

digital keying modular
interface audio
converters analogue video

ADDEC-100

Analogue to SDI decoding converter

USER MANUAL



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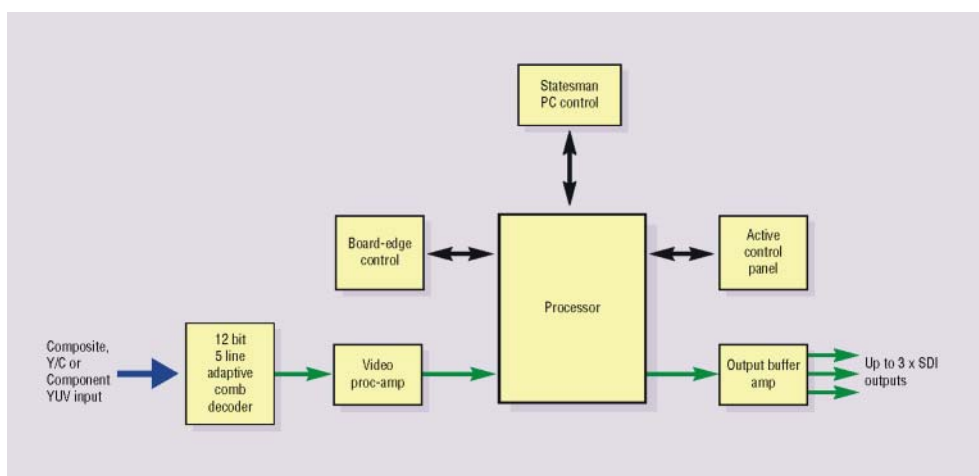
Revision 1. Board edge switch position information corrected. 14-06-07

1 Introduction

The ADDEC-100 decoder will convert PAL/NTSC composite, Y/C or YUV component video to SDI using a high quality 12-bit decoder which can deal with any source from broadcast quality to VHS, and will accept damaged or jittery signals. The data is sampled at 54 Mbit per second (four times oversampled) allowing the highest quality digital filtering. It also offers the latest in comb technology, with a five-line comb resulting in exceptional decoding. Timing, gains and levels are also adjustable.

The ADDEC-100 will fully integrate with any other interface or keying product from the Crystal Vision range. The large choice of control options, which include board edge control, local or remote active control panel and the Statesman PC Control System afford further flexibility.

- 12-bit digital decoding converter
- Suitable for all sources, from broadcast quality to VHS
- High quality digital filtering and 5-line comb
- Flexible control, including PC software.



ADDEC-100 12-bit Decoder

ADDEC-100 is a 100mm x 266mm module that fits in Crystal Vision's four standard frame sizes. 24 modules fit in 4U, 12 modules fit in 2U, six in 1U or two in a desktop box. The RM01, RM24, RM25 and RM27 are the rear modules available for the ADDEC-100.

1.1 Operating modes

Analogue video formats

The composite video input may be selected to be composite or Y/C PAL/NTSC or 525/625-line component YUV. Input standard selection is automatic and will follow the input video. Data in the VBI (vertical blanking interval) of the analogue composite input can be blanked or passed. NTSC- J and NTSC-M with or without 7.5% IRE setup is also selectable when receiving an NTSC format video input.

Video Input loss behaviour

The ADDEC-100 output will cut to blue immediately on loss of input video.

Status and control

Comprehensive status and control is available from the ADDEC-100 using the board edge menu selection switches and LEDs. Control and status reporting is also available from either an active frame front or remote active control panel. PC control is also available using Crystal Vision's Statesman PC control software.

Note: When the ADDEC-100 is set to remote control mode the position of the board edge switches may not reflect the actual configuration of the card. Returning the card to local control will reassert the board edge configuration.

2 Hardware installation


The ADDEC-100 single height module uses the RM01 and RM24 single height, RM27 double height and RM25 quad height (Indigo 2 and Indigo 4 frames only) rear connectors and fits into all Crystal Vision rack frames. All modules can be plugged in and removed while the frame is powered without damage.

2.1 Rear modules and signal I/O

The Indigo 4 4U frame will house up to 24 single height modules with up to three power supplies. The Indigo 2 2U frames will house up to 12 single height modules and dual power supplies. The Indigo 1 1U frames will house six single height modules and a single or dual power supply. The Indigo DT desktop boxes have a built-in power supply and will house up to two single height modules.

