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STROKE-TO-VIDEO
SCAN CONVERTER CHASSIS
MODEL SSC/623

USER'S MANUAL

Document No. 640-003623 Rev. B

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APPENDIX A – MODEL SSC/623 MAJOR COMPONENTS PART NUMBERS

Read all instructions before using this product.

1 SSC/623 DESCRIPTION

1.1 Product Safety

The SSC/623 has been designed, tested and listed as meeting the requirements of ANSI/UL61010, Safety requirements for electrical equipment for measurement, control, and laboratory use. As defined in this standard, the product secondary circuits are considered Category I, designed for connection to circuits other than the power mains. The SSC/623 contains a limited amount of circuitry may be considered hazardous as defined in this standard. These circuits are located within the enclosure. Access to these circuits should only be for maintenance or repair by trained personnel. All hazardous voltages are enclosed behind panels that require a tool to open.

AC Mains Connection to the Product. The SSC/623 is connected directly to an AC power by a three wire power cord. The supply outlet must be properly wired and grounded for safe operation.

WARNING

When replacing the line cord use a line cord with the same rating and specifications as originally supplied with the SSC/623. An improper line cord can create a safety hazard.

Do not use outdoors or in an environment not included within the specifications section.

Install the product with proper ventilation and cooling as recommended.

1.2 Function

1.2.1 Features

The SSC/623 Stroke-to-Video Scan Converter is designed to provide the following features.

- Convert XYZ stroke signals (radar, sonar, HUD, spectrum analyzer) or Stroke/Raster input signals to TV raster format video signals.
- One of two XYZ analog input processing ports can be selected (1 balanced and 1 unbalanced)
- Decay Rate Selection
- Differential Delay Control.
- Video Genlock
- Video mixing of scan converted video (RS-343 with RS-343 composite video source).
- Internal Test Pattern
- Front Panel Display for Control

- Remote Control via RS-232 Port and ANSI 'C' Driver
- Composite (RS-170/RS-343) or VGA format video output signal.
- Advanced scaling algorithm provides excellent quality video output.
- Accepts a wide range of stroke (XYZ) input signals.
- Configured as a self-contained rack mountable unit.

1.2.2 Benefits of Conversion to TV Format

- Signal can be viewed using low cost off-the-shelf TV monitors.
- Signal can be recorded using standard TV cassette recorders.
- Conversion to video format simplifies transmission and switching.

1.2.3 Description

Stroke video is generated by a variety of random deflection devices. Examples include radar and sonar devices, spectrum analyzers, and heads-up-display generators. The SSC/623 is a vector to raster scan converter with two sets of vector (X, Y, and Z) inputs. It can operate with signals in which the X and Y input change randomly between stroke and raster format by accepting either stroke or raster Z input under control of a stroke/raster input signal. The unit accepts video signals through its balanced or unbalanced input ports and converts the selected port's video to an RS-343 raster scan format. The input select, gain, offset, and polarity are controlled via the front panel or remote control port. A second composite RS-343 signal can be applied to the unit. The SSC/623 mixes the two video, providing mix/key control via the front panel or remote control port.

The major component of the Model SSC/623 is the Stroke-to-Video Scan Converter circuit board, which converts the selected input channel's X, Y, and Z signals into standard RS-343 video raster format.

After conversion, the video output can be viewed using low cost off-the-shelf TV monitors and recorded using standard TV cassette recorders. The video output signal can be routed easily using standard video cabling and transmission techniques.

High frequency sampling, used in combination with an advanced scaling algorithm, ensures the high quality of the output video images. Scaling is particularly important for the conversion of computer generated graphics or alpha-numerics. Scaling for the circuit board of the SSC/623 is implemented using multitap FIR filtering and advanced interpolation both horizontally and vertically, to generate an 8-bit (256 level), high-resolution video signal. A selection of six different decay rates provides emulation of a wide variety of stroke monitors.

The SSC/623 scan converter process can accept input signals in a stroke format or a raster format, as well as in a mixed stroke and raster format. Some stroke signal generating devices change their output signal format between stroke and raster format to present special display information. The SSC/623 stroke to raster conversion board can utilize a stroke/raster control signal to control its internal processing on the fly so that both

stroke and raster data appear in their proper location and intensity in the same output video signal.

A Genlock input is provided for the stroke-to-video converter to lock the output converted signal to another video signal or composite sync to provide a common time base with an external video system. The SSC/623 includes an internal test signal generator, which can be used to either confirm proper operation or to provide for fault isolation.

2 USING THE MODEL SSC/623

2.1 Configuration

The SSC/623 assembly (Delta P/N 830-900064-01) is a self-contained unit designed to mount in a conventional 19-inch equipment rack. It measures 16.75 inches wide (without the 19-inch rack mounting flanges) by 12 inches deep, by one rack unit (1.75 inches) high. The front panel display consists of two rows of 20 characters each. A four button front panel keypad and optical numerical encoder knob are used with the display to set up the unit. The numerical encoder has an associated LED that indicates when the encoder is active. An overload indicator and test points for the X, Y and Z inputs are also provided. All interface connections are through connectors on the rear of the unit. See Figure 1 and

Figure 2 for photographs of the front panel and rear panel respectively.



