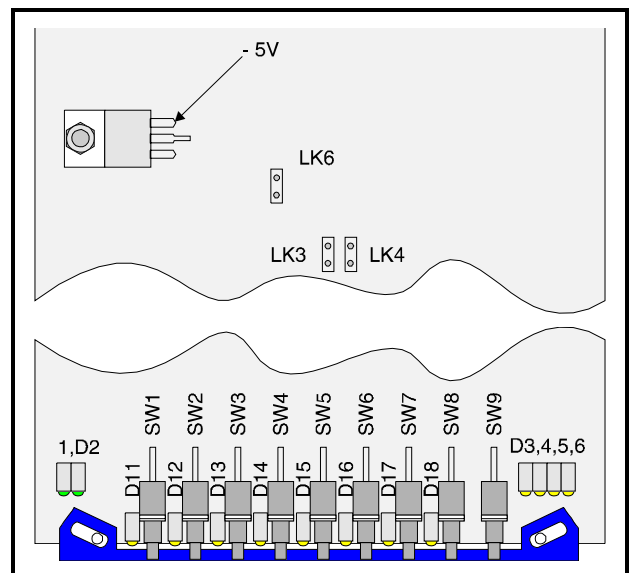
Channels without signals connected can be selected. An error will then be flagged to the Rollcall network.

All inputs must be synchronous although mixed formats may be applied. Modules with EDH capability (suffix -E) will switch on line 6 of the currently selected source and those without (suffix -0) will switch within 100ms of the button being pressed. The EDH-capable modules can be programmed for "Vidiplex" operation when used in a network environment. They may also be programmed to cycle through a list of channels at a rate definable between 1 and 32,000 fields via the RollCall system.

Pressing and holding two channel selector buttons will cause the unit to switch between the two inputs and the switching rate is determined by how long the buttons are held. Default is not 25 fields as the rate counts up from zero for the period the buttons are held.

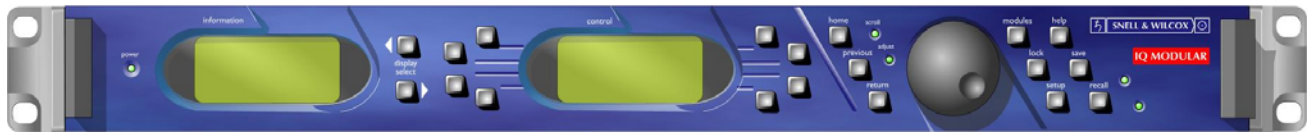
Power-Up Default Status

Note that in Mainframes where RollCall™ is not available the link LK4 (Remote) should be set to the OFF (unconnected) position. This ensures that when the unit is powered-up the factory default settings of parameters not available as card edge adjustments, are loaded. With the link in the ON (connected) position card will power-up with the last settings sent by the remote control panel. If this last known state means trying to select a channel that now has no signal connected, an error will be flagged to the network and the LED of the channel selected will flash.



Operation from an Active Control Panel

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



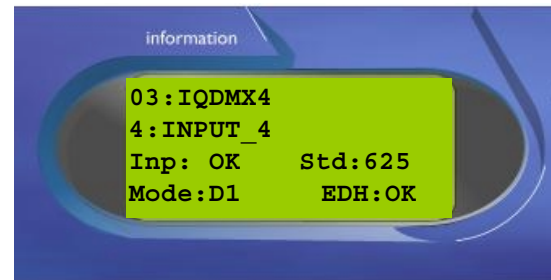
All operational parameters and selections are made using a system of menus displayed in two LCD windows.

Operational details for the remote control panel can be found in the Modular System Operator's Manual.

Information Window

The Information window has four lines of text indicating the current state of the unit.

For details of the abbreviations used please see page 10.

