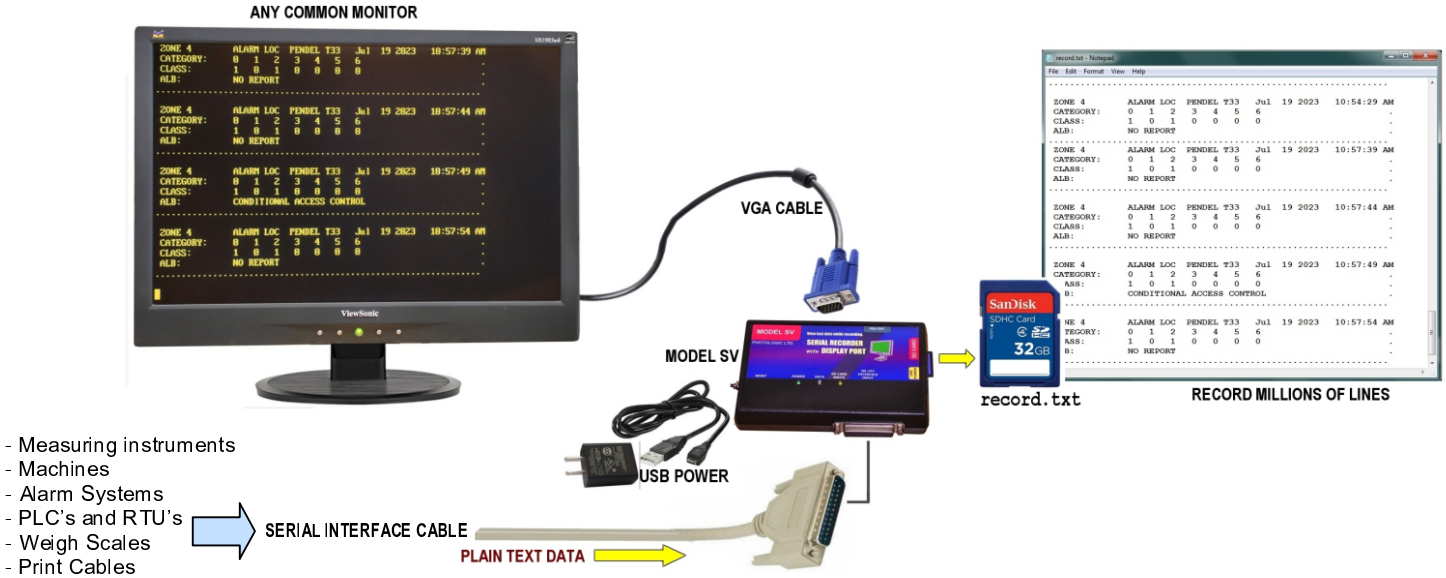
MODEL SV RS232 SERIAL RECORDER WITH DISPLAY

The Model SV enables the user to record RS-232 text data from measuring instruments, machines, PC's, PLC's or alarm system panels and display the received data at the same time clearly on a large screen.

The display also assures the user that data is being recorded as the SD Card storage is checked during the display process.

