

OUTLAND TECHNOLOGY INC.
38190 COMMERCIAL CT.
SLIDELL, LOUISIANA USA 70458
(985)847-1104, Fax (985)847-1106
(Email) sales@outlandtech.com
(Website)<http://www.outlandtech.com>

RS-232/VIDEO OVERLAY

MODEL 5000A

DOC# 0010576D

LIMITED WARRANTY

OUTLAND TECHNOLOGY, INC. WARRANTS TO THE ORIGINAL PURCHASER THAT UNITS ARE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF 90 DAYS FROM THE DATE OF SHIPMENT BY US. ANY DEFECTIVE UNIT MUST BE RETURNED TO US PREPAID TO THE ADDRESS SHOWN BELOW, AND IT WILL BE REPLACED BY US AT NO CHARGE. ANY UNIT PURCHASED WHICH MALFUNCTIONS AND IS RETURNED TO US WITHIN THE WARRANTY PERIOD, WILL BE REPAIRED OR REPLACED (OUR OPTION) AT NO CHARGE, PROVIDED IT HAS NOT BEEN SUBJECTED TO ABUSE.

NO EQUIPMENT PURCHASED FROM US MAY BE RETURNED WITHOUT A RETURN AUTHORIZATION FROM OUTLAND TECHNOLOGY, INC.

ADVERTISING CLAIMS MADE BY US REPRESENT OUR HONEST OPINION OF THE QUALITIES AND FEATURES OFFERED BY THE PRODUCTS DESCRIBED. WE DISCLAIM ANY WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, EXCEPT AS PROVIDED HEREIN.

IN NO EVENT SHALL OUTLAND TECHNOLOGY BE LIABLE FOR CONSEQUENTIAL DAMAGES OF ANY KIND.

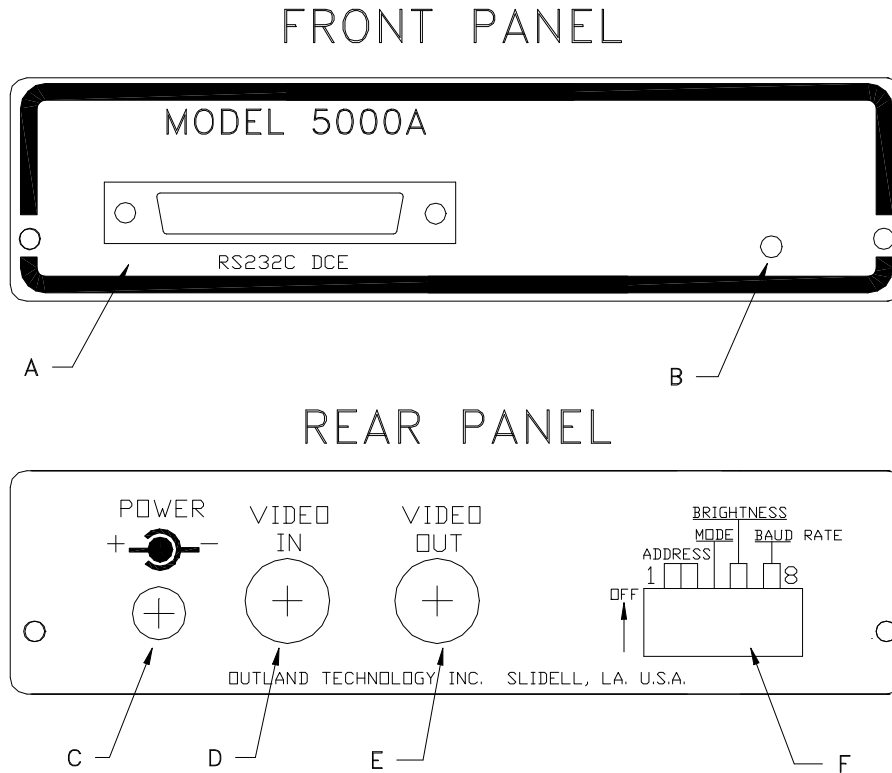
If you have any questions regarding the installation and operation of this equipment, or if more information is needed contact:

