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REM1U

19" remote control panel

USER MANUAL



Remote Control System REM1U/FP1-S/FP1-L/FP2-L USERS MANUAL

REM1U.doc BF 14/10/02
Panel S/W 1.5.0 onwards
Revision 1

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Remote Control System REM1U/FP1-S/FP1-L/FP2-L USERS MANUAL

INTRODUCTION

The Crystal Vision Remote Control System provides selective control between a control panel and a number of plug-in cards within a Crystal Vision 1U or 2U high Frame. Parameters on each plug-in card can be easily be adjusted by use of a menu structure system. An expandable system which allows up to a maximum of 24 plug-in cards to be controlled by one Control Panel.

CONTROL PANEL

The control panel consists of

- a. 20x2 vacuum fluorescent display (VFD)
- b. 10 push buttons, 7 of these have an associated LED
- c. 1 shaft incremental encoder with associated LED

The control panel is presented in the following number of different ways

1. **REM1U** a remote box (1U rack mount, 65mm deep) powered by a mains adapter. By mean of a RS 422 cable (up to 50 meters in length) the remote box can control a number of plug-cards housed in **1U or 2U rack mount Frames.***
2. **FP1-S** the Control Panel is attached to the front of the Crystal Vision desk top box. The desk top box can house 2 plug-in cards and has a built-in power supply. **
3. **FP1-L** the Control Panel is attached to the front of a Crystal Vision **1U rack mount Frame** which can house up to 6 plug-in cards. The Control Panel controls the plug-in cards by means of internal wiring.**
4. **FP2-L** the Control Panel is attached to the front of a Crystal Vision **2U rack mount Frame** which can house up to 12 plug-in cards. The Control Panel controls the plug-in cards by means of internal wiring.**

* applies to Frames built before and after November 1998.

** only applies to Frames built after November 1998.

ORDERING INFORMATION	
REM1U	1U rack mount remote control box (65mm deep) with mains adapter
FP1-S	Control Panel option for desk top box
FP1-L	Control Panel option for 1U rack mount Frame
FP2-L	Control Panel option for 2U rack mount Frame

SPECIFICATION REM1U

MECHANICAL

1U 19" rack mount, 65mm deep, remote box with 5.6 volt dc input (0.3 A).

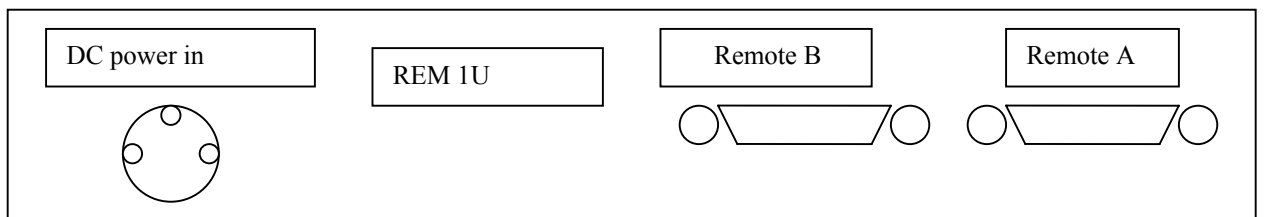
Mains adapter POWER SUPPLY 90 to 264V AC, 6 watts.

Control Panel for controlling up to 24 plug-in cards housed in 19" 1U or 2U high Crystal Vision Frames.

DC power in
3 pin locking DIN
pin 1 +5.6V dc
pin 2 0V

Remote A Control (15 way D-type socket)
RS422 multi-drop
19,200 baud, 8 bit no parity

Remote B Control (26 way high density D-type plug)
RS422
19,200 baud, 8 bit no parity
Connects to StatesmanHub box or direct to PC comm port (via RS422/RS232 converter)



INSTALLATION INFORMATION

Settings on plug-in cards

All plug-in cards which communicate with the Control Panel must have their **node addresses** set to different number from each other, in other words no two plug-in cards should have the same node address. The node address is set by a 16 position **hex** switch usually labelled **node**.