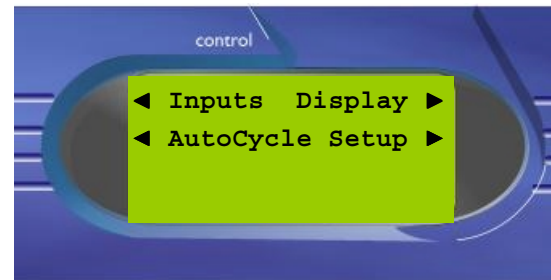


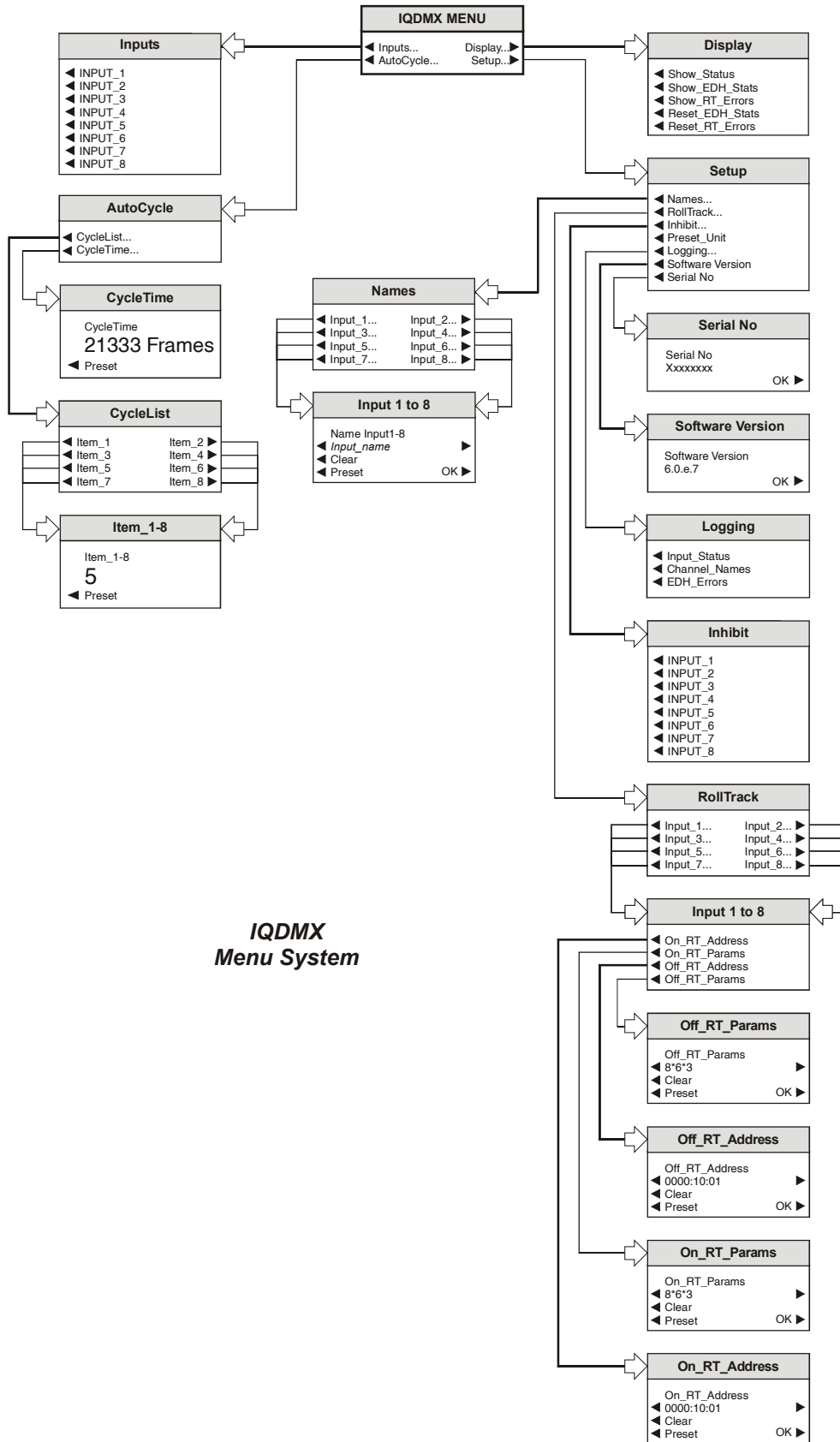
Control Window

The **Control** window displays all Selection Menus and sub-menus.

The selection is made by pressing the button adjacent to the required item.

The menu structure is detailed in the following pages.





IQDMX Menu System

The Menu System

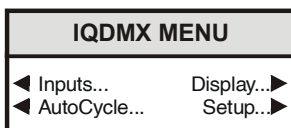
The system may be considered structured as a set of menus and sub-menus that are displayed in the LCD window.

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

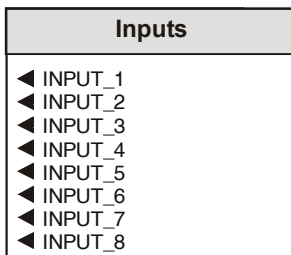
This sub-menu will then be displayed in the window and will have the option of selecting another sub-menu in the same manner, or allow the adjustment of a particular parameter. Parameters enabled will appear as highlighted reverse text (white text on a black background).

Note that RollCall features will not be updated when Autocycle is enabled, (this includes Display, Inputs, and RollTrack functions)

MAIN MENU



◀ Inputs

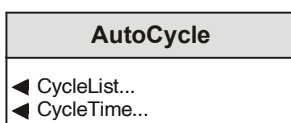


This menu allows one of the input channels to be selected and routed to the output.

Note that the channel names shown in this menu will be the names assigned via the Setup/Names menu and not necessarily the default names (INPUT_1 etc.).

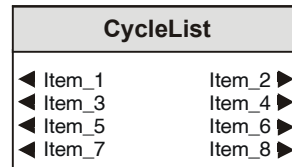
◀ AutoCycle

This menu allows inputs to be automatically selected in a pre-programmed sequence and connected and routed to the output for a predetermined time.



◀ CycleList

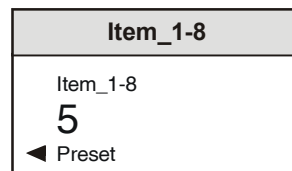
This menu allows the sequence to be programmed.



Item 1 will be the first to be selected, item 2 the second etc. When the item is selected from the list the input assignment window will appear.

◀ Item 1 to 8

This allows an input to be assigned to the selected position in the sequence.



The selected item may be assigned to input 1, 2, 3, 4, 5, 6, 7, 8 and to None.