Figure 1: SSC/623 Front Panel



Figure 2: SSC/623 Rear Interface Panel

2.1.1 SSC/623 INTERNAL WIRING

The SSC/623 contains a limited amount of circuitry may be considered hazardous as defined in the ANSI/UL61010 standard. These circuits are located within the enclosure. Access to these circuits should only be for maintenance or repair by trained personnel. All hazardous voltages are enclosed behind panels that require a tool to open.

The SSC/623 Scan Converter subassembly is a single circuit board accompanied by and AC input power supply module that provides all of the circuit board's required voltages. . The SSC/623 scan converter circuit board (Delta P/N 730-100469-01) is mounted via standoffs to the floor of the SSC/623 chassis.

The AC power supply (Delta P/N 520-500023) measures approximately 3" x 5" and is mounted to the base plate of the SSC/623. The DC voltages are wired from the CN2 connector of the power supply to the power connector on the SSC/623 circuit board.

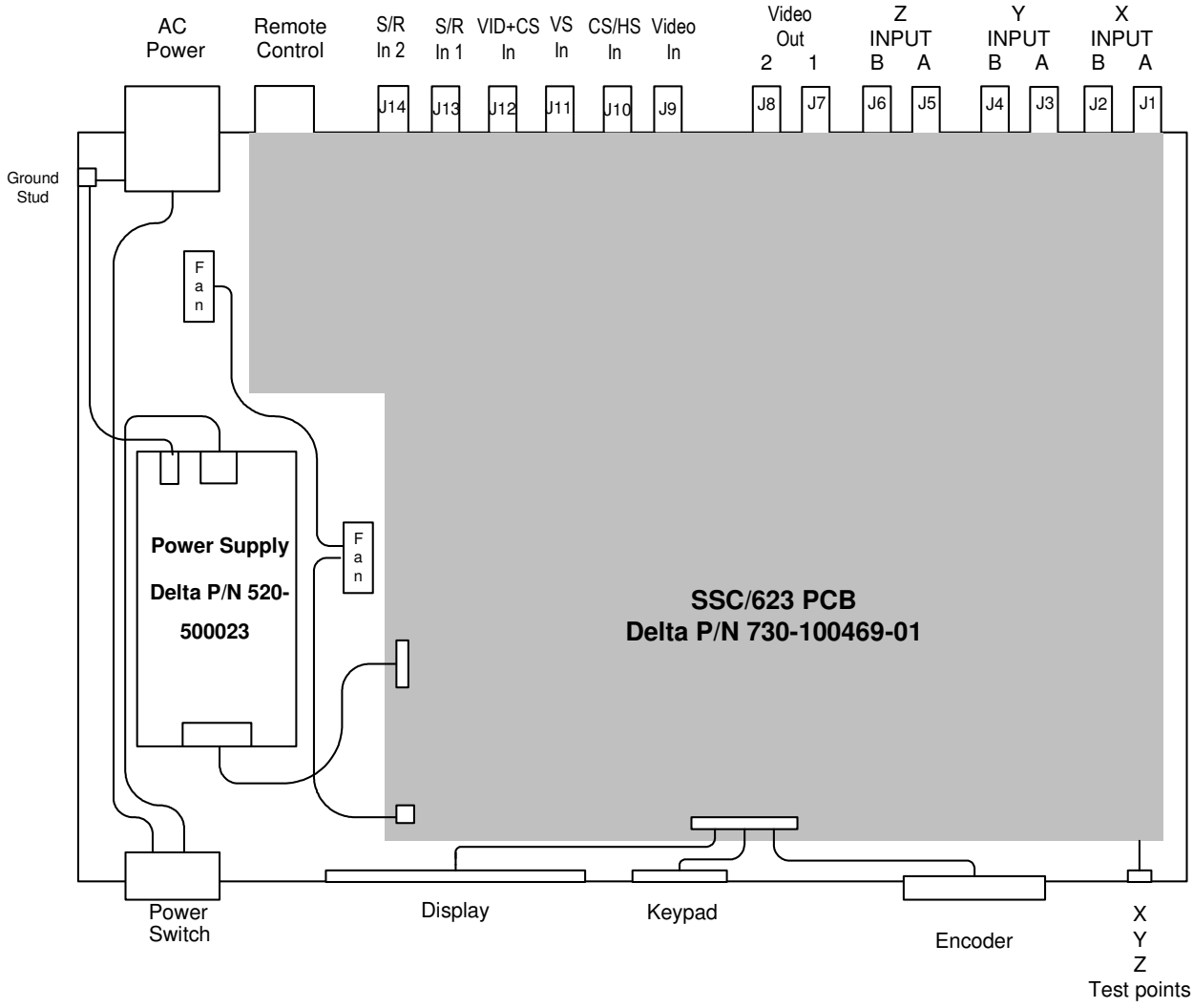


Figure 3: SSC/623 Internal Wiring

2.2 Equipment and Installation

Delta delivers the Model SSC/623 as a self-contained stroke-to-video san converter operating from ac power. To accomplish its function of converting stroke signals or stroke/raster input signals to TV raster format video signals, the Model SSC/623 contains the following major components.