The plug-in cards must also be set to remote (not local) position . This is usually set by one of the poles on a piano switch near the front of each plug-in card.

1U and 2U Frame produced before November 1998 have a different wiring scheme. Is information may be obtained from Crystal Vision should it be required.

1U and 2U Frame supplied after November 1998

Plug-in cards in these Frames are controlled by dedicated RS422 communication signals. A 5way and 6way connector on the end of twisted wire looms are routed to the front of these frames for connection to the Control Panel. These Frames can be controlled by fitting **FP1-L or FP2-L** panels on to the front of the frames to the aforementioned 5way and 6way connectors or the frame cards can be controlled by connecting a remote Control Panel (which is fitted inside a Remote control unit REM1U) via the 26way D-type connector labelled REMOTE 2 on the rear of the frame.

REM1U Latching 3-pin DIN socket for power input.

Pin	Function	Comment
1	+5.6V DC	Drop down to +5V on CPU
2	Gnd	
3	No connect	

REM1U Control Cable for RS422 control of 1U or 2U frames which use the Remote 2 connector for control. This only applies to frames which were manufactured after November 1998 and have the necessary additional wiring to Remote 2 connector.

15 way D plug for Remote A on REM1U unit			26 way D socket for REMOTE 2 of 1U/2U Frame. All 12 Card positions on 2U frame and all 6 positions on 1U frame		
Pin	Function	Comment	Pin	Function	Comment
1	TX-		16	RX-	Connects to 64way DIN41612 pin B2 on all cards
2	TX+		7	RX+	Connects to 64way DIN41612 pin B1 on all cards
3	RX+		17	TX+	Connects to 64way DIN41612 pin A1 on all cards
4	RX-		25	TX-	Connects to 64way DIN41612 pin A2 on all cards
6	N/C				
7	N/C				
8	GND		6	GND	
9-15	N/C				

Note TX on one end of cable connects to the RX on the other end of the cable
The cable is 4 individual screened cores.

REM1U Control Cable for RS422 control from PC with ‘Statesman’ software installed on the PC.

9way D-type plug . Connects onto RS422/RS232 converter which intern connects onto comm1 or comm2 of the PC	26way D-type high density socket Connects onto Remote B on REM1U unit
Pin 3 TX+	Pin 18
Pin 8 TX-	Pin 26
Pin 7 RX+	Pin 9
Pin 2 RX-	Pin 8
Pin 4 (Gnd)	Pin 6 (Gnd)

Note suitable RS422 to RS232 converter can be supplied by Crystal Vision Ltd or by B & B electronics (model number 422PP9R)

Note the Rem1U must have the correct EPROM fitted (V1.5.0 or higher)to allow it to communicate with a PC running 'Statesman' software.

Link Positions on control panel board

J2	3 way link	towards EPROM	sense TWO power supplies (using PL3 and PL4)
		away from EPROM	sense ONE power supply(using PL3)
J1	3 way link	towards EPROM	always in this position
J3	3 way link	away from EPROM	always in this position
J4	3 way link	away from diode D1	always in this position
HEX switch sw1		0 to 9 and A to F	This is the address of the Control Panel 1 to 16 . Normally set this switch to position 0. If there are several control panels connected together (via StatesmanHub system) to a PC then each Control panel is set to a different address,

Software Upgrades on control panel board

The software for the remote control unit is contained in a single 27C512 EPROM U2. To change this switch off the power and remove or drop down the front panel by undoing the two thumb screws. The EPROM can now be accessed and removed from its holder. It is important that the replacement EPROM is placed the correct way round (note the position of pin 1).

SOFTWARE CONFIGURATION OF CONTROL PANEL TYPE

On power up the Control Panel hold down the DEVICE key.
The following message may be seen on the display.

Front Panel Type REM1U

Adjusting the shaft on the front panel allows the selection of the Front Panel Type.