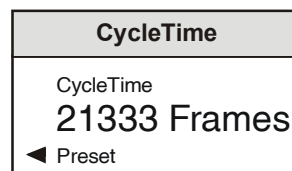
Note that when None is selected this position will be skipped. An inhibited input will also be ignored.

Starting and Stopping the AutoCycle function

The **AutoCycle** function will start as soon as the **Cycle Time** is set to a time greater than 0; it will stop when the time is set to 0 or an input is manually selected via the **Input** menu.

◀ CycleTime

This sets the length of time that the input is selected during the auto cycle sequence.



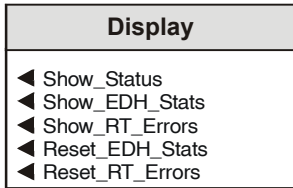
The length of time that the input is selected during the autocycle sequence may be adjusted in steps of 1 field using the spinwheel.

The range of adjustment is from 0 to 32,000 picture fields.

Preset is to 0.

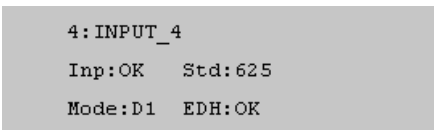
Display ►

This menu allows the selection of information that will be shown in the information window.



◀ Show Status

This will show the basic status of the module.



4: INPUT_4 The first line will show which input has been selected (4) followed by its name (INPUT_4).

The first item of the second line will show the status of the input. It may show:

- Inp: OK** A valid input has been detected
- Inp: **** An invalid input or no signal has been detected

The second item of the second line will show the line standard of the input. It may show:

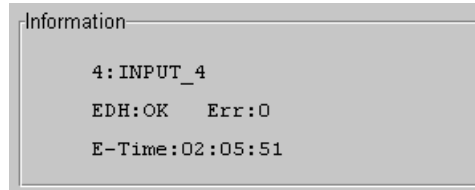
- Std: 625** A 625 line standard has been detected
- Std: 525** A 525 line standard has been detected
- Std: Unknown** The line standard is unknown

The first item of the third line will show the SDI format. It may show:

- Mode: D1** Signal is D1 format.
- Mode: D2P** Signal is D2 PAL format.
- Mode: D2N** Signal is D2 NTSC format.
- Mode: 360** Signal is Serial Component format at 360 Mbps.

◀ Show EDH Stats

This will show the EDH statistics.



The first item of the second line will show the EDH status. It may show:

- EDH: OK** No EDH or SDI errors found on the input signal
- EDH: FAIL** EDH errors have been found on the input signal.
- EDH: NONE** The unit is not locked to the input signal.

The second item of the second line will show the number of EDH errors that have occurred since the last EDH reset.

- Err: 0** No errors that have occurred since the last EDH reset.

The third line shows the time since EDH was reset in Hours:Minutes:Seconds.

- E-Time 02:05:51** Time since EDH was reset.

These items will be returned to zero when **◀ Reset EDH Stats** is selected.

Show RT Errors

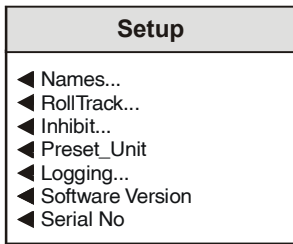
When this item is selected the last error detected will be displayed. This item will remain on screen until the reset is selected or a new error is detected, even when the original error has been corrected.

- RTE: None** No RollTrack errors.

This item will be returned to zero when **◀ Reset RT Errors** is selected.

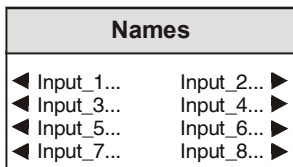
Setup ▶

This menu will allow various parameters to be set up.



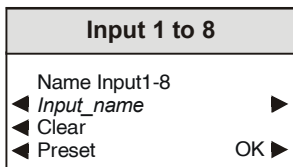
◀ Names

The name of the input channel may be changed using this menu.



◀ Input 1 to 8

Selecting one of the input names will reveal the edit box.



To edit the name, use the left ◀ and right ▶ buttons to change the position of the cursor, and the spinwheel to select the character.

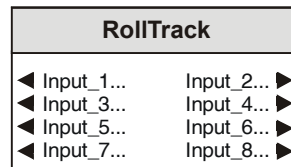
The ◀ **Clear** function blanks the selected character.

The ◀ **Preset** function loads the default text, for example, **Input_1**.

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

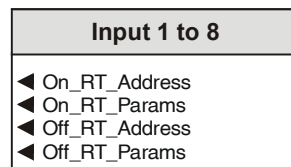
◀ RollTrack

This function allows information about the status of the module to be communicated to other RollTrack compatible units connected to the network. This message can then be used to cause another unit to perform a specific action.



◀ Input 1 to 8

A RollTrack command can be sent for each of the two routing conditions for each input, namely this input is routed, (ON), this input is not routed, (OFF).

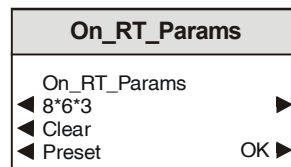


◀ On RT Address



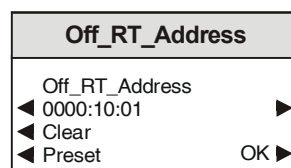
The On RollTrack Address may be set up using this window.

