



**ON-SCREEN DISPLAY  
MODEL OSD V\_6 (NT5)**

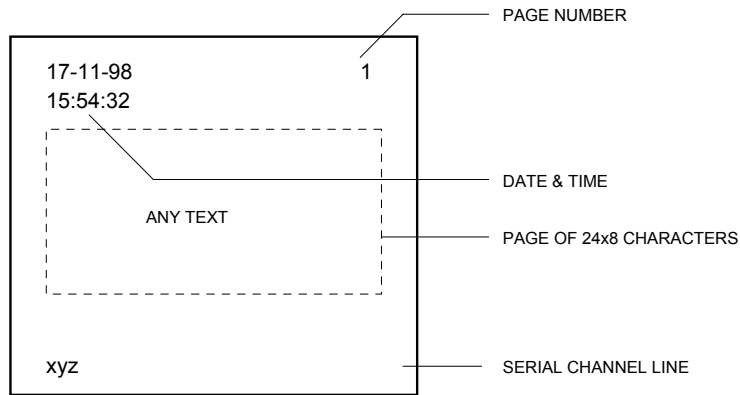
**Unit 2, 6 PITINO CRT  
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## 1.0 Introduction

The On-Screen Display V6 overlays Date&Time, Text and Data on a live video signal. It also generates it's own background in 8 colours.

The OSD accepts a standard PC keyboard for easy operation by wide range of users.

The video output is power fall bypassed i.e. should the unit or power fail the input video signal is switched via relay to the output.



A serial channel is available in the On-Screen Display for interface with computer devices or data transmission systems.

The unit offers many features, which are listed below:

- PC Keyboard.
- RS-232.
- Date & Time.
- 10 pages of text, configured as 24 columns x 8 rows.
- Fast access to Pages by pressing numerical keys.
- No external video signal is required, internal blue background.
- Easy correction of Date(F10) and Time(F9) with Year 2000
- Separate battery back up for Date&Time and Pages.
- Watch Dog Timer.
- Automatic synchronisation to external video signal.
- Black fringe characters.
- Choice of some graphical characters.
- Positioning of the overlaid screen.
- The video output is power fall bypassed.

The OSD V6 is typically housed in a small plastic enclosure (220mm x 165mm x 45mm) but is also available as an 'Open Frame' version and 19" 1U industrial housing.

Protocol for various applications can be available as a software upgrade for the OSD V6.

## 2.0 Specifications

### Video

Video System	:	PAL/NTSC*
Lines per Frame	:	625/525*
Fields per Second	:	50/60*
Horizontal Frequency	:	15.625 kHz
Video Bandwidth	:	>6.5Mhz
Video Input	:	1V Peak-to-Peak into 75 $\Omega$
Video Output	:	1V Peak-to-Peak into 75 $\Omega$
Internal Video Signal	:	Colour Background, selected with F11 Blue(default), green, black,..

### Date and Time

Time Format	:	hh :mm :ss, 24 hours
Date Format	:	DD-MM-YY, or DD-MM-YYYY

### Keyboard

Interface	:	Serial, synchronous, data&clock lines
Voltage Supply	:	+5Vdc @ 25mA(max).
Data Format	:	IBM AT+, Idle state: "Data & Clock" high.

### Serial Port

Communications Port	:	RS-232, 3 wire, 9600, 8, N, 1 2 = Tx, 3 = Rx, 5 = GND
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### Power Requirements

Standard Enclosure and Open Frame	:	12V dc @ 250mA (incl. keyboard)
19" Enclosure AC Voltage	:	240V ac +/-10%

### Environmental

Operating Temperature	:	0deg C to +50 deg C
Humidity	:	95%, non condensing

## 3.0 The OSD V6

### 3.1 Data Input

Data can be input to the OSD by the following methods:

#### 3.1.1 Keyboard entry

The OSD features up to 10 pages of text. Each page contains 8 lines of 24 characters. The F1 key enters the editing mode. Once a page is modified it is immediately stored in a non-volatile memory. Complete keyboard functions will be explained later in greater details.

#### 3.1.2 Serial input/output

A serial channel is available in the OSD for interface with computer devices or data transmission systems.

In the standard version the RS-232 serial input/output has 1 dedicated line on the overlaid screen (Top or Bottom). A column number, at which this character is to be displayed, must precede a character code in ASCII. 05 30 will display '0' at column 5. Columns are in the range between 0 and 23 (in HEX: 00h – 17h).

### 3.2 Video Input & Output

The OSD accepts a standard composite video signal and has a 75 $\Omega$  termination resistor, which can be disabled/enabled with JP1. If the power is removed from the unit the video signal is switched via relay to the output.

### 3.3 Keyboard Functions

#### 3.3.1 Page Keys

Numeric keys 0 to 9 select pages 0 to 9 respectively. On selecting a new page the On-Screen Display video memory is first cleared of the current page information then written to with the new page information. Pages memory is battery backup and will hold data for a minimum period of 12 months.

### 3.32. Character Keys

The On-Screen Display supports all ASCII characters in the upper and lower cases including several graphic characters such as arrows, sun, cloud etc..

### 3.33. F1

When pressed, this key enters the PAGE EDIT mode. You will be first prompt for the page number ( acceptance with "Enter" ). All ASCII characters are supported. Use the "SHIFT" for the upper case. Additional graphic characters are available when the "Shift" and a Number Key are pressed simultaneously. The cursor is displayed as a single blinking dot. Exit by pressing "Esc".

Keys such as "Insert", "Delete" and some others are not supported. The function of the "Home" key will be explained later in greater details.

### 3.34. F2

Display of a Page is Enabled/Disabled. The RS-232 and T&D are active.