Note: For details of fitting rear connectors please refer to the appropriate frame manual.


Rear module connections with RM01

RM01 fits in all frames	Description
	RM01 <ul style="list-style-type: none"> • 24 ADDEC-100 modules per Indigo 4 frame • 12 per Indigo 2 frame • Six per Indigo 1 frame • 2 per Indigo DT • All frame slots can be used

BNC	I/O assignment
SDI OUT	Serial digital output
SDI OUT	Serial digital output
V/SDI OUT	Component V / SDI output (link selectable)
Y/ PAL/NTSC IN	Component Y, YC-Y / PAL/NTSC input
U/C/SDI OUT	Component U / YC-C / Serial digital output (link selectable)
NC	No user connection

Rear module connections with RM24

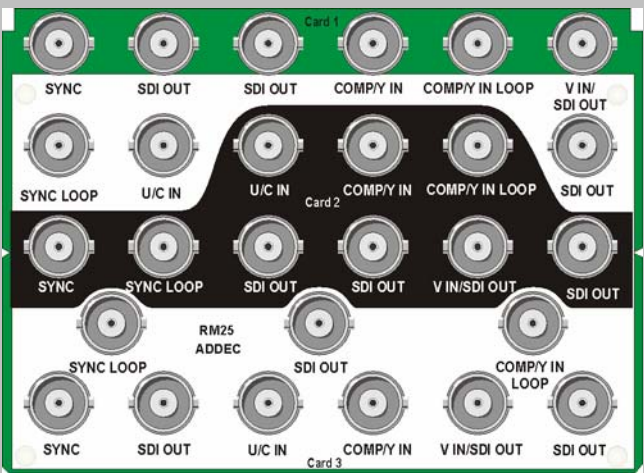
The RM24 although having restricted inputs can be used when a loop-through is required for a composite PAL/NTSC input.

RM24 fits in all frames	Description
	<p>RM24</p> <ul style="list-style-type: none"> • 24 ADDEC-100 modules per Indigo 4 frame • 12 per Indigo 2 frame • Six per Indigo 1 frame • 2 per Indigo DT • All frame slots can be used

BNC	I/O assignment
SYNC LOOP	No user connection
SDI OUT	Serial digital output
SDI OUT	Serial digital output
PAL/NTSC IN	Component PAL/NTSC input
PAL/NTSC LOOP	Component PAL/NTSC input loop-through
SYNC IN	No user connection

Rear module connections with RM25

The RM25 combines an increased number of connections with a slightly decreased packing density. Modules may be fitted in the top two and bottom slots.

RM25 fits in Indigo 2 and Indigo 4 frames	Description
	<p>RM25</p> <ul style="list-style-type: none"> • 9 ADDEC-100 modules per Indigo 4 frame • 9 per Indigo 2 frame • Not supported by Indigo 1 or Indigo DT frames • Two top slots and bottom slot can be used

Channel A	I/O assignment
SDI OUT	Serial digital output
V IN/SDI OUT	Component V / SDI output (link selectable)
COMP/Y IN LOOP	Component Y or PAL/NTSC input loop-through
COMP/Y IN	Component Y or PAL/NTSC input
SDI OUT	Serial digital output
SDI OUT	Serial digital output
SYNC	No user connection
SYNC LOOP	No user connection
U/C	Component U / YC-C input

Rear module connections with RM27

The RM27 is a dual height rear module, which although restricts the number that can be fitted into each style of frame, allows the maximum number of outputs - up to four serial digital. When fitted the ADDEC-100 uses the top slot of any pair.

RM27 fits in all frames	Description
	<p>RM27</p> <ul style="list-style-type: none"> • 12 ADDEC-100 modules per Indigo 4 frame • Six per Indigo 2 frame • Three per Indigo 1 frame • 1 per Indigo DT • Every other slot can be used

Channel A	I/O assignment
TP	No user connection
SDI OUT	Serial digital output
V IN/SDI OUT	Component V / SDI output (link selectable)
N/C	No user connection
SYNC	No user connection
SYNC LOOP	No user connection

N/C	No user connection
COMP / Y IN	Component Y, YC-Y / PAL/NTSC input
COMP / Y IN LOOP	Component Y, YC-Y / PAL/NTSC input loop-through
SDI OUT	Serial digital output
U/C	Component U / YC-C input
SDI OUT	Serial digital output

Note: For details of fitting rear connectors please refer to the appropriate frame manual.