OUTLAND TECHNOLOGY, INC., 38190 Commercial Ct., Slidell, LA. 70458
(985)847-1104 FAX (985)847-1106
(Email) sales@outlandtech.com
(Website) <http://www.outlandtech.com>

RS-232/VIDEO OVERLAY, MODEL 5000A

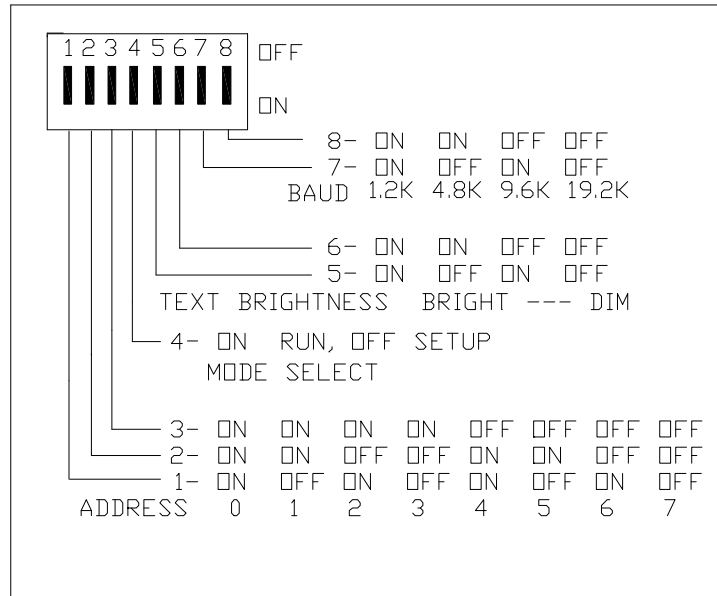
I. SYSTEM INITIAL START-UP,

A. Front and Rear panel controls and connectors,



- A. **RS232C DCE**, serial communications port. This port is setup for DCE and can be switched on the rear to 1200,4800,9600 and 19.2k baud. The unit is shipped in the 9600 baud position (8 bits, no parity and 1 stop bit.)
- B. **POWER**, "LED" is for power on/off indication only.
- C. **POWER ADAPTER**, The power adapter, provided with the VPM is to be plugged in here. The voltage is +12 VDC. The wall mounted transformer is to be plugged into a stable 115VAC source.

- D. **VIDEO IN**, This jack will accept a standard RS170 video signal 1.2VPP. Color or Black & White.
- E. **VIDEO OUT**, This jack is to connect to a standard video monitor. The video will feed through, if the VPM is powered off, from the Video in jack. When the VPM is powered on the video signal level will not change but the data will be superimposed on the video.
- F. **SELECTOR DIPSWITCH**, The following drawing shows the function of this switch.



II. RVO programming,

To select a mode, dipswitch 4 must be switched to off. Power cycle the RVO. This will bring up the following menu on the Video screen.

-(KEY)	(FUNCTION)
> 0	MODE 0 *(x,y,string)
- 1	MODE 1 *(a,x,y,string)
- 2	MODE 2 *(c,x,y,string)
- 3	MODE 3 *(c,a,x,y,string)
- 10	MODE 10 LINE 4
- 11	MODE 11 LINE 22
- 15	MODE 15 FULL SCREEN
- 20	NEMA 183 \$LCGLL
- 21	NEMA 183 \$LCGLL
- 22	NEMA 183 \$LCGGA

An arrow to the left of the key number will cycle down the list. When the arrow is pointing to the mode you want, turn dip switch 4 back to on to run.

A) Mode 0,

To input data to the screen the user must write his software to send the RVO a series of locations (X,Y) and data to appear at that location (in ASCII). The order is as follows;

RVO sends "*" to computer then computer sends X position "1-43", Y position "1-24", "ASCII String" to RVO. Sequence starts over again.

Example: 1) [RVO] sends "*" to computer.

2) [Computer] sends "5,5,This is a test__"

The RVO will send another asterisk to the computer telling it to send more data. The screen can be filled with information but the more data on the screen the slower the update rate will be.

