

Astro Analog Pattern Generator Support:

The SS200 supports the Team/Astro VG series of Analog pattern generators by means of RS232 serial interface.

VG-827 / VG-829

To connect the pattern generator:

1. Connect the Astro to the UUT as specified in the Astro manual. Power ON the PG BEFORE starting the SS200.
2. Connect the Astro to the SS210 RS232 port "Serial A" or "Com 1" with an "7-Wire straight through" RS232 cable (see notes at bottom of help)
3. Start the SS200 and set "Pattern Generator Version"=201 and "Remote MATL File"=PGASTRO.MTL in the main setup.
4. When you exit setup, the SS200 will restart, and the "prog" light on the VG should start blinking. This indicates that the VG is now being controlled by the SS200.
5. Now that "Remote MATL File"=PGASTRO.MTL is selected, additional setup variables will appear at the top of the main setup:

"VG type": Enter the VG pattern generator number: 829 for VG-829 or 827 for VG827 /826A

"Timing number": Enter the two digit program number to use here. The VG interface supports only the standard/user programmed timings resident in the VG: no timings are downloaded from the SS200.

"Color change delay (sec)": With some monitors/timings, the display will require time to stabilize after color changes. Increase this value if the UUT takes more than one second to stabilize after a color change.

"Pattern change delay (sec)": Set to "0" unless Comm errors occur. If Comm errors occur, gradually increase until errors cease.

"Astro Comm delay (sec)": Set to "0" unless Comm errors occur. If Comm errors occur, gradually increase until errors cease.

"Window y offset": must be =0

"Comm timeout": do not change

"Debug loop": must be = 0.

"Communications Variables": The "Comm Port" should be set to the port used on the Microvision computer (1 or 2). The other variables should reflect the Astro's configuration.

- Parity = none
- Stop bits = 1
- Data bits = 7
- Baud Rate = 19200

VG-828

To connect the pattern generator:

1. Connect the Astro to the UUT as specified in the Astro manual. Power ON the PG BEFORE starting the SS200.
2. Configure the Astro VG-828:
 - On the Astro front panel, press <Func>, then <5>, and then <Set>.
 - Then use the scroll buttons (the double arrows up and the double arrows down) to select the "RS-Speed" and the "RS-Dlen" setup. Change the speed to 19200 (enter <1>) and the Dlen to 7 (enter<0>).
 - Next, go back to Function 0 by pressing <Func>, <0>, then <Set>. Then manually scroll thru the different programs until you find a compatible timing. Then manually change the pattern to a full black screen by turning off the default pattern (press the pattern button that has the light on). Note: Only press one of the 16 pattern buttons that are on the left, **do not** press any of the other buttons such as R, or G or B.
3. Connect the Astro to the SS210 RS232 port "Serial A" or "Com 1" with an "7-Wire straight through" RS232 cable (see notes at bottom of help)
4. Start the SS200 and set "Pattern Generator Version"=201 and "Remote MATL File"=PGASTRO.MTL in the main setup.
5. When you exit setup, the SS200 will restart, and the default crosshatch pattern should be displayed on the UUT. This indicates that the VG is now being controlled by the SS200.
6. Now that "Remote MATL File"=PGASTRO.MTL is selected, additional setup variables will appear at the top of the main setup:

"VG type": Enter the VG pattern generator number: 828 for VG-828

"Timing number": Enter the two digit program number to use here. The VG interface supports only the standard/user programmed timings resident in the VG: no timings are downloaded from the SS200. To find a timing compatible with your monitor, Go to "Function 0" and scroll through the different timing files (programs).

"Color change delay (sec)": With some monitors/timings, the display will require time to stabilize after color changes. Increase this value if the UUT takes more than one second to stabilize after a color change.

"Pattern change delay (sec)": Set to "0" unless Comm errors occur. If Comm errors occur, gradually increase until errors cease.

"Astro Comm delay (sec)": Set to "0" unless Comm errors occur. If Comm errors occur, gradually increase until errors cease.

"Window y offset": must be =0

"Comm timeout": do not change

"Debug loop": must be = 0.

"Communications Variables": The "Comm Port" should be set to the port used on the Microvision computer (1 or 2). The other variables should reflect the Astro's configuration.

- Parity = none
- Stop bits = 1
- Data bits = 7
- Baud Rate = 19200

VG NOTES:

Windows users must have software version V1.65A or higher.

If "Comm init error" is displayed at startup, shut down the SS200, power down the VG, power up the VG, then restart the SS200.

The VG generators have three separate memory banks feeding the 8-bit DACs:

1. A 1-bit graphics plane with a selectable 8x8x8bit "on" color - used here for target foreground.
2. A single rectangular window with 8x8x8 bit color - used here for target background
3. A 16x16 color plane, each point with separate 8x8x8bit color select - used here for screen loading patterns.

There appears to be some limited interaction between the layers: for example, setting the window region also appears to clear the corresponding bits in the graphics plane. Therefore it is best to build patterns in the following order: Clear screen/set window color/set window/set graphics color/set graphics.

SIGNAL	VG-829 DB25	VG-827/26A DB9	SS200 DB9
TXD	2	2	3
RXD	3	3	2
RTS	4	8	7
CTS	5	7	8
DSR	6		6*
SG	7		9
DTR	20		4*
FG	1	5	5

*NOTE: DSR&DTR may be tied together at the SS200 end for "5-wire" RS232.

NOTE: Be sure you get the right cable: many RS232 cables do not pass all of the signals required by the VG.

Comm Error Numbers:

100-input string exceeded buffer length

101-input timeout

208-output timeout (PG may not be turned on)