VERY SIMPLE SETUP

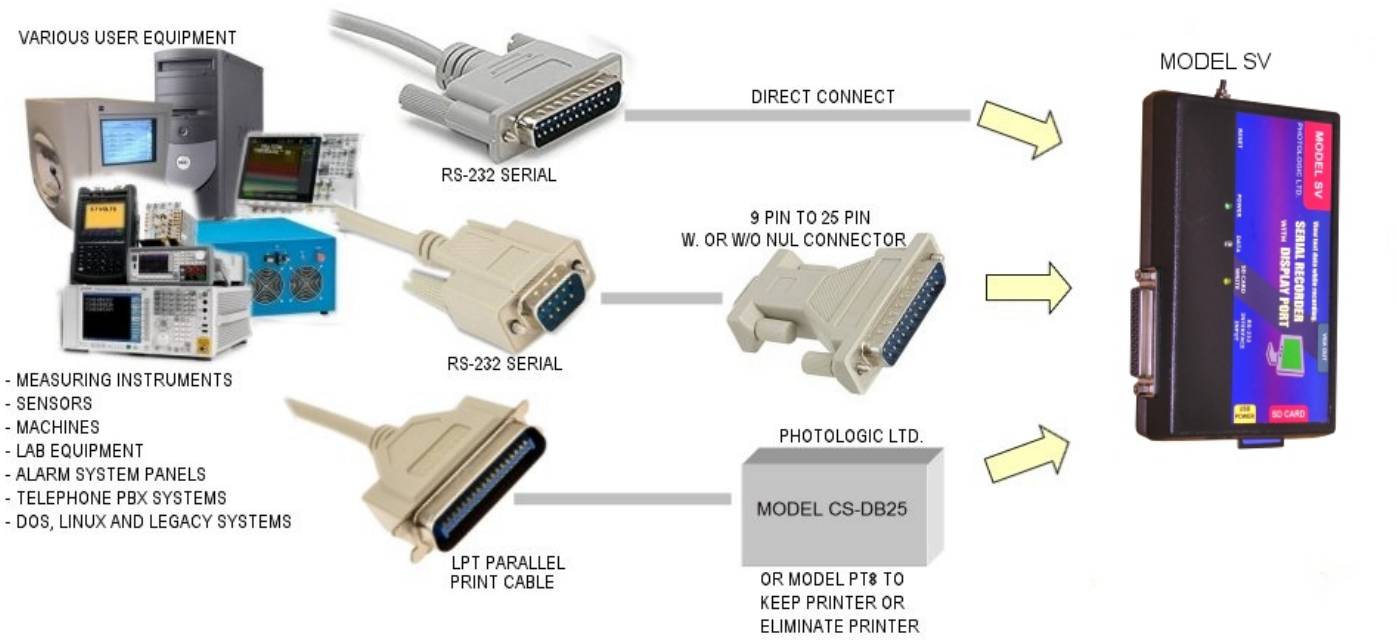
- Just plug in cables, and set the Serial Baud Rate.
- There is no PC involved, so there is little attention required by the user.



FEATURES:

Input:	RS-232 DB25 25 Pin Female Connector (Plain Text Data).
Output:	DB15 VGA Port for PC Monitors & smart TV's (e.g. 55 inch)
Power:	Common USB Cable (Micro B USB to Type A) Plug into any convenient USB port. Cable and Wallmount power supply is included.
Display Area:	80 columns by 25 lines 100 columns by 29 lines 160 columns by 40 lines
File Created:	record.txt (data is appended).
SD Card Capacity:	200 million print lines (16GB Card) at 80 characters/line
SD Card Type:	Original Popular SD or SDHC (Not SDXC or SDUC)
SD Card Failure:	Card test occurs for each data write. The user is alerted with Red Text screen if writing failed.
RS-232 Flow Control:	Is supported to stop data being received if SD Card fails. In that case the user must support Hardware flow control.

CONNECTING TO MODEL SV:

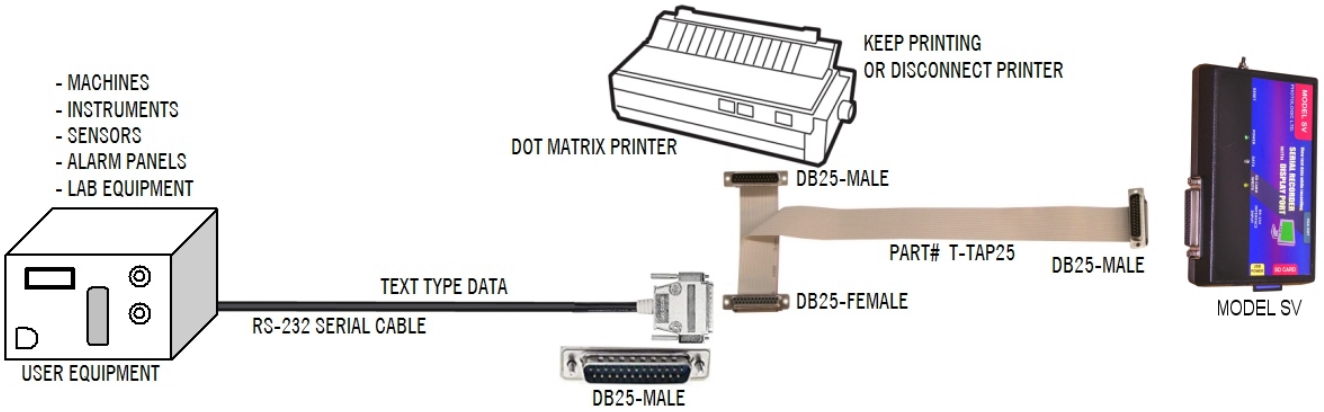


- Capture text data from all sorts of equipment that output text reports using a RS-232 serial interface.
  Match connectors of your serial port with a combination of gender changer, nul cable, or 9 to 25 pin adapter.

User equipment back panel may utilize these type of connectors for RS-232 Serial Interface:

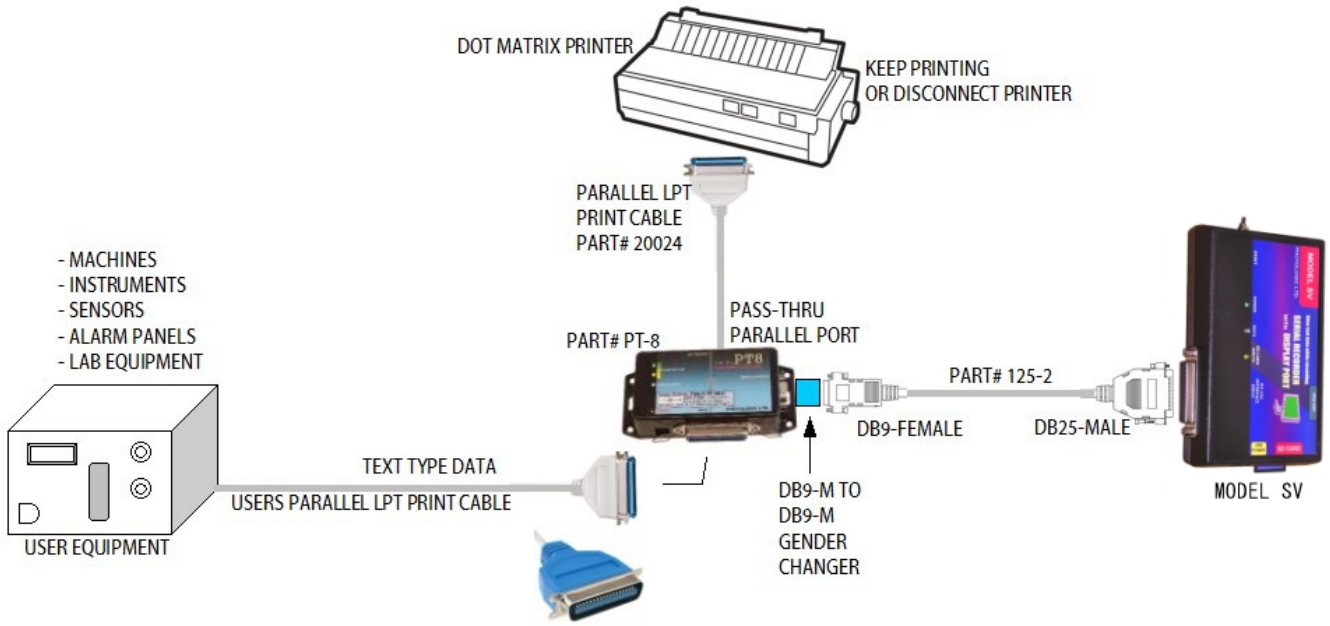
Check the machine user guide to confirm that a 25 pin interface connector is RS-232 serial, not LPT parallel.