Stroke-to-Video circuit board

Power Supply

Control Display Panel

Control Keypad

Optical Numerical Encoder Control

Connector Panel

All video, data, and power connections are located on the rear connector panel. See Table 1. The control display, keypad, numerical encoder and a power switch are located on the front panel. See Section 2.5. The Model SSC/623 contains a wide range ac input power supply which provides all the dc voltages required by the unit. This section provides mounting and cabling information for the Model SSC/623

2.3 Chassis Mounting

The SSC/623 is designed to mount in a conventional 19-inch equipment rack. The chassis is 1.75" high, 16.75" wide and 12" deep. Rack-mounting flanges are added to these dimensions for rack mounting. Alternatively, the chassis can also be used as a tabletop unit without the rack-mounting flanges.

2.4 Air Flow

Ventilation slots are provided in the sides of the chassis and there are two internal fans to facilitate airflow. Care should be taken not to obstruct the ventilation slots. Install the product with proper ventilation and cooling as recommended.

2.5 Front Panel Controls and Indicators

The front panel provides a convenient local means to calibrate, setup, and control the unit. Alternately, an RS-232 port on the rear panel can be use for remote calibration, setup and control. All user adjustments and control are made external to the unit. The user should not remove the SSC/623 cover. Figure 1 shows locations of the front panel controls, indicators and test points.

2.5.1 Power Switch

The front panel contains a power ON-OFF switch. The power switch is a rocker type switch. The unit is off when the side marked with a "0" is depressed, and on when the side marked with a "1" is depressed.

2.5.2 Display

The unit uses a two line by 20-character vacuum fluorescent display. This display is readable in all lighting conditions normally encountered. Illumination of the display also indicates that the power is on. The top line of the display generally contains a label. The bottom line contains the allowable selections for that label. Section 2.7 describes the control menu, parameters, and allowable values.

2.5.3 Keypad

The unit uses a four-key keypad for control input. The keys are labeled Up, Down, Enter and Escape. Only one key should be depressed at a time. The Up and Down keys scroll through the available control menu selections. The Enter key is used to select the currently displayed selection. This may either move down a level in the menu or select the current value for the parameter. The Escape key is used to move back up the menu tree.

2.6 Rear Panel Connections

All of the user interface signals enter and leave the SSC/623 through rear panel connectors. These include the input X (J1 Ch A, J2 Ch B), Y (J3 Ch A & J4 Ch B) and Z (J5 Ch A, J6 Ch B) stroke signals. XYZ Channel A is signal balanced (J1, J3, J5) and Channel B is single ended (J2, J4, J6). The two Composite Video Output signals (J7 & J8) and SVGA Out (J9) connectors are also located on the rear panel. A video input connector J11, on the rear panel can be used to synchronize the output video to the sync signal entered on this connector (genlock). The rear panel I/O connectors are listed in Table 1.

Table 1 - External (Rear Panel) Interface

Conn.	Type	Signal
J1 TRIAX	Input	Channel A X High
		Channel A , X Low
		Channel A, Ground
J2 BNC	Input	Channel B X
		Ch B X, Ground
J3 TRIAX	Input	Channel A, Y High
		Channel A Y Low
		Channel A, Y Ground
J4 BNC	Input	Channel B, Y
		Channel B, Y Ground
J45 TRIAX	Input	Channel A, Z High
		Channel A Z Low
		Channel A, Z Ground
J6 BNC	Input	Channel B, Z
		Channel B, Z Ground
J7 BNC	Output	Video Out 1
		Video Out 1 Ground
J8 BNC	Output	Video Out 2
		Video Out 2 Ground
J9 VGA D-Sub	Output	IAW VESA Standard
J10 BNC	Input	CS/HS In
		CS/HS In Ground
J11 BNC	Input	VS In (Genlock)
		VS In Ground
J12 BNC	Output	VID+CS Out
		VID+CS Out Ground
J13 BNC	Input	S/R IN 1
		S/R IN 1 Ground
J14 BNC	Input	S/R IN 2
		S/R IN 2 Ground

2.6.1 RS-232 Remote Control

The SSC/623 can be setup and controlled locally from the front panel or remotely via an RS-232 interface. Table 2 lists the pinouts for the RS-232 interface connector.

Table 2 - RS-232 Connector

J15, 9 pin D Pin No.	Signal	Direction
2	TXD	Output
3	RXD	Input
5	Signal Ground	---

2.6.2 Power Connection

The SSC/623 is connected directly to an AC power by a three-wire power cord. The supply outlet must be properly wired and grounded for safe operation. Table 3 lists the internal wiring AC power wiring. These voltages are considered hazardous. Access to these circuits should only be for maintenance or repair by trained personnel.

Table 3 - AC Power Wiring

Rear Panel		Chassis	Signal	Power Supply	
Connector	Pin	Gnd Stud		Connector	Pin
AC Power	Line	N/C	Line	CN1	1
AC Power	Neutral	N/C	Neutral	CN1	3
AC Power	Ground	Ground	Ground	On Board	Ground Lug

WARNING

When replacing the line cord use a line cord with the same rating and specifications as originally supplied with the SSC/623. An improper line cord can create a safety hazard.

Do not use outdoors or in an environment not included within the specifications section.