◀ On RT Params



The On RollTrack Parameters may be set up using this window.

◀ Off RT Address



The Off RollTrack Address may be set up using this window.

◀ RollTrack (continued)

◀ Off RT Params

Off_RT_Params	
Off_RT_Params	
◀ 8*6*3 ▶	
◀ Clear ▶	
◀ Preset ▶	OK ▶

The Off RollTrack Parameters may be set up using this window.

Entry format for RollTrack address fields, and RollTrack parameter fields.

RollTrack Address

The RollTrack address is a normal RollCall address, i.e. "nnnn:uu:pp" where nnnn is the network route, uu is the unit address, e.g. IQ chassis hex switch, and pp is the port, e.g. IQ slot number. All parts of the address are in hexadecimal.

RollTrack Parameter

The RollTrack Parameters are "cc*ii*vv", all in decimal, where cc is command number to control on the remote unit, ii is target/remote unit RollCall ID, (or zero to ignore ID checking), and vv is the command value to set on the remote unit.

In this example it will select input 4 on an IQDMX8-E in slot 1 of IQ chassis with address 10 on the local network, i.e. achieves router follow.

Note that the RollTracks may not work reliably when the module has or is reporting a RollTrack failure.

◀ Inhibit

Inhibit	
◀ INPUT_1	
◀ INPUT_2	
◀ INPUT_3	
◀ INPUT_4	
◀ INPUT_5	
◀ INPUT_6	
◀ INPUT_7	
◀ INPUT_8	

This function allows any of the inputs to be inhibited so that they are not available for selection.

◀ Preset Unit

Selecting this item sets all functions that have an adjustable value, to their factory default values.

◀ Logging (-E versions only)

Information about various parameters can be made available to logging devices via the RollCall network.

Logging	
◀ Input_Status	
◀ Channel_Names	
◀ EDH_Errors	

When the item is selected, the information is available for the logging device.

Preset is to no items selected.

◀ Software Version

Software Version	
Software Version	
6.0.e.7	OK ▶

This item will display the version number of the software fitted to the unit.

◀ Serial No

Serial No	
Serial No	
Xxxxxxxx	OK ▶

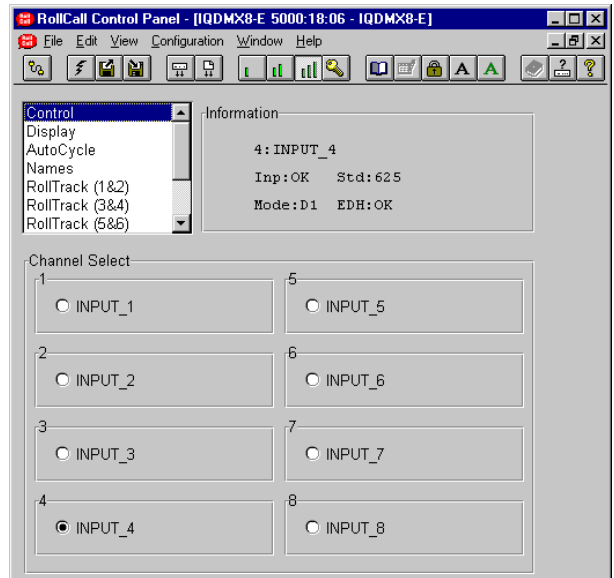
This item will display the serial number of the unit.

RollCall PC Control Panel Screens for the IQDMX

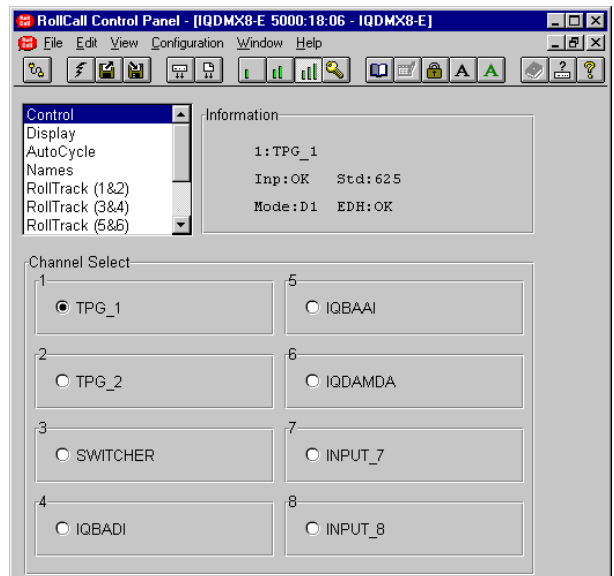
Note that RollCall features will not be updated when AutoCycle is enabled, (this includes Display, Controls, and RollTrack functions)

Control

This screen allows one of the input channels to be selected and routed to the output.



*Note that the channel names shown on this screen will be the names assigned via the **Names** screen and not necessarily the default names (INPUT_1 etc.) as shown in the example opposite.*

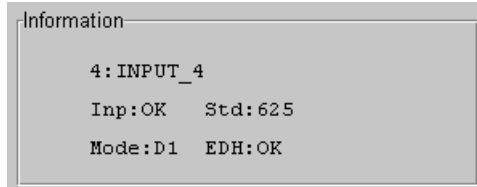


Display

This screen allows the selection of information that will be shown in the information window.