TAP INTO AN EXISTING SYSTEM USING T-TAP25 SPLITTER CABLE



- User continues to print normally, but also has both a record.txt file and a collectable email of the print data.

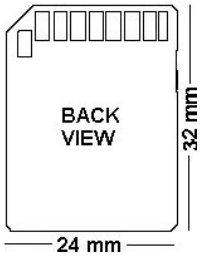
TAP INTO AN LPT PARALLEL PRINTER INTERFACE



SD CARD:

Choose 2GB to 32 GB
Popular Standard Original Type: "SD" or "SDHC"
- Not MicroSD
- Not miniSD

Scope of Capacity:
2 GB size will store about 2,000,000,000 text characters.
This capacity far exceeds most users needs, as
2 million 1,000 character reports can be saved.



File On SD Card:

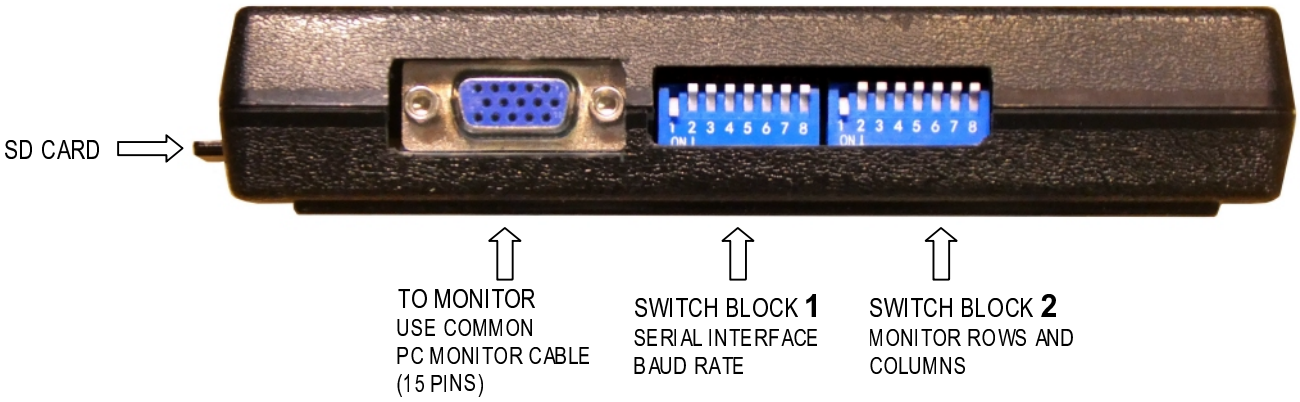
`record. txt`

Example For 16 GB SD Card
If your equipment is outputting 80 column text reports
then you will be able to store approximately 16,000,000,000 chars. / 80 col. = 200 million text lines

If your equipment outputs a 100 line text report every 5 minutes then you will be able to record for
200 million lines / (100 lines / 5min.) = 10,000 min. = 6,916 days

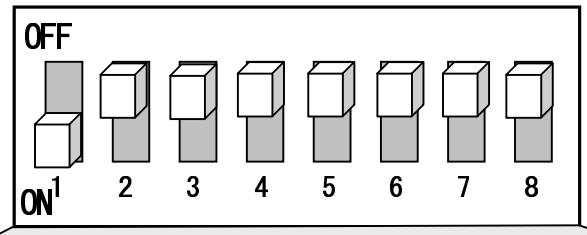
Generally the storage capacity far exceeds that required for most applications.

