

SERIAL COMMAND SET

All functions of the 4View can be controlled by the serial port. This section discusses the 4View processor **RS-232 SERIAL CONTROL** commands. and provides a complete listing of the serial command set.

GENERAL

The 4View processor can be controlled using either the front panel or commands issued to the RS-232 serial control port.

Commands typically consist of a command word followed by an identifier and parameter value (input commands use an input number identifier but this is not used in commands that are not input related).The command set is made up of ASCII characters and is not case sensitive. The commands can be spelled out or abbreviated. For example, the **FULLSCREEN** command can be specified as **fullscreen**, **FULLSCREEN**, **FS**, or **fs**. Both forms of the command (long and short) are listed, as well as their associated parameters and descriptions.

SERIAL COMMAND SET USAGE

Serial commands can be used to set a new value or find the current state for a particular parameter. Parameter values are expressed using decimal notation and a space is required between a command and its argument. For example to set the brightness setting for input 3 to 123 the following command would be sent to the 4View serial port:

BRI 3 123

Note: To execute serial instructions, each command line must be followed by a carriage return

To find the current brightness level of input 3, type **BRI 3**. The 4View will return the current value (i.e. Brightness = 123).

Illegal commands or arguments generate error messages.

SERIAL COMMAND LIST

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TABLE 1. RS-232 Serial Command Set

Command	Arguments	Description
BankA / BankB	(none)	Simultaneously switches all four input channels between Bank A and Bank B inputs (composite inputs only).
BauD	<4800, 9600, 19200, 38400, 57600, 115200>	Sets the <i>baud</i> rate. The value is saved automatically in NVRAM. Factory default: 9600
BorderColor	<White Yellow CYan GreeN MaGenta ReD BLue BlacK HalfWhite HalfYellow HalfCYan HalfGreeN HalfMaGenta HalfReD HalfBLue TRansparent>	This command sets the color of the quadrant borders. The color choices are eight "color bar" colors, seven half intensity versions, and transparent. An example of usage, on the prompt line (>) type: BC BL (border color blue) Factory default: Transparent
BordercontroL	<ON OFF>	Turns borders On or Off. Note: In 1280x 1024 progressive output mode, turning off borders in QUAD mode results in no spacing between quadrants. Factory default: ON
BorderSize	<xsize> <ysize>	This command sets the width of the vertical <i>border</i> and the height of the horizontal <i>border</i> in the quad window. The xsize width range is 0 to 99 pixels and the ysize height range is 1 to 99 lines. An example of usage after the prompt (>) type: BS 8 40 Factory defaults: NNP 5 22 NNI 38 20 NW 16 16 PN 38 8
BRiGhtness	<input#> <-500...500>	This command sets the <i>brightness</i> value of the video source within the given input channel. ¹ The nominal value for <i>brightness</i> is 0. Factory default: 0
CONTRast	<input#> <0...199>	This command sets the <i>contrast</i> value of the video source within the given input channel. ¹ The nominal value for <i>contrast</i> is 100. Factory default: 100

TABLE 1. RS-232 Serial Command Set (Continued)

Command	Arguments	Description
DEMO	<1...1800>	<p><i>Demo</i> cycles between quad mode and fullscreen (fs) mode in the following order: quad, fs 1, quad, fs 2, quad, fs 3, quad, fs 4.</p> <p>With no argument, each state lasts 1.5 seconds. Each argument gives the time of each state in seconds. The demo mode will survive power cycles, but may be disabled by pressing any front-panel button. The demo mode may also be disabled over the serial port by issuing the QUAD or FS commands.</p> <p>Note: The time designated for the demo in the serial port temporarily overrides the <i>Cycling Rate</i> time set through the LCD menu.</p>
ECHO	<ON OFF>	<p>Turns the serial <i>echo</i> On/Off. The value is saved in NVRAM. The <i>echo</i> is only on commands typed and sent to the unit.</p> <p>Note: <i>Echo</i> setting has no effect on responses issued by the 4View processor; responses are always visible, regardless of the <i>echo</i> status.</p> <p>Factory default: ON</p>
FrameLock	<ON OFF>	<p>This command allows the output frame-rate to be locked to the input frame-rate. This is only useful in an environment where the inputs are genlocked (typically studio monitoring applications).</p> <p>The <i>framelock</i> source is always input 1, with the input determined by the IN command.</p> <p>Factory default: OFF</p>
FreeZe	<input# ALL> < ON OFF >	<p>This command allows the given input (or all inputs) to be frozen or unfrozen. The freeze command does not carry over if you switch banks.</p> <p>Factory default: OFF</p>
FrontPanel	<ON OFF>	<p><i>Front panel</i> Off disables access to the front panel. In this mode the LCD indicates that the front panel is disabled. The <i>front panel</i> state is never stored in NVRAM; <i>front panel</i> is always On after a power cycle.</p> <p>Factory default: ON</p>
FullScreen	<input#>	<p>This command takes a selected input source (1, 2, 3, or 4) and displays it in <i>full screen</i>. Any extra arguments you enter are ignored.</p> <p>For example, FS 3.</p> <p>Note: The <i>full screen</i> command without an argument will return the input number currently being displayed or "OFF" if the unit is in <i>quad</i> view. In wide screen this refers to the large (main) image window.</p>
Help	<[command]>	<p><i>Help</i>, without an argument will display the entire serial command set. <i>Help</i>, with a command as an argument will display detailed information about that command.</p>
HUE	<input#> <-180...180>	<p>This command sets the <i>hue</i> value of the video source within the given input channel.¹</p> <p>The nominal value for <i>hue</i> is 0.</p> <p>Factory default: 0</p>
ID	(none)	<p>Displays the product identification, product name, firmware version number, date, and serial number.</p>