Show Status

When selected this will show the basic status of the module.



4: INPUT_4 The first line will show which input has been selected (4) followed by its name (INPUT_4).

The first item of the second line will show the status of the input. It may show:

Inp: OK A valid input has been detected

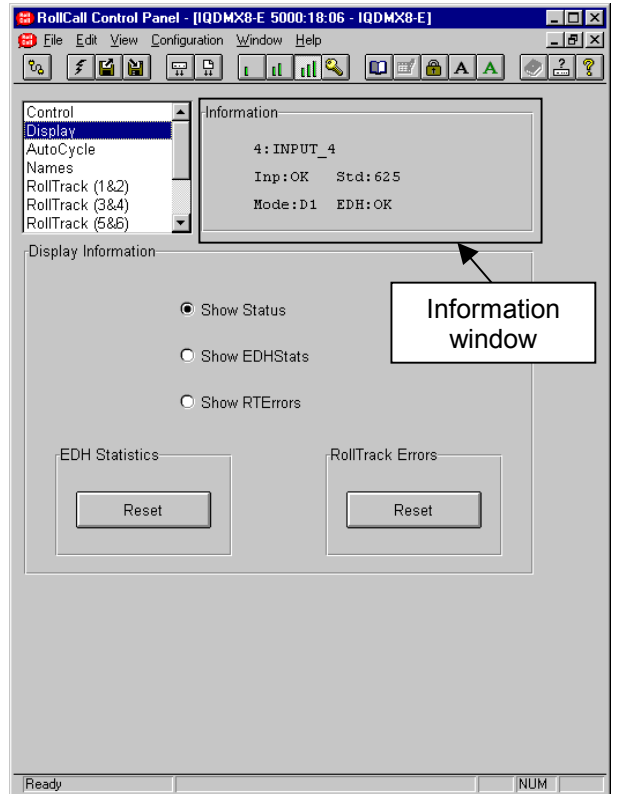
Inp: ** An invalid input or no signal has been detected

The second item of the second line will show the line standard of the input. It may show:

Std: 625 A 625 line standard has been detected

Std: 525 A 525 line standard has been detected

Std: Unknown The line standard is unknown



The first item of the third line will show the SDI mode. It may show:

Mode: D1 Signal is D1 format.

Mode: D2P Signal is D2 PAL format.

Mode: D2N Signal is D2 NTSC format.

Mode: 360 Signal is Serial Component format at 360 Mbps.

The second item of the third line will show the EDH status. It may show:

EDH: OK No EDH or SDI errors found on the input signal

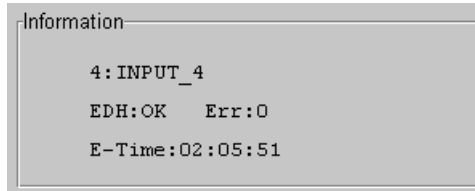
EDH: FAIL EDH errors have been found on the input signal.

EDH: NONE The unit is not locked to the input signal.

Display (continued)

Show EDH Stats

When selected this will show the EDH statistics.



The first item of the second line will show the EDH status. It may show:

- EDH: OK** No EDH or SDI errors found on the input signal
- EDH: FAIL** EDH errors have been found on the input signal.
- EDH: NONE** The unit is not locked to the input signal.

The second item of the second line will show the number of EDH errors that have occurred since the last EDH reset.

- Err: 0** No errors that have occurred since the last EDH reset.

The third line shows the time since EDH was reset in Hours:Minutes:Seconds.

- E-Time 02:05:51** Time since EDH was reset.

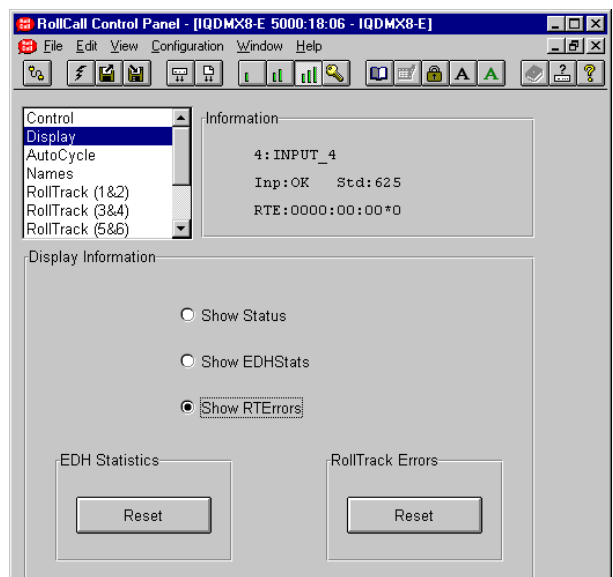
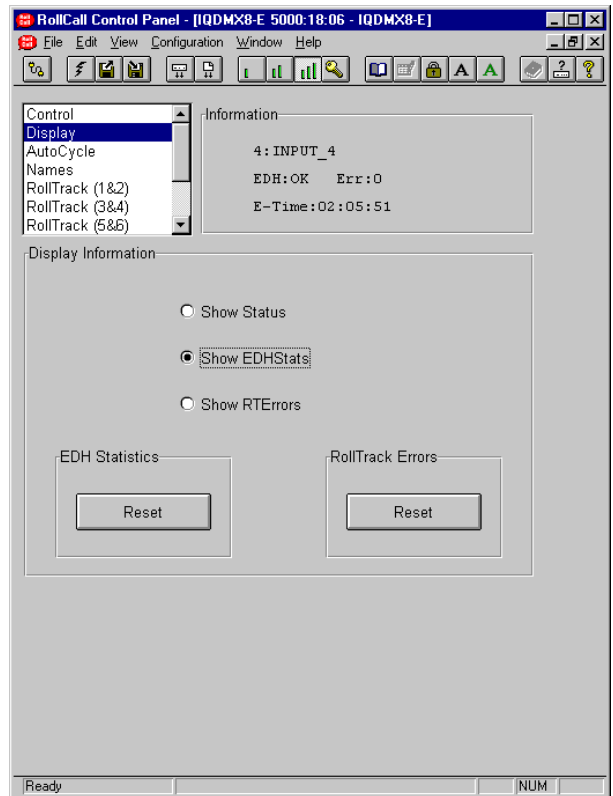
These items will be returned to zero when the **EDH Statistics / Reset** button is activated.