BACK VIEW:



SWITCH SETTINGS:

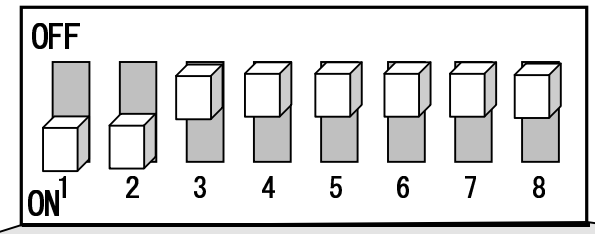
SWITCH BLOCK 1



THE SWITCH DIAGRAM SHOWS
SERIAL INTERFACE INPUT SETTING FOR:
9600 BAUD, 8 DATA BITS, NO PARITY BIT

SWITCH	SERIAL INTERFACE INPUT							
	BAUD							
	600	1200	2400	4800	9600	19200	38400	57600
1	OFF	OFF	OFF	OFF	ON	ON	ON	ON
2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
3	OFF	ON	OFF	ON	OFF	ON	OFF	ON
4	ON = USE PARITY BIT			OFF = NO PARITY BIT				
5	ON = ODD PARITY			OFF = EVEN PARITY				
6	ON = 7 DATA BITS			OFF = 8 DATA BITS				
7	ON = AUTO LINEFEED			OFF = NO AUTO LINEFEED				
8	NOT USED							

SWITCH BLOCK 2



THE SWITCH DIAGRAM SHOWS THE MOST POPULAR SCREEN FORMAT: 25 ROWS, 80 COLUMNS.

SW1	SW2	SW3	COLUMNS	LINES	COLOR	COMMENTS
OFF	OFF	OFF	128	36	GRN	Vert margin may need adjustment on monitor.
OFF	OFF	ON	80	25	YEL	Vert margin may need adjustment on monitor.
OFF	ON	OFF	90	27	YEL	Vert margin may need adjustment on monitor.
OFF	ON	ON	85	45	YEL	Dotty display
ON	OFF	OFF	100	31	GRN	Popular
ON	OFF	ON	80	43	YEL	Popular
ON	ON	OFF	80	25	YEL	Very Popular
ON	ON	ON	160	40	WHT	For Wide Body Reports. L.H. Margin may need adjust.

After switch settings are chosen, the SV unit requires two power-up's or
press Reset Pushbutton then wait for splash screen, then press pushbutton a second time and wait for splash screen.

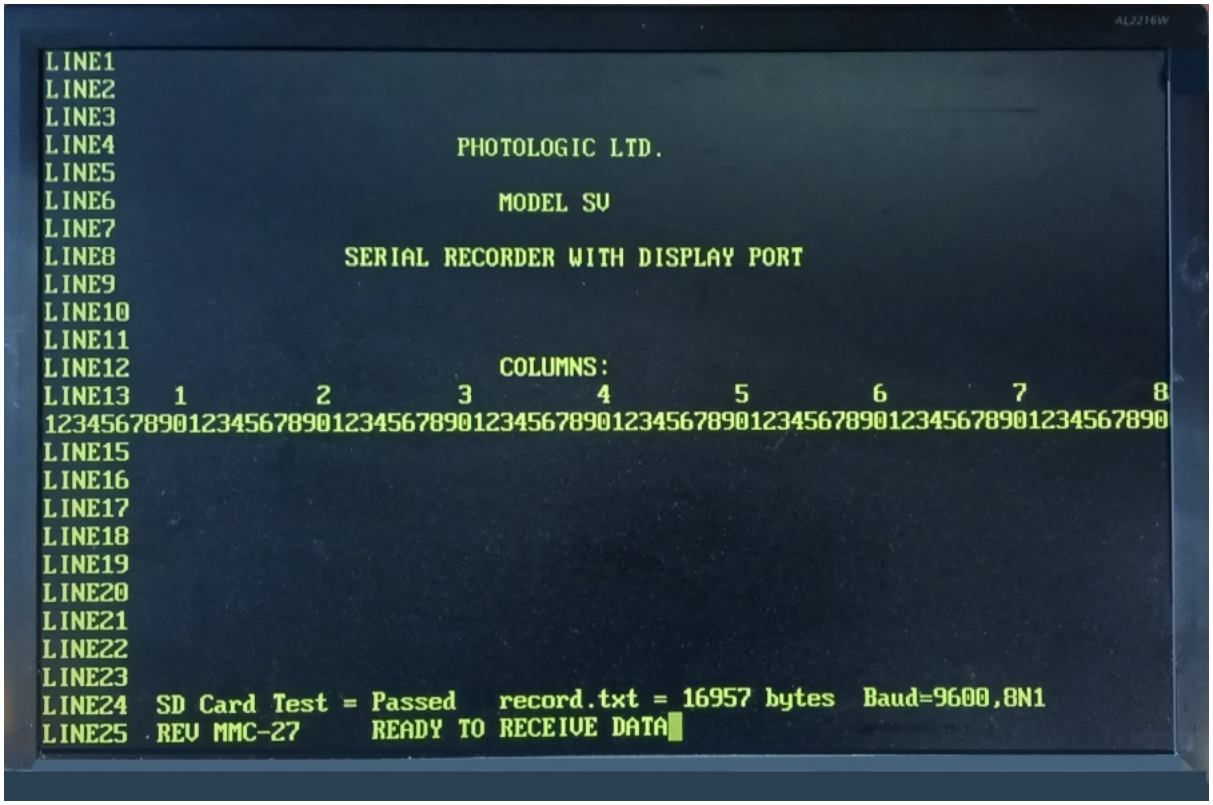
Generally the margins align correctly on monitors. In some cases a margin may have to be adjusted in the monitor settings or television screen settings.