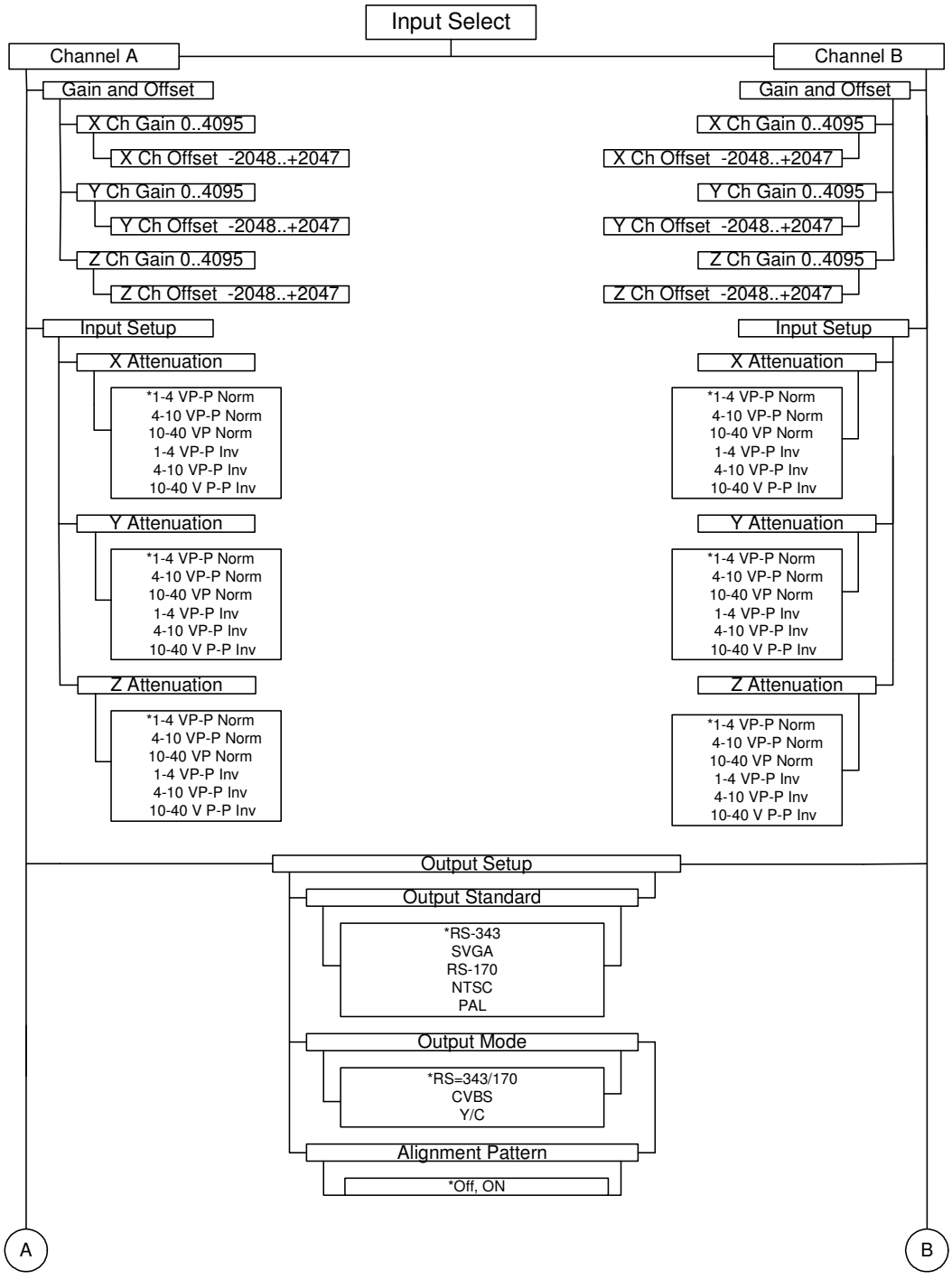
2.7 SSC/623 Control

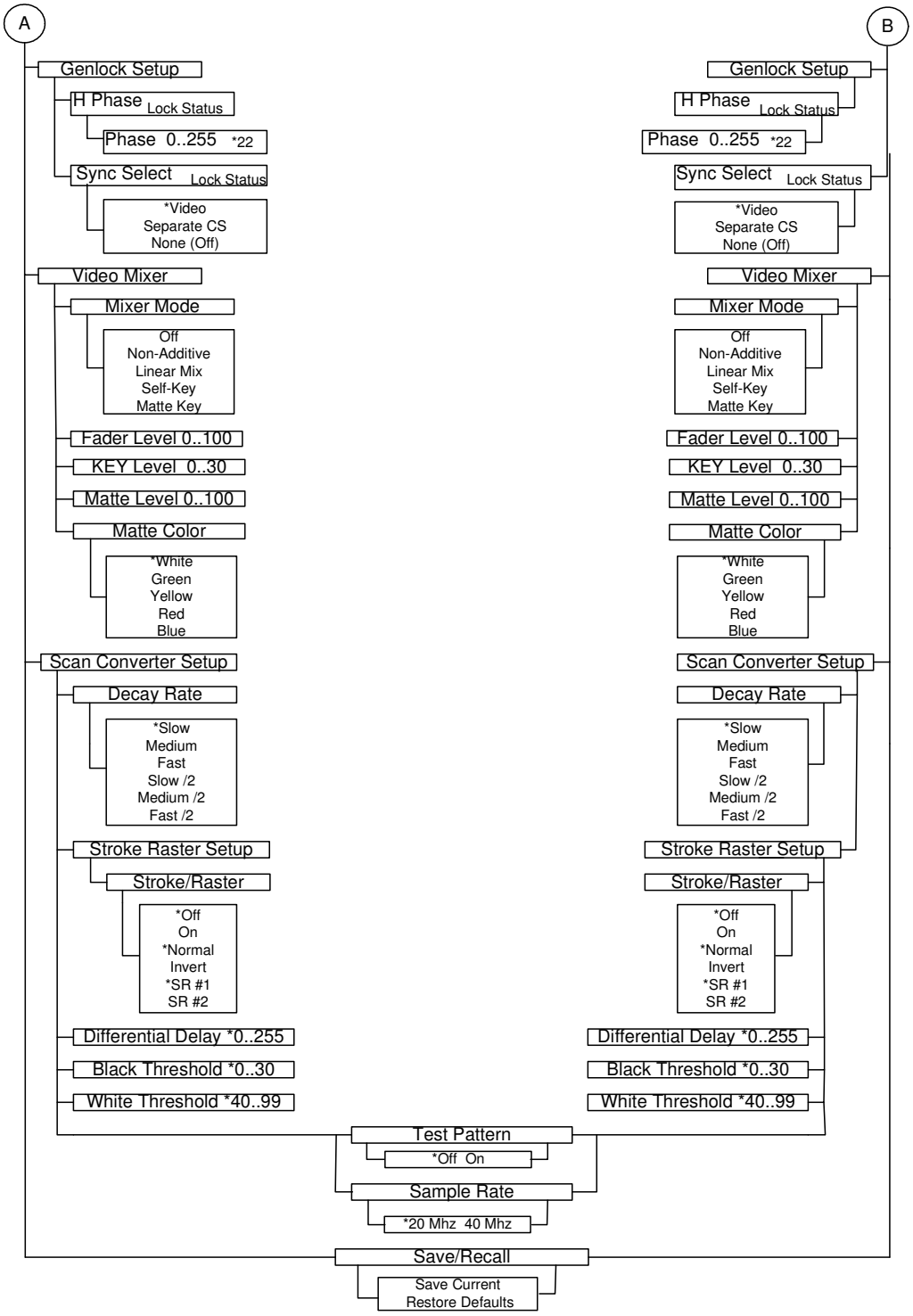
Setup control and alignment of SSC/623 is accomplished locally using the front panel display, Keypad, and optical numeric encoder. Remote control, setup and alignment are provided for via an RS-232 interface. This section describes the local and remote control interfaces.

2.7.1 Control Via Front Panel

The unit can be setup, controlled and aligned by maneuvering the display menu tree and entering the appropriate parameters using the keypad. Parameters that offer a range of values are generally dialed in with the numerical encoder and entered with the enter key. Figure 4 illustrates the front panel menu tree.

Figure 4: Front Panel Menu Tree




A
Genlock Setup
H Phase
Lock Status
Phase 0..255 *22
Sync Select
Lock Status
*Video
Separate CS
None (Off)
Video Mixer
Mixer Mode
Off
Non-Additive
Linear Mix
Self-Key
Matte Key
Fader Level 0..100
KEY Level 0..30
Matte Level 0..100
Matte Color
*White
Green
Yellow
Red
Blue
Scan Converter Setup
Decay Rate
*Slow
Medium
Fast
Slow /2
Medium /2
Fast /2
Stroke Raster Setup
Stroke/Raster
*Off
On
*Normal
Invert
*SR #1
SR #2
Differential Delay *0..255
Black Threshold *0..30
White Threshold *40..99
B
Genlock Setup
H Phase
Lock Status
Phase 0..255 *22
Sync Select
Lock Status
*Video
Separate CS
None (Off)
Video Mixer