Module configuration

The ADDEC-100 has four user selectable jumper links, which are used to configure both the Component U / YC-C / Serial digital output and the Component V / SDI output.

V / SDI OUT port configuration

The Component V / SDI OUT port can be configured by setting the position of links PL2 & PL5 (to be found just above the middle right hand edge of the module). When a Component V input is required set jumper links PL2 & PL5 to their upper position. Set jumper PL2 & PL5 to their lower position when a further SDI output is required.

Note links PL2 & PL5 must be moved together as a pair.

Link	Position	Select loop-through or termination of reference syncs
PL2 & PL5	Above centre right hand edge	Links in their upper position – Set for V IN Link in their lower position – Set for SDI OUT

U / YC-C / SDI OUT port configuration

The Component U / YC-C / SDI OUT port can be configured by setting the position of links PL3 & PL6 (to be found approximately in the middle right hand edge of the module). When a Component U or C input is required set jumper links PL3 & PL6 to their upper position. Set jumper PL3 & PL6 to their lower position when a further SDI output is required.

Note links PL3 & PL6 must be moved together as a pair.

Link	Position	Select loop through or termination of reference syncs
PL3 & PL6	Centre right hand edge	Links in their upper position – Set for U / C IN Link in their lower position – Set for SDI OUT

2.2 General Purpose Interface (GPI)

The ADDEC-100, like most Crystal Vision modules, is equipped with GPI control I/O.

GPI			Low (<1V)	High (+5V)
0-3	'a-d'	No connection		
4	'e'	No connection		
5	'f'	Loss of input	Alarmed	Not alarmed

As supplied, each GPI output has a 220Ω resistor in series with its output. This allows for an external LED to be driven, connected to a DC voltage of +5V.

4U frame GPI connections

GPI lines 'a' to 'f' of each card connect to two of eight rear remote connectors as follows:

Slot no.	'a' pin	'b' pin	'c' pin	'd' pin	'e' pin	'f' pin
1	8 (1)	9 (1)	18 (1)	26 (1)	19 (2)	20 (2)
2	7 (1)	16 (1)	17 (1)	25 (1)	10 (2)	11 (2)
3	8 (3)	9 (3)	18 (3)	26 (3)	19 (4)	20 (4)
4	7 (3)	16 (3)	17 (3)	25 (3)	10 (4)	11 (4)
5	5 (1)	6 (1)	15 (1)	24 (1)	1 (2)	2 (2)
6	4 (1)	14 (1)	13 (1)	23 (1)	3 (2)	4 (2)
7	5 (3)	6 (3)	15 (3)	24 (3)	1 (4)	2 (4)
8	4 (3)	14 (3)	13 (3)	23 (3)	3 (4)	4 (4)
9	3 (1)	12 (1)	22 (1)	21 (1)	12 (2)	13 (2)
10	10 (1)	11 (1)	19 (1)	20 (1)	21 (2)	22 (2)
11	3 (3)	12 (3)	22 (3)	21 (3)	12 (4)	13 (4)
12	10 (3)	11 (3)	19 (3)	20 (3)	21 (4)	22 (4)
Slot no.	'a' pin	'b' pin	'c' pin	'd' pin	'e' pin	'f' pin
1	8 (5)	9 (5)	18 (5)	26 (5)	19 (6)	20 (6)
2	7 (5)	16 (5)	17 (5)	25 (5)	10 (6)	11 (6)
3	8 (7)	9 (7)	18 (7)	26 (7)	19 (8)	20 (8)
4	7 (7)	16 (7)	17 (7)	25 (7)	10 (8)	11 (8)
5	5 (5)	6 (5)	15 (5)	24 (5)	1 (6)	2 (6)
6	4 (5)	14 (5)	13 (5)	23 (5)	3 (6)	4 (6)
7	5 (7)	6 (7)	15 (7)	24 (7)	1 (8)	2 (8)
8	4 (7)	14 (7)	13 (7)	23 (7)	3 (8)	4 (8)
9	3 (5)	12 (5)	22 (5)	21 (5)	12 (6)	13 (6)
10	10 (5)	11 (5)	19 (5)	20 (5)	21 (6)	22 (6)
11	3 (7)	12 (7)	22 (7)	21 (7)	12 (8)	13 (8)
12	10 (7)	11 (7)	19 (7)	20 (7)	21 (8)	22 (8)

Table shows pin number (remote number)

Note: Remote 1, Remote 3, Remote 5 and Remote 7 are 26 way high-density D-Type female sockets. Frame ground is pin 2 and +5V @500mA is pin 1 in each case.
Remote 2, Remote 4, Remote 6 and Remote 8 are 26 way high-density D-Type male plugs and frame ground is pin 6 in each case and +5V @500mA is pin 15 on Remote 2 and Remote 6.
Note. The +5V output is protected by self-resetting thermal fuses, which limit the total output current available from Remotes 1-4 to approximately 1A. Remotes 5-8 are similarly protected.