SPLASH SCREEN:

A splash screen is displayed after Model SV powers up or the Reset Pushbutton is pressed.
Shows:

- Number of columns
- Number of rows
- Serial Interface Setting
- File size of SD Card **`record.txt`**
- SD Card Test: Passed or Failed

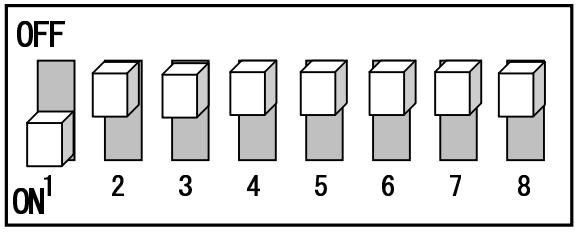
Use the splash screen to verify your settings during installation.



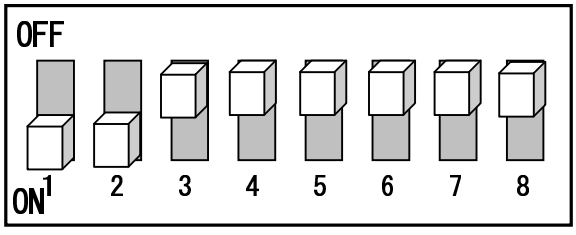
The splash screen is removed after first character of report data is received at serial interface input.
The splash screen appears about 5 seconds after power up or Pushbutton Reset.

NOTE: After changing to new screen format settings (Switch Block2), the new setting does not take affect until a second power up occurs.