Mixer Mode
Off
Non-Additive
Linear Mix
Self-Key
Matte Key
Fader Level 0..100
KEY Level 0..30
Matte Level 0..100
Matte Color
*White
Green
Yellow
Red
Blue
Scan Converter Setup
Decay Rate
*Slow
Medium
Fast
Slow /2
Medium /2
Fast /2
Stroke Raster Setup
Stroke/Raster
*Off
On
*Normal
Invert
*SR #1
SR #2
Differential Delay *0..255
Black Threshold *0..30
White Threshold *40..99
Test Pattern
*Off On
Sample Rate
*20 Mhz 40 Mhz
Save/Recall
Save Current
Restore Defaults

2.7.2 Control Via RS-232

The SSC/623 can be controlled through a serial port operating ay 19,200 baud, 8 bits, no parity, 1 stop-bit. The commands are set up to be text based, 3-character mnemonic commands followed by optional parameters. The command is terminated by a new-line character ('\n'). When the command is accepted, the SSC/623 will respond with a ("\n>") sequence to indicate that the command is recognized. If the command is not recognized the response will be ("\n?"). A new command should not be sent until a response is received from the previous command or the serial input buffer may overrun. Using this protocol will eliminate the requirement for other flow-control methods.

In general, commands will consist or a three letter sequence. If a parameter is included, it shall be separated from the mnemonic by a ('=') character. Additional parameters, if required, shall be separated by (',').