2U frame GPI connections

GPI lines 'a' to 'f' of each card connect to two of four rear remote connectors as follows:

Slot no.	'a' pin	'b' pin	'c' pin	'd' pin	'e' pin	'f' pin
1	8 (1)	9 (1)	18 (1)	26 (1)	19 (2)	20 (2)
2	7 (1)	16 (1)	17 (1)	25 (1)	10 (2)	11 (2)
3	8 (3)	9 (3)	18 (3)	26 (3)	19 (4)	20 (4)
4	7 (3)	16 (3)	17 (3)	25 (3)	10 (4)	11 (4)
5	5 (1)	6 (1)	15 (1)	24 (1)	1 (2)	2 (2)
6	4 (1)	14 (1)	13 (1)	23 (1)	3 (2)	4 (2)
7	5 (3)	6 (3)	15 (3)	24 (3)	1 (4)	2 (4)
8	4 (3)	14 (3)	13 (3)	23 (3)	3 (4)	4 (4)
9	3 (1)	12 (1)	22 (1)	21 (1)	12 (2)	13 (2)
10	10 (1)	11 (1)	19 (1)	20 (1)	21 (2)	22 (2)
11	3 (3)	12 (3)	22 (3)	21 (3)	12 (4)	13 (4)
12	10 (3)	11 (3)	19 (3)	20 (3)	21 (4)	22 (4)

Table shows pin number (remote number)

Note: Remote 1 and Remote 3 are 26 way high-density D-Type female sockets. Frame ground is pin 2 and +5V @500mA is pin 1 in each case.
Remote 2 and Remote 4 are 26 way high-density D-Type male plugs and frame ground is pin 6 in each case and +5V @500mA is pin 15 on Remote 2.
Note. The +5V output is protected by self-resetting thermal fuses, which limit the total output current available from Remotes 1-4 to approximately 1A.

1U frame GPI connections

GPI lines 'a' to 'f' of each card connect to the two rear remote connectors as follows:

Slot no.	'a' pin	'b' pin	'c' pin	'd' pin	'e' pin	'f' pin
1	8 (1)	9 (1)	18 (1)	26 (1)	19 (2)	20 (2)
2	7 (1)	16 (1)	17 (1)	25 (1)	10 (2)	11 (2)
3	5 (1)	6 (1)	15 (1)	24 (1)	1 (2)	2 (2)
4	4 (1)	14 (1)	13 (1)	23 (1)	3 (2)	4 (2)
5	3 (1)	12 (1)	22 (1)	21 (1)	12 (2)	13 (2)
6	10 (1)	11 (1)	19 (1)	20 (1)	21 (2)	22 (2)

Table shows pin number (remote number)

- Note:** Remote 1: 26 way high-density D-Type female socket. Frame ground is pin 2 and +5V @500mA is pin 1.
 Remote 2: 26 way high-density D-Type male plugs and frame ground is pin 6 and +5V @500mA is pin 15
 Note. The +5V output is protected by self-resetting thermal fuses, which limit the total output current available from Remotes 1-2 to approximately 1A.

Indigo DT desk top box GPI connections

GPI lines 'a' to 'f' of each card connect to the two rear remote connectors as follows:

Slot no.	'a' pin	'b' pin	'c' pin	'd' pin	'e' pin	'f' pin
1	8 (1)	9 (1)	18 (1)	26 (1)	19 (2)	20 (2)
2	7 (1)	16 (1)	17 (1)	25 (1)	10 (2)	11 (2)

Table shows pin number (remote number)

- Note:** Remote 1: 26 way high-density D-Type female socket. Frame ground is pin 2 and +5V @500mA is pin 1.
 Remote 2: 26 way high-density D-Type male plugs and frame ground is pin 6 and +5V @500mA is pin 15
 Note. The +5V output is protected by self-resetting thermal fuses, which limit the total output current available from Remotes 1-2 to approximately 1A.