Show RTErrors

When this item is selected the last error detected will be displayed. This item will remain on screen until the reset is selected or a new error is detected, even when the original error has been corrected.

- RTE:None** No RollTrack errors.

This item will be returned to zero when the **RollTrack Errors / Reset** button is activated.






AutoCycle

Inputs may be automatically selected in a pre-programmed sequence and for a predetermined time.

Scroll bars

Note that for this and other screens the following applies:

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

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

The selected item is shown above the scroll bar.

Sequence Select

The scroll bars are numbered 1 to 8; this represents the order that the inputs are automatically selected.

The scroll bar allows any of the inputs (or none) to be selected and assigned to that position in the sequence.

Note that when None is selected this position will be skipped. An inhibited input will also be ignored.

Preset is to none.

In the example shown opposite the sequence is as follows: INPUT 5, INPUT 1, INPUT 3, INPUT 8, INPUT 6, INPUT 2, INPUT 4. Each signal will appear for a time of 15,000 frames set by the **Cycle Time** control.

Note that the sequence will be automatically repeated.

Starting and Stopping the AutoCycle function

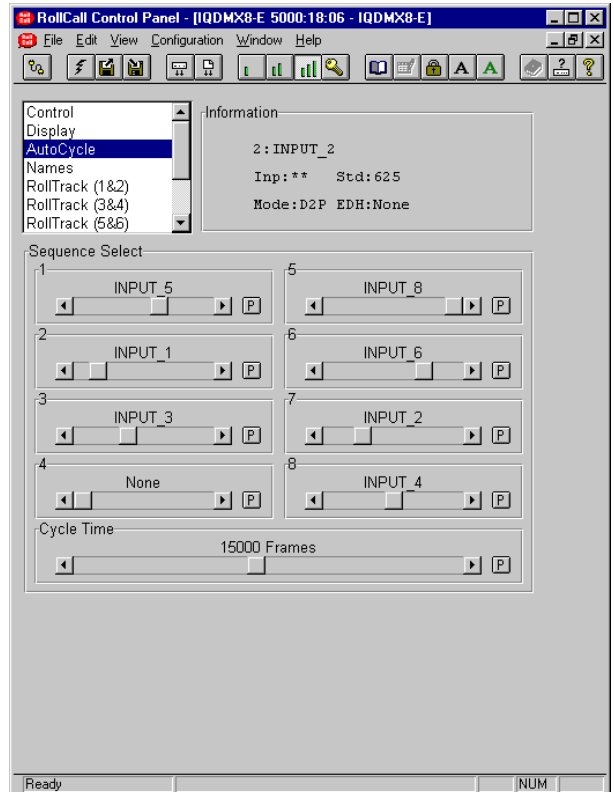
The **AutoCycle** function will start as soon as the **Cycle Time** is set to a time greater than 0; it will stop when the time is set to 0 or an input is manually selected via the **Control** screen.

Cycle Time

The length of time that the input is selected during the autocycle sequence may be adjusted in steps of 1 field with this scroll bar.


The range of adjustment is from 0 to 32,000 picture fields.


Preset is to 0.