Entering a command only, with no '=', followed by a ("\n") will request the current status of that parameter. The response will be as that shown in the Command column, followed by a ('\n>').

The command list follows, separated into functional groups. Many of the commands have separate settings for input channels A and B. When that is the case, only the parameter of the currently selected channel is affected. Those functions that have independent settings for channels A and B are indicated by "Yes" in the Channel Dependent column.

Legend:

() = optional character

(L)…(H) = Range from Low to High

d = decimal digits, within limits, up to the maximum shown

h = Hexadecimal digits, within limits, up to the maximum shown

[] = Selection Set (one of the options shown)

Command Examples:

"INP=0\n"	Select input A
Response:	"\n> "
"XGA=3746\n"	Set relative X gain, of the currently selected channel to 3746/4095
Response:	"\n> "
"XOF=-1000\n"	Set the relative X-Offset to –(1000/2048)*2V
Response:	"\n> "
"XOF\n"	Request status for X-Offset
Response:	"-1000\n> "
"INP=C\n"	Select input C (error)
Response:	"\n? "

Note the space character ' ' after '>' in the SSC623 response.

2.7.2.1 Input Setup

Input Selection			
Command	Channel Dependent	Description	Limits
INP=[0,1]	Yes	Sets the current input to A(balanced) or B (un-balanced) and restores independent settings for that channel	0 = Inputs A 1 = Inputs B Default = 0

Gain And Offset			
Command	Channel Dependent	Description	Limits
XGA=dddd	Yes	Sets the analog gain of the currently selected X input channel	0..4095 Default 2048
XOF=(-)dddd	Yes	Sets the analog DC offset of the currently selected X input channel	-2048..+2047 Default 0
YGA=dddd	Yes	Sets the analog gain of the currently selected Y input channel	0..4095 Default 2048
YOF=(-)dddd	Yes	Sets the analog DC offset of the currently selected Y input channel	-2048..+2047 Default 0
ZGA=dddd	Yes	Sets the analog gain of the currently selected Z input channel	0..4095 Default 2048
ZOF=(-)dddd	Yes	Sets the analog DC offset of the currently selected Z input channel	-2048..+2047 Default 2048

Input Attenuation			
Command	Channel Dependent	Description	Limits
XAT=[0,1,2]	Yes	Sets the analog input attenuation of the currently selected X input channel	0= 0..4 VP-P input 1= 4..10 VP-P input 2=10..40 VP-P input Default = 0
YAT=[0,1,2]	Yes	Sets the analog input attenuation of the currently selected Y input channel	0= 0..4 VP-P input 1= 4..10 VP-P input 2=10..40 VP-P input Default = 0
ZAT=[0,1,2]	Yes	Sets the analog input attenuation of the currently selected Z input channel	0= 0..4 VP-P input 1= 4..10 VP-P input 2=10..40 VP-P input Default = 0

Input Polarity			
Command	Channel Dependent	Description	Limits
XPI=[0,1]	Yes	Sets the currently selected X input To normal or reversed polarity	0=Normal Polarity 1=Reversed polarity Default = 0
YPI=[0,1]	Yes	Sets the currently selected Y input To normal or reversed polarity	0=Normal Polarity 1=Reversed polarity Default = 0
ZPI=[0,1]	Yes	Sets the currently selected Z input To normal or reversed polarity	0=Normal Polarity 1=Reversed polarity Default = 0

2.7.2.2 Output Setup

Output Video Standard			
Command	Channel Dependent	Description	Limits
VOS=[0,1,2,3]	No	Sets the Video output standard	0=NTSC/RS-170 1= PAL 2= RS-343/875 3=SVGA Default = 2
Output Video Mode			
VOM=[0,1,2]	No	Sets the video output mode	0= CVBS (color) 1= Y/C 2= RS343/RS170 Default = 2
Alignment pattern			
ALN=[0,1]	No	Turns the alignment overlay pattern on or off	0=Pattern off 1=Pattern on Default = 0

2.7.2.3 Genlock Setup

Genlock Setup			
Command	Channel Dependent	Description	Limits
HPH=ddd	Yes	Sets the genlock horizontal phase	Default = 22
SYN=[0,1,2]	Yes	Selects genlock input sync source	0= Off (no Genlock) 1= Composite Video 2 = Separate CS

2.7.2.4 Mixer Setup

Mixer Setup			
Command	Channel Dependent	Description	Limits
MIX=[0,1,2,3,4]	Yes	Selects Video Mixer mode	0 = Off, no mixing 1=Non-Additive 2= Linear Mix 3= Self-key 4= Matte Key Default = 0
FAD=ddd	Yes	Sets mixer fader level, in % from Genlock to Scan Converter	0..100 Default = 0
KEY=ddd	Yes	Sets mixer key level, in % from 0=black to 100 = white	0..100 Default = 0
MAT=ddd	Yes	Sets mixer key level, in % from 0=black to 100 = white	0..100 Default = 0
COL=[0,1,2,3,4]	Yes	Sets Matt Key color (NTSC & PAL standards only). In SVGA mode this value sets the color of the Scan Converter SVGA output (no mixer in SVGA standard)	0=White 1=Green 2= Yellow 3= Red 4=Blue Default = 0