3 Card edge operation

The hinged front panel of the case reveals the card user controls and LED indication of card status.



ADDEC-100 front view showing controls and LEDs

3.1 Card edge switch settings

The 8-way piano switch allows the operating modes and status options to be selected.

Lever	Function	Normal state Up, Action Down
1	Input format	DOWN Y/C
2	Input format	DOWN YUV
3	Not assigned	Normally UP, No customer functions
4	YUV Betacam format	UP normal, DOWN Betacam format
5	Pedestal	UP pedestal setup is suppressed. DOWN pedestal setup unsuppressed
6	VBI	UP Information in the vertical interval is passed. DOWN blanked
7	Not assigned	Normally UP, No customer functions
8	Control	UP Controlled from the board edge. DOWN Statesman or Active front panel control.

8-way DIL switch functions

3.2 Reading card edge LEDs

Card edge LEDs may be used in conjunction with status information from any connected remote status panel display or from Statesman if available.

Refer also to the trouble shooting chapter for more help with solving problems and monitoring status information.

The following table summarises the card edge LED functions and colours:

Name	LED Colour	Function when ON
PSU OK	Green	Good power supply (PSU) rails. (Bottom LED)
Input	Green	Video input present

3.3 Card edge configuration

Input Video format

Selecting the Input video format

The ADDEC-100 can be configured to accept three analogue video input formats: PAL/NTSC composite, Y/C or Component YUV.

DIP Switch	Composite	Y/C	YUV	Composite
3	UP	DOWN	UP	DOWN
4	UP	UP	DOWN	DOWN

Suppressing NTSC setup (pedestal)

The ADDEC-100 can accept the two common 525 composite signals formats, NTSC-M and NTSC-J (Japan). Before conversion to a SDI signal the 7.5% IRE setup (pedestal) applied to an NTSC-M waveform will need to be suppressed.

DIP 5		NTSC pedestal on/off
UP	M	Sets ADDEC-100 to suppress the +7.5% IRE setup
DOWN	J	Sets ADDEC-100 to no suppression

Vertical blanking interval data

The information in the vertical blanking period of the analogue input video picture may be blanked or passed unaltered. DIL switch 6 sets whether the VBI signal is passed or blanked.

DIP 6		VBI on/off
UP	vbi	Sets analogue video picture VBI content to be blanked
DOWN	bln	Sets analogue video picture VBI content to be passed to the output

Control

As well as controlling the ADDEC-100 from the card edge, an extended range of controls are available when using the active control panel or Statesman PC control software.

DIP 8		Control
UP	loc	Local, board edge control available
DOWN	rem	Remote control selected. Board edge controls are non-functional

Factory Reset

Re-powering the card with switch DIP 1 set to DOWN will return all values and levels to their default setting. Once the card has finished its power-up routine return DIP 1.

Note: DIP 8 must be set to Up (board edge control).

4 Using the active front panel

4.1 Module selected

This operational guide assumes that the panel has been set up according to the Panel setup procedure described in the Crystal Vision Control Panel manual.

Note: It is **ESSENTIAL** that the Panel setup procedure is followed and any old or unknown passwords cleared prior to using the panel for the first time.

At power up, the two line 20-character screen will display 'Crystal Vision' followed by the firmware version number for the control panel. All eight control panel keys LEDs will illuminate.



The Crystal Vision control panel start up display

'Control Panel' then briefly replaces the version number display.



If the control panel firmware has been updated for Statesman control (version 1.5.0 or higher), Statesman Mode will be entered and the message, 'Press CAL to Exit' will be displayed and the CAL LED will light.



Statesman mode is entered by default

To continue with control panel operation or configuration, press the CAL key once. A second press of the CAL key will return to Statesman control.

The control panel will display the name of the card that first responds to the polling request together with its location number.

The location number consists of the frame number plus the card position in the frame.

Navigating the display

The functions assigned to control panel keys are:

- DEVICE – enters Device menu to select a card or show cards available / enters Panel setup when held down during power up / shows frame status when pressed from Statesman mode
- CAL – enters or leaves Statesman mode / enters panel diagnostics mode when held down during power up / updates the display
- Asterisk – enters board rename menu from the Device menu
- F1 to F4 – soft keys, function assigned within each menu
- HOME – moves the display to the home menu
- ENTER – accept current selection
- Upward arrow – used to move up the menu structure / enter lock panel menu from the Device menu
- Rotary control – shaft encoder used to select options or variable data

Menu numbering scheme

This manual uses a simple menu numbering convention based on the sequence of keys required to reach each menu from the top level home menu. For example, menu 1.1.2 is reached from the home menu by pressing F1, then F2. Menu 1.2.3 is reached by pressing F2 and then F3. Further options can be reached by using the shaft to scroll up or down.