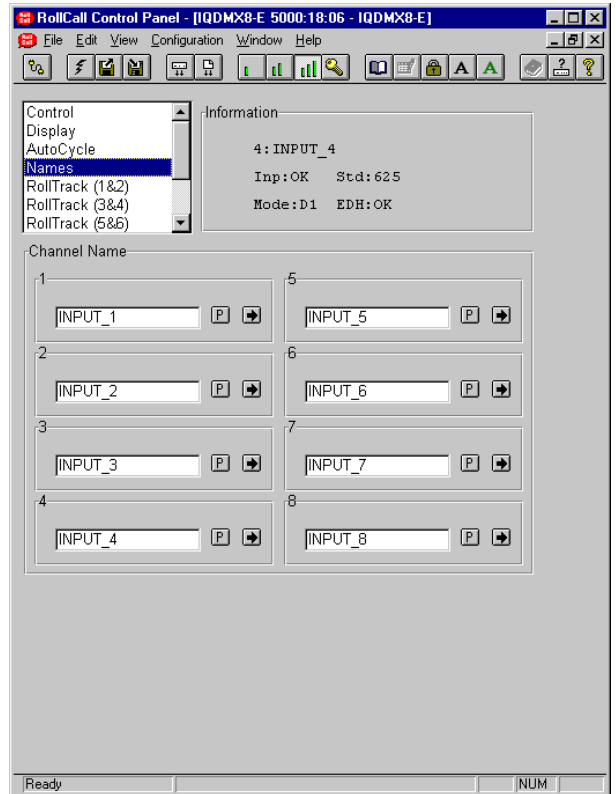


Names

The name of the input channel may be changed using this screen.

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. (Channel 1 to INPUT_1 etc.)



RollTrack (1 & 2) to (7 & 8)


This function allows information about the status of the module to be communicated to other RollTrack compatible units connected to the network. This message can then be used to cause another unit to perform a specific action.


Input 1 to 8

The status of each input (On or Off) may be sent to a specific address. This address may be set up using this screen.

On/Off RollTrack Address

This item allows the address of the 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.


Entry format for RollTrack address fields, and RollTrack parameter fields.


RollTrack Address

The RollTrack address is a normal RollCall address, i.e. "nnnn:uu:pp" where nnnn is the network route, uu is the unit address, e.g. IQ chassis hex switch, and pp is the port, e.g. IQ slot number. All parts of the address are in hexadecimal.

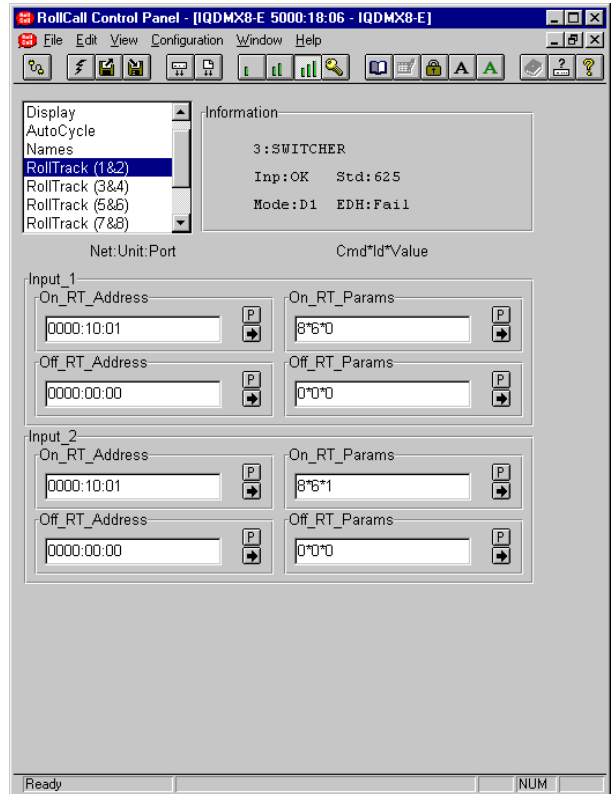
RollTrack Parameter

The RollTrack Parameters are "cc*ii*v", all in decimal, where cc is command number to control on the remote unit, ii is target/remote unit RollCall ID, (or zero to ignore ID checking), and vv is the command value to set on the remote unit. In this example it will select input 1 or 2 on an IQDMX8-E in slot 1 of IQ chassis with address 10 on the local network when input 1 or 2 is selected on this unit respectively, i.e. achieve router follow.

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

 (Preset) returns to the default (0) value.

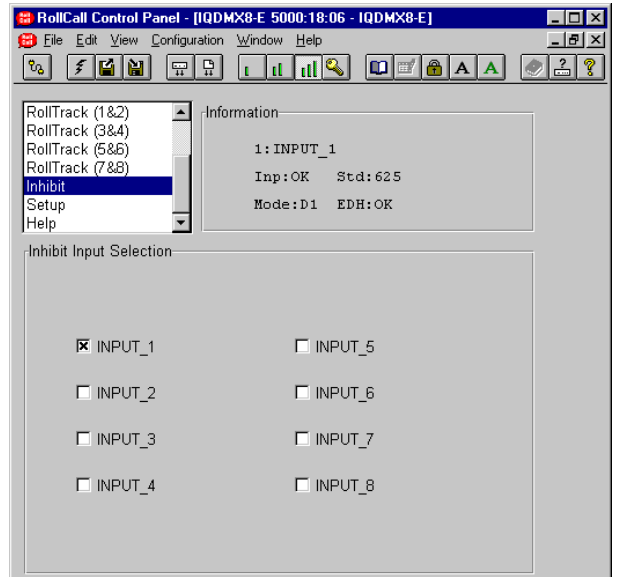
For a list of unit IDs, please contact your local Snell & Wilcox agent.