Front Panel fitted on	Selection
FR2AV frame front or FR1AV frame front	Other
Rem1U or Rem1US	REM1U
Desk Top Box	Desktop box

After selection has been made press the 'ENTER' button. This selected Front Panel Type is now stored in the non-volatile memory on the front panel.

The display will now show 'Serial Num Byte' ignore this and press the 'ENTER' three more times.

The display will now show 'Reset pass word to all spaces' and the words 'Yes' and 'No'. Press the button labelled F3 to select 'Yes'. (This will clear any pass word numbers/letters which may have been previously stored and used to lock-out the use of the buttons on the front of the Control Panel).

The unit will now reset showing the words 'Crystal Vision' followed by other start up messages.

Note if the selection 'Other' is made for the Rem1U unit or the Desktop box unit then this could result in the display flashing the following message every few seconds.

Warning Power Supply or Fan Problem
--

The Rem1U unit or the Desktop box does not have any plug-in power supplies so this message does not apply .

To stop this message being shown, ensure that the correct selection is made for Front Panel Type.

OPERATION INSTRUCTIONS

Getting Started

Ensure the system is correctly installed.

On power up the Control Panel will display the following

- a. The words 'Crystal Vision' and all the 8 LEDs will light up
- b. The software version number
- c. The words 'Control Panel' then all 8 LEDs will unlight
- d. The following message is then seen (software version 1.5.0 or higher)

```
Statesman Mode
Press Cal to Exit
```

Press the Cal button on the front of the Control panel

After a few seconds the following message will be seen

```
Available Cards 1
xxxxx      Node xx
```

On the bottom line of the display is the plug-in card Type and its Node number. This assumes a card is fitted in one of the slots in the frame and is able to talk to the control panel.

Pressing Enter button will usually select the main menu page of that card such as

```
ADC104F v3.00 Node00
Horiz  Pos      Other
```

If there are no plug-in cards in the Frame, the message

```
No cards present
Please press device
```

will appear.

If there are plug-in cards in the Frame and communication is unsuccessful

The message

```
No cards present
Please press device
```

will still appear. In this case recheck the Installation information. If necessary remove all cards in the Frame except for one which the Control Panel should communicating with. Press the Device key- the display should now show

```
Available Cards 1
xxxxx      Node xx
```

On the bottom line of the display is the plug-in card Type and its Node number.

Now plug the remaining plug-in cards(with communication software EPROM fitted) one by one into the Frame and allow several seconds between plugging in each card, observe that the ‘ Available Cards’ number increases by one each time. This procedure may lead to identifying where the problem is.

Selecting different plug-in cards

At any time pressing the DEVICE key will change the Control Panel to the mode for displaying a list of Available Cards in the system.

In the top right hand side of the display a number is shown for the total number of plug-in Cards in the system (which have the necessary software to communicate with the Control Panel).

On the bottom line of the display is the plug-in card Type and its Node number.

To access details on any other plug-in cards turn the shaft on the front of the unit. If the number of Available Cards is greater than 1 the display will change showing the other plug-in card details.

To **exit** the Available Cards mode press the ENTER key. The Control Panel will now ‘lock on’ and communicate with the plug-in card at the node number last displayed in the Available Cards list.

Note The Control Panel scans, every few seconds, all the plug-in card node addresses to keep the Available Cards list up to date.

Power Supply / Fan warning message

When the Control Panel is attached to the front of a Frame (see **FP1-L** and **FP2-L**) it is possible for a message

Warning Power Supply or Fan Problem
--

to be flashed on the display for 2 seconds after an interval of 20 seconds. This can occur if the temperature of the power supply is too hot or the negative voltage rail (-5 volt) on one of the two plug-in Power Supply units is incorrect(it is incorrect if the -5 volt rail change to a value between 0 volt and -3.5 volt). The red LED on the front of one (or both) of the PSU labelled ‘FAIL’ will also be lit up. See also **Software Configuration of Control Panel Type** in the section above.

Revision 1. 20/12/04. Wiring information for frames prior to Nov 1998 removed.