Note: Please refer to the Crystal Vision Control Panel manual for details of the Panel Setup, Lock Panel and Diagnostic menus.

Selecting ADDEC-100

To select a particular card in a frame, press the DEVICE key to go to the Device menu. The top line of the display will show 'Available Cards X', where X is the number of cards that have responded so far to the polling request.



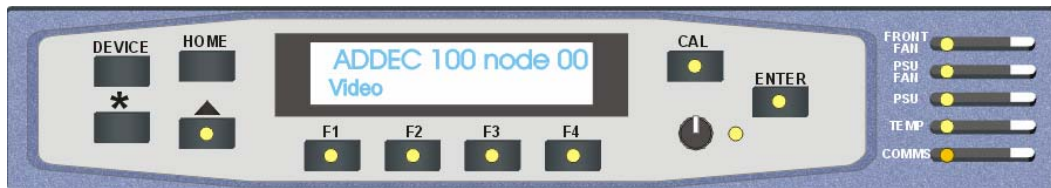
The available cards menu

Rotate the shaft encoder and the bottom row will display the successfully polled cards by name and location or slot number.

In the example above, the card displayed is located in the first frame in slot number 1.

When the desired card is selected press the ENTER key to access that card's HOME menu.

The message shows that an ADDEC-100 has been selected and is in frame slot 1.



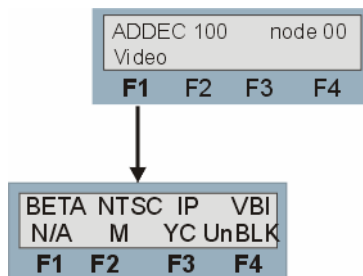
The ADDEC-100 home menu

The ADDEC-100 menu structure

The main top-level menu is obtained by pressing the F1 HOME menu. Menu keys are illuminated when active and when further menus are available.

Pressing the Function keys F1-4 accesses the ADDEC-100's sub menus. When a sub menu has been selected, further options can be selected by pressing the appropriate function key. Its adjacent LED illuminating indicates an active key. Pressing an active key will cause the selected function to action immediately.

The following chart shows the available ADDEC-100 menus. The actual menus available may vary slightly as software is updated.



The ADDEC-100 menu tree

Note: Function keys LEDs are illuminated when active.

Betacam format

The ADDEC-100 is able to accept Betacam YprPb format input where the PrPb component has been boosted in amplitude by 1.333.

Note the Betacam control is only active when the input mode is set to YUV

Video Configuration menu structure	Description
	Toggle F1 to select the Betacam signal levels. N/A YUV input not selected.
	Toggle F1 to select the Betacam signal levels. Normal signal levels selected in YUV input mode.
	Toggle F1 to select the Betacam signal levels. Betacam input levels selected.

NTSC setup (pedestal)

NTSC 525-line input format with or without a 7.5 IRE pedestal can be catered for. As there is no facility for pedestal in the digital domain the pedestal present in NTSC M requires removal. Selecting NTSC M will remove the pedestal prior to conversion to serial digital format.

Video Configuration menu structure	Description
	Toggle F2 to suppress NTSC 7.5% IRE black level pedestal.
	Toggle F2 to unsuppress the NTSC 7.5% IRE black level pedestal.

Input configuration

It is possible to select the input format of the ADDEC-100 from amongst composite, Y/C or Component YUV. See the chapter of hardware installation for connection details.

Video Configuration menu structure	Description
	Toggle F3 to select composite PAL/NTSC input mode.

BETA	NTSC	IP	VBI
N/A	M	YC	UnBLK
F1	F2	F3	F4

Toggle F3 to select Y/C input mode.

BETA	NTSC	IP	VBI
N/A	M	YUV	UnBLK
F1	F2	F3	F4

Toggle F3 to select component YUV input mode.

Vertical blanking interval information

Data inserted in the vertical interval can be passed or blanked as chosen by selecting either Unblank or Blank.