Other commands are:

0,0,0 - Clears the screen.

The Static Data or Text only has to be written twice to the RVO. (Labels, job number, etc..). The dynamic data or text can be written into the RVO as often as necessary. As you write to the same location it updates the data. This can be done very quickly at 19.2K baud. It depends how much data has to be updated as to how fast the refresh rate can be.

In this mode the RS-232/Video Overlay unit can display data already gathered by another computer and will make the data on the video picture exactly the same as on the computer so there are no discrepancies.

B) MODE 1, Addressable Units,

With Dip switches 1,2&3 several RVO units can be run from the same serial data link. Mode 1 operates much like Mode 0 but with one added character ahead of the X/Y it can be used to select one of 8 RVO units to talk to on the same RS-232 line. In this mode dip switches 1-3 can be used to make each RVO separately addressable so they can be hooked up to one RS-232 data line.

DOC# 0010576D

Address #	0	1	2	3	4	5	6	7
Switch #								
3	ON	ON	ON	ON	OFF	OFF	OFF	OFF
2	ON	ON	OFF	OFF	ON	ON	OFF	OFF
1	ON	OFF	ON	OFF	ON	OFF	ON	OFF

To input data to the screen the user must write his software to send the RVO a series of locations (A,X,Y) and data to appear at that location and RVO (in ASCII). The order is as follows;

RVO sends "*" to computer then computer sends A (Address 0-7), X position "1-43", Y position "1-24", "ASCII String" to RVO. Sequence starts over again.

Example: 1) [RVO] sends "*" to computer.

2) [Computer] sends "1,5,5,This is a test__"

The RVO will send another asterisk to the computer telling it to send more data. The screen can be filled with information but the more data on the screen the slower the update rate will be.

Please refer to mode 0 for more control codes. Those codes must be preceded by the address in Mode 1.

C) MODE 2, (for future use)

This mode of operation will include graphic displays of data.

D) MODE 3, (for future use)

This mode of operation will include graphic displays of data addressable to each RVO.

E) MODE 10,

This mode displays anything sent to the RVO on line 4.

F) MODE 11,

This mode displays anything sent to the RVO on line 22.

G) MODE 15,

This mode writes to the entire screen starting at the top left of the screen and writing across the screen then down to line 2 etc. until the page is complete and starts again on line one.

H) MODE 20, NMEA-0183 (GLL);

NMEA-0183 is a standard output from most late model Loran and GPS (Global positioning systems). The data out is RS-232 and at, typically, 4800 baud. Normally the data is in sentence form. The sentence used in the standard RVO is "\$XXGLL".

The whole sentence looks like this:

\$XXGLL,XXXX.XX,X,XXXXX.XX,X__
 a b c d

- a. Latitude in degrees, minutes, minutes/100.
- b. N or S.
- c. Longitude in degrees, minutes, minutes/100.
- d. E or W.

Latitude and Longitude are displayed on the video monitor on the top middle of the screen. A backward bracket "<" and a forward bracket ">" (alternately) is displayed at the end of the sentence to indicate the RVO is receiving data.

I) MODE 21, NMEA-0183; (GLL)

NMEA-0183 this mode is exactly the same as Mode 20 with one exception. 27 characters are displayed on the screen from the same GLL sentence. The addition is UTC time.

The whole sentence looks like this:

\$XXGLL,XXXX.XX,X,XXXXX.XX,X,hhmmss__
 a b c d e

- a. Latitude in degrees, minutes, minutes/100.
- b. N or S.
- c. Longitude in degrees, minutes, minutes/100.
- d. E or W.
- e. UTC Universal Time Coordinated.

Latitude, Longitude, and UTC Time are displayed on the video monitor on the top middle of the screen. A backward bracket "<" and a forward bracket ">" (alternately) is displayed at the end of the sentence to indicate the RVO is receiving data.

J) MODE 22, NMEA-0183; (GGA)

NMEA-0183 this mode is exactly the same as mode 21 with two exceptions. The RVO is looking for the line \$XXGGA instead of \$XXGLL and the UTC time precedes the Lat./long.