TABLE 1. RS-232 Serial Command Set (Continued)

Command	Arguments	Description
INput	<input#> <COMPOSITE A COMPOSITE B SVIDEO SDI>	Sets the input source to Composite A, Composite B, or S-Video. Each input has two BNC connectors which can take two composite sources (COMP A and COMP B), or one S-Video (SVID). Model 100 SDI can take SDI as an <i>Input</i> . Factory default: COMPA
LABEL	<input#> <"string">	Assigns a label to the designated input. The label is center justified, and is restricted to uppercase alphabetic characters, numbers, and spaces. When creating a <i>label</i> using the RS-232, the <i>string</i> must be enclosed in double-quotes. For example, LABEL 3 "Window 1" (the quotes will not show up on the window label). To erase a label type a null string. For example, LABEL 3 "" . Each source (Composite A, Composite B, and S-Video) can have an associated label. If the source viewed on any input is changed (using the IN command) the label associated with that source will be displayed. Factory default: blank
LabelColor	<White Yellow Cyan Green Magenta Red Blue Black HalfWhite HalfYellow HalfCyan HalfGreen HalfMagenta HalfRed HalfBlue Transparent>	This command sets the color of the labels. The color choices are eight "color bar" colors, seven low intensity colors, and transparent. An example of usage, on the prompt line (>) type: LC CY (label color cyan) Factory default: White
Labelcontrol	<ON OFF>	Turns label text On or Off. Applies globally to all labels. Factory default: ON
LabelPosition	<TOP BOTtom>	This command positions the labels either above or below the full screen image. Factory default: Top
lcdbackLIGHT	<ON OFF>	Turns front panel LCD display backlight on / off.
LCDCON	<0...14>	Adjusts contrast of front panel LCD.
OverScan	<input# ALL> <ON OFF>	This command performs an automatic enlargement on video inputs. It is useful for trimming out excess blanking in video sources. Factory default: OFF
Quad	(none)	Active in normal output mode only (inactive in wide screen). Switches the output display to quad split from full screen. (see also <i>full screen</i>)
RestoreFactoryDefaults	(none)	Restores all user settings to their factory default values.
SATuration	<input#> <0...199>	This command sets the <i>saturation</i> value of the video source within the given input channel. ¹ The nominal value for <i>saturation</i> is 100. Factory default: 100
SaveConfiguration	(none)	Forces an update and explicit save of the system's NVRAM. This stores configuration information on all display parameters.

TABLE 1. RS-232 Serial Command Set (Continued)

Command	Arguments	Description
SHARPNess	<input#> <-8...7>	This command sets the <i>sharpness</i> value of the video source within the given input channel. ¹ The nominal value for <i>sharpness</i> is 0. Factory default: 0
STandarD	<NNP NNI NW PN>	Configures 4View for a new Operating standard. NTSC/Normal/Progressive Scan NTSC/Normal/Interlaced Scan NTSC/Wide/Progressive Scan PAL/Normal/Interlaced Scan Note: Using this command results in reset and reconfiguration of the device.
SyncFormat²	<hfp> <hs> <vfp> <vs> <sync> <hpol> <vpol>	This command sets the timing, polarity, and type of <i>Output Sync</i> . It can be used to modify all seven associated parameters, or to modify a single parameter. If modifying all seven associated parameters, all values are required and must be given in the following order: hfp, hs, vfp, vs, sync, hpol, vpol after the command. For example, on the prompt line type: SF 10 100 3 3 5 1 1 See Table 9 for factory defaults.
SyncFormat²	<HFP HS VFP VS SYNC HPOL VPOL> <value>	If modifying only one parameter, the command (<i>SF</i>), the parameter command (one of these: hfp, hs, vfp, vs, sync, hpol, vpol) and its value is required. For example, to modify only one argument, type: SF HS 100
UNderScan	<input# ALL> <ON OFF>	Used to reveal edges of video outside the range of the normal horizontal blanking interval. Note: Model 100 U and Model 200 U only
VERsion	(none)	Displays the product identification, product name, firmware version number, date, and serial number.

1. For the signal to be adjusted, it must be displayed and defined by the **INput** command (Composite A, Composite B, or S-Video).

2. Sync Format:

hfp is the horizontal front porch value in pixels. It is the distance from the end of horizontal active video to the leading edge of horizontal sync.

hs is the horizontal sync length in pixels.

vfp is the vertical front porch value in lines. It is the distance from the end of vertical active video to the leading edge of the vertical sync.

vs is the vertical sync size in lines.

sync determines whether the output is sync on green (3), separate composite sync (4), or separate horizontal and vertical drives (5). The default value is 5.

hpol is the polarity of hdrive (when sync = 5). The default value is 1.

0 = Active low | 1 = Active high

vpol is the polarity of vdrive (when sync = 5). The default value is 1.

0 = Active low | 1 = Active high

The ranges for the hfp, hs, vfp, and vs are given in the table below. These ranges depend on sync format and output resolution. Default values are given in parenthesis.

TABLE 2. Ranges for hfp, hs, vfp, and vs

	4-wire or 5-wire		3-wire (sync on green)	
	1280 x 1024 p	1500 x 1080 i	1280 x 1024 p	1500 x 1080 i
hfp	-20 to 200 (48)	-10 to 100 (10)	0 to 200 (48)	0 to 100 (10)
hs	100 to 408 (112)	50 to 228 (114)	100 to (308 - hfp) (112)	50 to (178 - hfp) (114)
vfp	0 to 20 (1)	0 to 10 (3)	0 to 20 (1)	0 to 10 (3)
vs	1 to 12 (3)	1 to 12 (3)	1 to 12 (3)	1 to 12 (3)