Video Configuration menu structure	Description												
<table border="1"> <tr> <td>BETA</td> <td>NTSC</td> <td>IP</td> <td>VBI</td> </tr> <tr> <td>N/A</td> <td>M</td> <td>YC</td> <td>UnBLK</td> </tr> <tr> <td>F1</td> <td>F2</td> <td>F3</td> <td>F4</td> </tr> </table>	BETA	NTSC	IP	VBI	N/A	M	YC	UnBLK	F1	F2	F3	F4	Toggle F4 to unblank data in the vertical interval.
BETA	NTSC	IP	VBI										
N/A	M	YC	UnBLK										
F1	F2	F3	F4										
<table border="1"> <tr> <td>BETA</td> <td>NTSC</td> <td>IP</td> <td>VBI</td> </tr> <tr> <td>N/A</td> <td>M</td> <td>YC</td> <td>BLK</td> </tr> <tr> <td>F1</td> <td>F2</td> <td>F3</td> <td>F4</td> </tr> </table>	BETA	NTSC	IP	VBI	N/A	M	YC	BLK	F1	F2	F3	F4	Toggle F4 to blank data in the vertical interval.
BETA	NTSC	IP	VBI										
N/A	M	YC	BLK										
F1	F2	F3	F4										

5 Statesman

The Crystal Vision Statesman PC control software is designed to control a range of Crystal Vision modules via serial control from a PC.

The main Statesman application communicates with each module in a frame that is fitted with an active front panel. This panel can be with or without a LCD display. Statesman will not normally be able to detect modules used in a frame with only a passive front panel unless it is part of an active/passive combination.

5.1 Statesman operation

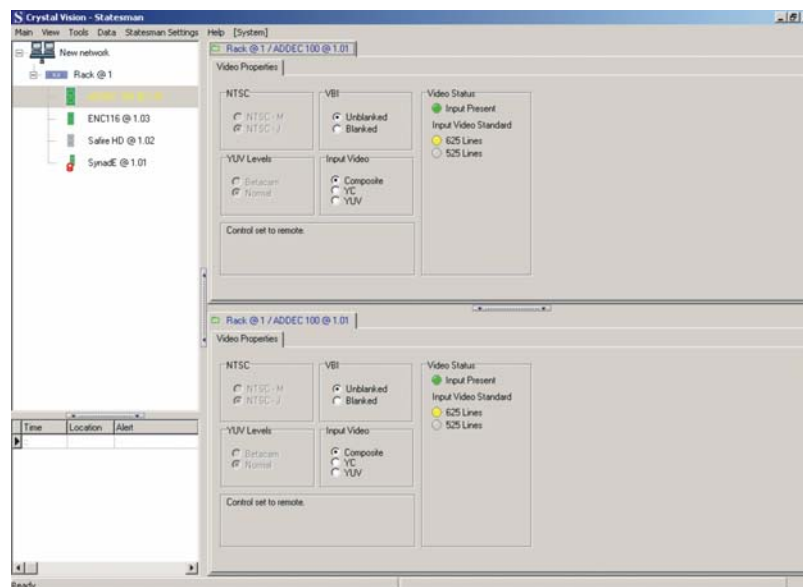
Once Statesman is configured it should automatically detect any Statesman compatible modules in the connected frame or frames and display them in the main application left hand Explorer-style window.

Open any frame by clicking on the + sign or by double clicking on a frame. Installed modules should be shown with module icons. Frame and module icons can be named as desired by right clicking or using the edit menu and choosing rename.

To aid user recognition of module and frame status quickly, the following colour and size coding is used:

- A module is shown present by full colour and absent by greyed colour
- A module is shown open by large icon size and closed by small icon
- A module is the source of an active alarm if red and not alarmed if green

Double clicking on a module will enable the display of the main application menus.