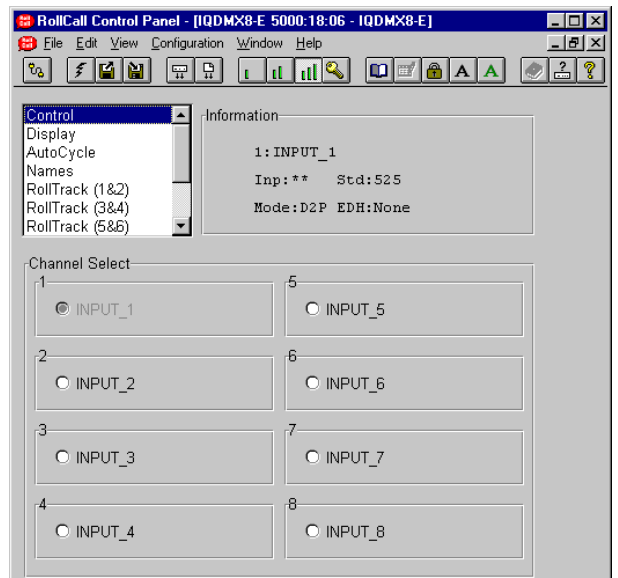
Note that the RollTracks may not work reliably when the module has or is reporting a RollTrack failure.

Inhibit

This screen allows any of the inputs to be inhibited so that they are not available for selection.



In the example opposite input 1 has been inhibited and this has been reflected in the Control screen where input 1 has been grayed out and therefore not available for selection.



Setup

Preset Unit

Selecting this item sets all functions that have an adjustable value, to their factory default values.

Status Logging (-E versions only)

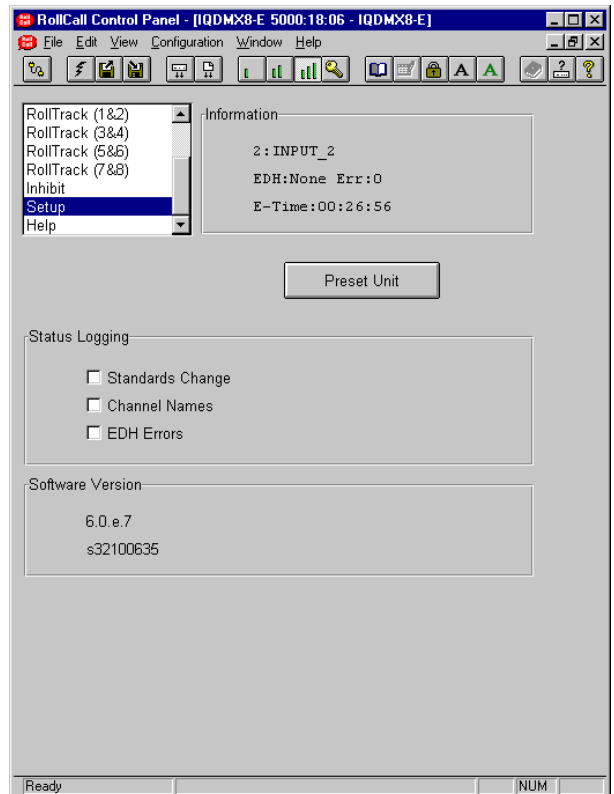
Information about various parameters can be made available to logging devices via the RollCall network.

When the item is selected, the information is available for the logging device.

Preset is to no items selected.

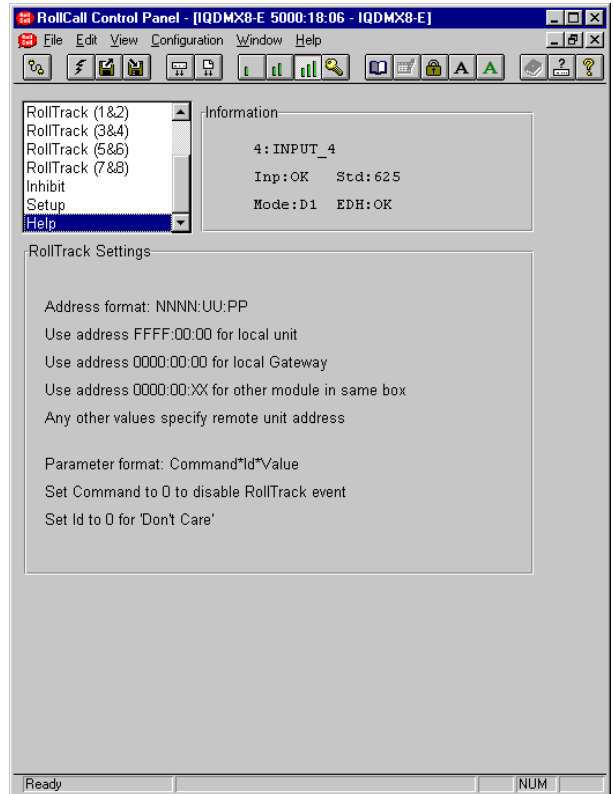
Software Version

This item will display the version number of the software fitted to the unit followed by the serial number.



Help

This screen provides information about the RollTrack settings.



Manual Revision Record

Date	Version No.	Issue No.	Change	Comments
290496				Existing manual
220897	2	1	Word version created	New issue released
271197	2	2	UES flag data added	New issue released
280302	2	3	Now includes information for the 3A enclosure modules	New manual issued
110403	2	4	Power consumption added to techspec	New manual issued
220304	2	5	For new software 6.0.e.7 New screens and menus	New issue released