### 3.35. F3

When pressed, this key enables/disables the Date&Time to be displayed on the screen. If the Date&Time display is disabled a blinking dot is displayed at the "Day" location.

### 3.36. F4, F5 and F6

These Keys have only meaning in the "Status Display" situation and are used for:

F4 Enable/Disable of the Time Display, Year is displayed normally,

F5 Enable/Disable of the Internal Video Background,

F6 Enable/Disable of the RS-232 Port,

The RS-232 data is not stored in memory and when removed is lost.

Any update or change is possible only by an external controller!!!

### 3.37. F8

When pressed, this key causes the current Date and Time to be displayed at the Top or at the Bottom of the screen. On power on the unit displays Date and Time at the Bottom (lines 11 and 12 respectively)

### 3.38. F9

When pressed, this key enables the "Enter New Time" mode. New time can be modified using the numerical keys from the main keyboard section and is immediately stored in a non-volatile memory. Exit at any time by pressing "Esc".

### 3.39. F10

When pressed, this key enables the “Enter New Date” mode. New date can be modified using the numerical keys from the main keyboard section and is immediately stored in a non-volatile memory. Exit at any time by pressing “Esc”. (1 = 19, 2 = 20)

### 3.40. F11

The colour of the background of the internally generated video signal can be chosen from the following palette: blue(default), black, white, dark red, purple, red, dark blue and green. Character colour can not be altered; it is always white with the black fringe.

### 3.41. F12

When pressed, this key will enable an external video signal to be transferred via the OSD. All overlaid screens remain unaffected. On Power On the unit wakes up in the “Internal Video” mode.

### 3.42. Arrow Keys

When pressed, these keys allow the entire overlaid screen to be moved in the direction indicated by the arrow. No data is modified.

### 3.43. Home (Status Screen)

When pressed, this key activates the status screen.  
Follow instructions from the menu to set up the OSD.

DISPLAY STATUS		
F2	Pages	ON
F3	Time_Date	ON
F3	Time	ON
F5	Int. Video	ON
F6	RS-232	ON
F7	Date US	ON
ESC	< EXIT >	
Enter	< ACCEPT >	

By pressing the F-keys the operator can select which of the screen’s component will be Enabled or Disabled.

If F5 is ON, the OSD will start up with its internally generated background.

**To start the unit with an external video signal the INT. VIDEO option must be OFF !!!**

### 3.5 RS-232 Serial Instructions

To communicate with the RS-232 serial port the following set up is required:

9600 Baud

8 Bits

No Parity

1 Stop Bit

Hardware handshaking is not required.

The serial port operates a hidden cursor.

To locate cursor at a position a number in the range of 00h to 17hex (0 – 24) is to be sent.

A character (in ASCII code) will be displayed at the cursor position.

eg. to display word “Yes” starting from column 5 the following string is to be sent to the OSD: 05 59 06 65 07 73.

F6 enables / disables display of this line.

**Note: As the unit processes information as it is sent, it is recommended that a short period of time elapse between two consecutive pairs.**

#### DIP SW on the CPU card:

SW1	Blinking Dot (after T&D disabled with F3) On/Off
SW2	On – T&D at the Bottom, Off – T&D at the Top
SW3	On – Year displayed as 03 / Off – Year displayed as 2003
SW4	PAL / NTSC (hardware changes required)

Non standard options: display data from GPS, Pay-Out Meter, and Telemetry..

For examples see <http://www.q-net.net.au/~polvision/PV4.html>

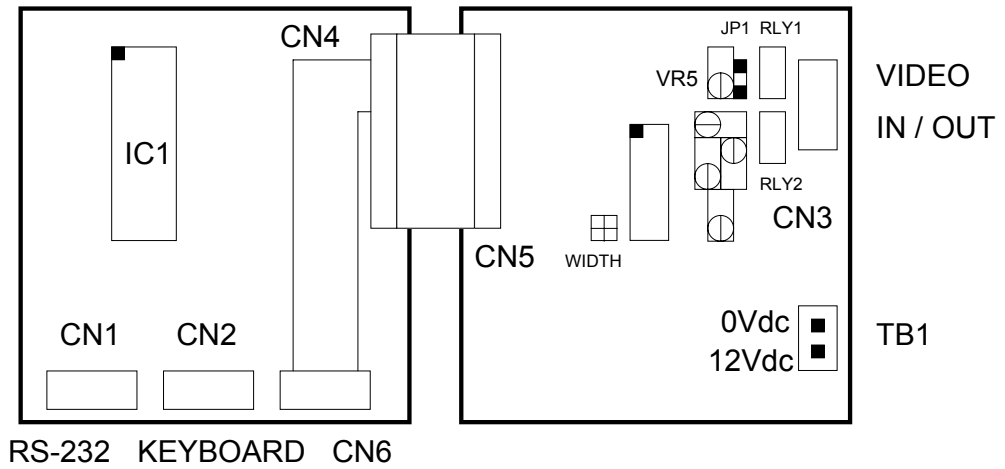
<http://www.q-net.net.au/~polvision/PV8.html>

<http://www.q-net.net.au/~polvision/PV18.html>

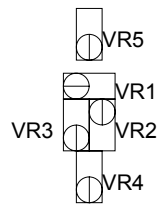
Protocol for various applications can be available as a software upgrade for the OSD V6. **On-Screen Display in small enclosure**



## ADJUSTMENTS INSIDE ENCLOSURE



### Variable Resistors



- VR1 = Input Level
- VR2 = Character Signal Level
- VR3 = Blackl Level
- VR4 = Internal Video Signal Level
- VR5 = Balance Level Ext. Video - Characters