Statesman main application window

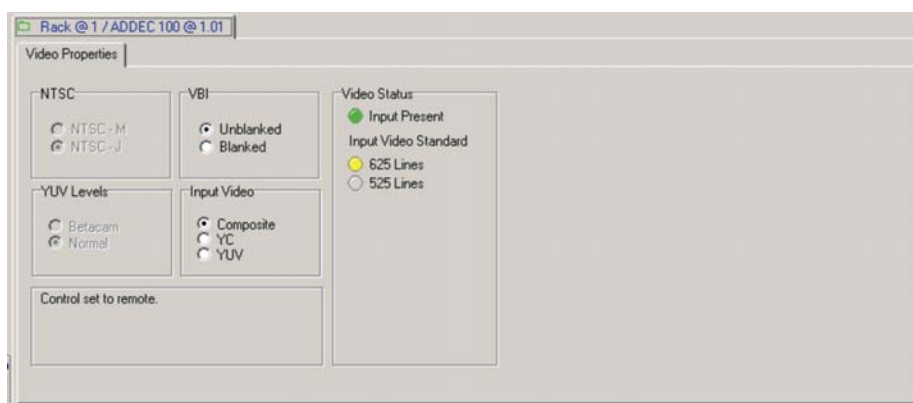
The two large control panes shown in the upper and lower halves of the window may display different menus for the same card, or controls for different cards. Click on the horizontal button-bar between the two panes to close the lower pane or drag the button to vary the size of the panes.

Note: For further details of Statesman configuration and operation please refer to the Statesman manual.

Status

Using Statesman status displays

Video status is provided by simulated LEDs in both the video and audio panels.



ADDEC-100 video status

NTSC format

The 7.5% IRE setup present on the NTSC-M format can be suppressed by checking the NTSC-M box.

Betacam Input format

The ADDEC-100 is able to accept Betacam YprPb format input where the PrPb component has been boosted in amplitude by 1.333. Select Betacam input signal levels by checking the Betacam box.

Note the Betacam control is only active when the input mode is set to YUV

VBI Auxiliary data

Data in the VBI (vertical blanking interval) of the analogue composite input can be blanked or passed. Click the VBI blanked or unblanked box as required.

Input format

Composite, Y/C or Component YUC input formats can be selected by checking the appropriate box; the required input format may require the configuration of on-board links. See Module configuration in the Hardware Installation chapter for this information.

Video status

The Video Status panel allows the user a quick appraisal of parameters such as line rate and input presence.

6 Trouble shooting

Card edge, active front panel and Statesman may all be used to aid in trouble shooting the ADDEC-100. Of the above, using the card edge would be the most effective way to investigate any flagged errors.

6.1 Card edge monitoring

Status LEDs

Board edge LEDs provide status reporting and may be useful when fault finding.



ADDEC-100 front view showing controls and LEDs

The following table summarises the card edge LED functions and colours:

LED Colour	Position	Description
Green	PSU OK	Illuminates when the board is powered and all power rails are within limits
Green	Input	Illuminates when an analogue input is present (Y or Comp input only)

6.2 Fault finding guide

The Power OK LED is not illuminated

Check that the frame PSU is functioning – refer to the appropriate frame manual for detailed information.

One or more of the internal power rails are outside of their limits.

There is no video output

Check that valid analogue video input is present and that any cabling is intact.

The video output exhibits jitter

Check that the input video stability is within normal limits and that the maximum cable length has not been exceeded.

The card no longer responds to Statesman or front panel control

Check that the remote-local card edge switch is set to remote.

Check that the card is seated correctly and that the power OK LEDs are lit.

Check any active control panel cabling.

Check if the control panel can control another card in the same rack.

If necessary re-set the card by simply removing the rack power and re-applying power after a few seconds or by removing the card from the rack and then re-inserting the card.

It is safe to re-insert the card whilst the rack is powered.

Re-setting the card

If for some unexplained reason the ADDEC-100 is not acting as expected re-powering the card will reload the current setup from non-volatile memory. The card may be reloaded by simply removing the card from the frame then re-inserting it. It is usually safe to re-insert the card whilst the rack is powered.

7 Specification

General

Dimensions	100 mm x 266 mm module with DIN 41612 connector
Weight	200 g
Power consumption	6 W

Inputs

Analogue video input	YUV Component, Composite or Y/C video input, 1 volt with syncs 625 line PAL or 525 line NTSC
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Outputs

Digital Video output	Up to 4 times 270Mb/s serial digital to EBU Tech 3267-E and SMPTE259M with EDH checksum insertion as per SMPTE RP165 (Low frequency jitter follows SDI input)
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Control and status

Control	Board edge control using 8-way DIP switch and LEDs, active control panel or Statesman PC control software
GPI control	GPI inputs 4 off, not used GPI outputs 5. No function 6. Indicates that an error condition exists such as loss of input Electrically: Open drain FET 30V, 220 Ω current limit resistors. Pulled up to +5V through 10k Ω
LEDs	PSU okay, Input present.