2.7.2.5 Scan Converter Setup

Decay Rate			
Command	Channel Dependent	Description	Limits
DCY=[0,1,2,3,4,5]	Yes	Selects the Scan Converter Decay Rate	0= Slow @ frame 1=Medium @frame 2= Fast @Frame 3= Slow @ frame/2 4=Med. @frame/2 5= Fast @Frame/2 Default = 0
Stroke / Raster Setup			
S/R=[0,1]	Yes	Stroke/Raster processing on of off	0=SR processing off 1=SR processing on Default = 0
SRI=[0,1]	Yes	Stroke /Raster input Normal (N) or Inverted (I) Polarity	0 = Normal Polarity 1= Inverted Polarity Default = 0
SRS=[0,1]	Yes	Select Stroke/Raster input 1 or 2	0=S/R Input 1 1=S/R Input 2 Default = 0

Sample Rate Selection			
SRF=[0,1]	Yes	Select Scan Converter sample Rate	0=20 MHz 1=40 MHz Default = 0
Differential Delay			
DDL=ddd	Yes	Set the differential delay between XY and Z channels (X & Y delayed, relative to Z, in sample clocks)	0..255 Default = 0
Black & White Threshold			
BTH=dd	Yes	Level, in %, below which Z signals will be blanked (forced to black)	0..30 Default = 0
WTH=dd	Yes	Level, in %, above which Z signals will be brightened (forced to white)	40..99 Default = 99

Test Pattern			
Command	Channel Dependent	Description	Limits
TPG=[0,1]	No	Turn Scan Converter Test pattern Generator On or Off. Note: Decay rate is displayed with pattern	0=Off 1=On Default = 0

2.7.2.6 Save/Restore Settings

Save Current Settings			
Command	Channel Dependent	Description	Limits
SAV=1	No	Saves the current Channel Dependent settings for both channel A and B	1= Save No Default
Restore Factory Defaults			
RFS=1	No	Restore Factory Default Settings to both channel A and B	1=Defaults

2.7.2.7 Test

Initiate Built-In-Test			
Command	Channel Dependent	Description	Limits
BIT	No	Initiates BIT procedure. Responds with a hexadecimal word where each bit represents a BIT failure Example: "BIT=hhhh\n>" Note-1: This command may take longer than other commands before responding. Do not initiate another command until the response is received. Note-2: The bit definitions may change during development, but a value of 0000h will remain equal to no BIT errors.	(no Params) Bit Definitions: b0=Input Overload. b1= Over Temp. b2= +5V Error b3= -5V Error b4= +12V Error b5= -12V Error b6= I2C error b7= I2S error b8= TBD b9= Reserved b10= Reserved b11= Reserved b12= Reserved b13= Reserved b14= Reserved b15= Reserved

Report Model & Firmware Version			
Command	Channel Dependent	Description	Limits
FRM	No	Returns the Model number and firmware version in the following format: "SSC/623 V1.0\n>"	no Params)

2.7.3 Using Alignment Test Pattern

Turning on the alignment pattern via the front panel or remote RS-232 (See Section 2.7 SSC/623 control) will cause an overlay pattern to appear on the display. The overlay pattern is shown in Figure 5. The outside boarder of the overlay pattern is a 4 X 3 rectangle, which will coincide with the safe display area of a TV raster. A square is inset into this displayed rectangle (1 X 1 format). If the stroke source produces a signal, which should be displayed within a square format, the SSC/623 controls can be adjusted to fit the stroke pattern from the display generator to fill the inner square. Stroke generating devices can usually be set to produce signals which when displayed as circle patterns or some other figure which defines the limits of its display area.

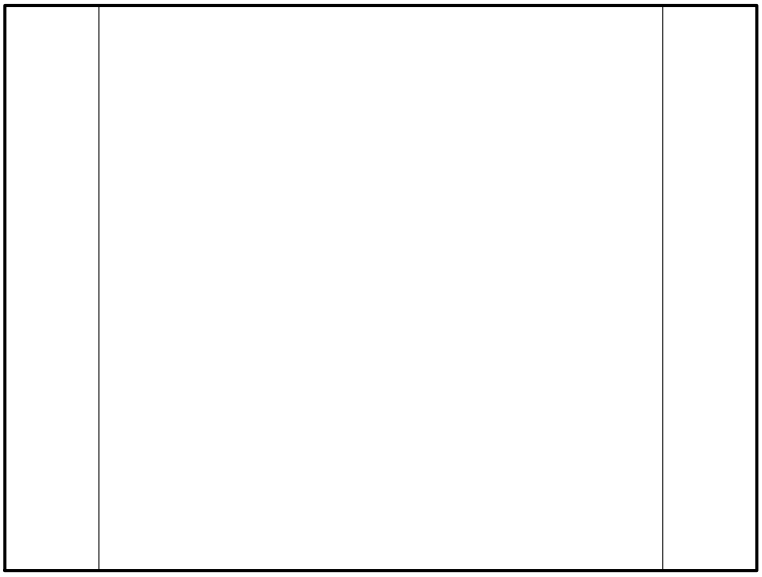


Figure 5: SSC/623 Alignment Test Pattern

2.7.4 Decay Rate Adjustment

The SSC/623 is designed to simulate the decay characteristics of a CRT vector display using digital techniques, however, it is severely limited by the fact that a brightness change, no matter when it occurs in simulation, can only be seen when the output video field is displayed. The output video changes at a fixed, constant, field and frame rate (60/30 Hz for RS-170). This selection is best made subjectively, depending on the vector writing speed, update rate, and amount of dynamic movement in the display. The decay rate can be selected via the front panel or the remote control RS-232 interface. The basic decay rate selections are: Slow at frame rate. Medium at frame rate, Fast at frame rate. These decay rates can be essentially doubled with the Slow at frame rate/2, Medium at frame rate/2' and Fast at frame rate /2 settings however, the update rate of the vector source may determine which setting the best choice.