SWITCH BLOCK 1



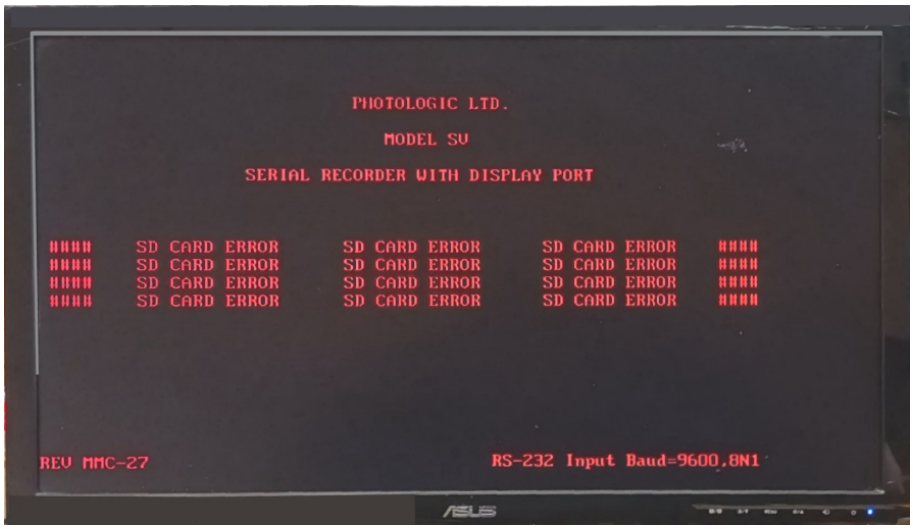
SWITCH BLOCK 2



The above switch settings apply to the splash screen shown above. Format: 80 columns x 25 lines

ERROR SCREEN:

When there is an SD Card error the text on the screen turns Red.



This screen is displayed if SD Card fails on power up. The card may be defective, not compatible, or not installed.

Occurances:

1.) When Model SV is powered up the Write/Read test of the card fails.

2.) When during reception of RS-232 serial data a block of data fails to append to the SD Card record.txt file.

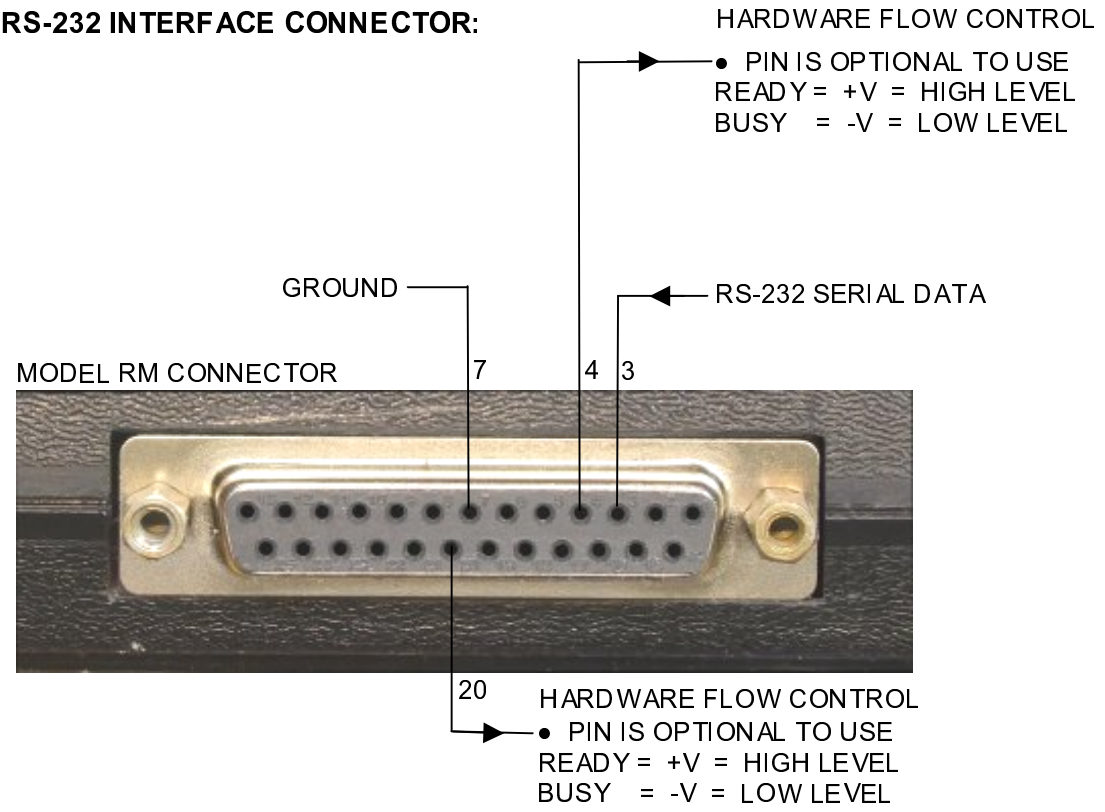
Symptoms:

1.) Screen text turns Red
2.) RS-232 Interface flow control pins are set to "Busy" (DB25 Pin 20 & Pin 4 = -V)
3.) The Yellow LED "SD Card Write" is locked ON.
4.) Model SV is locked in failure mode until a power up occurs or the Reset pushbutton is pressed.

The above feature gives the user good feedback indicating success or failure of the recording function.

During an error, the user should not lose any RS-232 data if the user is implementing Hardware Flow Control on the machine or instrument (Model SV sets Pin 20 & Pin 4 to negative voltage during an error).

RS-232 INTERFACE CONNECTOR:



- ▶ The interface looks like a printer to the user machine/measuring equipment.
- ▶ Model SV only requires Pin 3 and Pin 7 to operate.
- ▶ Your data cable does not have to be a printer cable. It may be any serial text data from your equipment serial port.

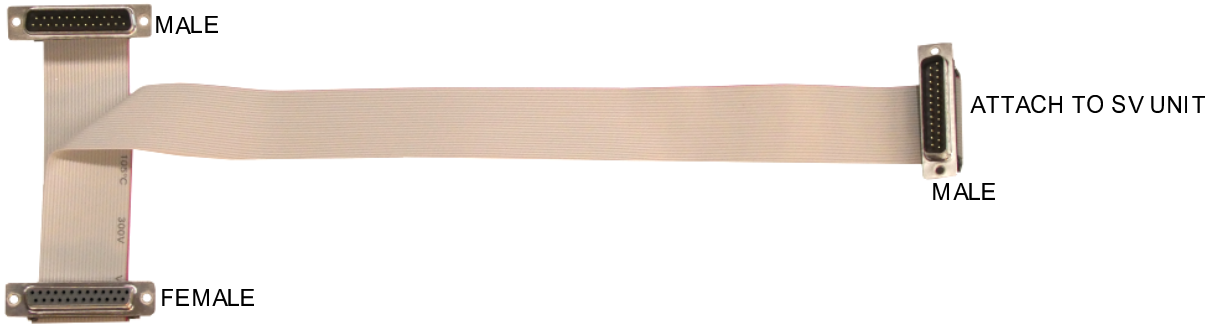
TO SUPPORT OTHER SERIAL DATA CABLES:

Use combinations of:

- NUL Model Cable/Adapter
- DB9 to DB25 Adapter
- Gender Changer

OPTIONAL SPLITTER CABLE PART# T-TAP25

- For capturing data in the background from existing setups.
- Capture machine/instrument reports remotely without IT skills or resources.
- Does not interfere with existing equipment setups as pass-thru is straight “copper” connection.
- Just plug into a D-Sub 25 Pin RS-232 serial port. Add Extension Cable or NUL Cable if required.



PROBLEM SOLVING:

Lines of text data appear on the screen, but ther are no linefeeds:
Enable AUTO LINEFFED: Set Switch Block 1, SW7 = ON

Lines of text data are incorrect causing garbage printing on display:
- The Baud Rate/ Parity/ Data Bits settings in Switch Block 1 are likely incorrect.
- The users equipment is not sending plain ASCII text to the SV unit.

The text appears correctly on the screen but a margin may be cutting off characters:
- The monitor or TV used may require setting of its margins.
- Some monitors or TV may be unsuitable.

The SD Card causes constant Red Error Screen:
- The SD Card may be defective.
- Some SD Cards may not be compatible.
  Choose original Popular SD or SDHC (Not SDXC or SDUC)

The Screen Format Settings were changed, but no screen change took place:
- After changing to new screen format settings (Switch Block2), the new setting does not take affect until a second power occurs.