2.7.5 Test Pattern

The SSC/623 Scan Converter board can generate a test pattern that, when displayed, will verify many of the performance features of the unit. The test pattern mode is selected via the front panel or the remote RE-232 port. See Section 2.7 SSC/623 Control. The test pattern, when displayed, is a full-width, three-section pattern. The upper quarter is an eight step gray scale increasing in brightness. The middle half is a full brightness section. The lower quarter is an eight step gray scale decreasing in brightness. The test pattern is shown in Figure 6. This pattern is generated near the front end of the SSC/221 circuitry and verifies the performance of the input memory, the scaler, the output memories, the D/A converter, the decay circuits, the output driver, and the synchronizing circuits. The pattern decays and refreshes at the rate set by the decay controls thereby verifying their performance.

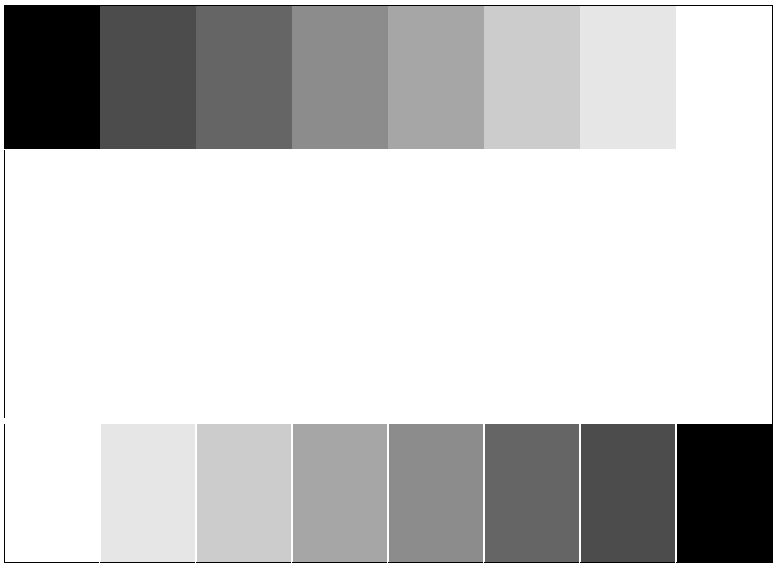


Figure 6: SSC/623 Test Pattern

3 SSC/623 STROKE-TO-VIDEO SCAN CONVERTER CHASSIS SPECIFICATIONS

3.1 Input Signals

3.1.1 Channel A Stroke Signals

X Position	1 V p-p to 40 V p-p differential
Y Position	1 V p-p to 40 V p-p differential
Z Intensity	1 V p-p to 40 V p-p differential.
Polarity	Selectable (Normal or Reverse)

3.1.2 Channels B Stroke Signals

X Position	1 V p-p to 40 V p-p single ended
Y Position	1 V p-p to 40 V p-p single ended
Z Intensity	1 V p-p to 40 V p-p single ended
Polarity	Selectable (Normal or Reverse)

3.1.3 Genlock Input Signals

Composite Video	RS-170 or RS-343/875 NTSC, PAL format, 1 V p-p composite video
Composite Sync	RS-170 or RS-343/875 format, 4 V p-p or TTL

3.2 Output Signals

3.2.1 Converted Stroke Video

Output Video Format	RS-343 or RS-170 NTSC, PAL, 1 V p-p composite video with 75 ohms termination, 256 intensity levels, 992 by 808 for RS-343 or 992 by 480 for RS-170 viewable pixels. SVGA Output (800 x 600 @ 60 Hz).
Z Video Output	Z x Composite or Y-C (for NTSC and PAL).

3.3 Controls

All control parameters are set externally via the front panel keypad and display or the remote RS-232 port and include the following (see Section 2.7 for a complete list):

Input Channel Selection	Channel A or Channel B. Display indicates active channel.
Polarity	Normal or Reverse. Individually set for each X, Y, Z signal
Attenuation	0..4VP-P, 4..10VP-P, 10..40VP-P. Individually set for each X,Y,Z signal.
Decay Rates	Slow@frame, Medium@frame , Fast@frame. Slow@frame/2, Medium@frame/2, Fast@frame/2.
Indicators	Front Panel Display - two line by 20-character vacuum fluorescent display. Front panel, red LED indicates selected channel overload condition Front Panel Green LED indicates that the front panel encoder control knob is actively changing a parameter value.

3.4 Input Power

Voltage	100 to 230 Vac
Frequency	50 or 60 Hz
Amperes	.28 - .125

3.5 Mechanical

Size	1.75" H x 16.75" W x 12" D. Supplied with 19 inch rack-mounting flanges
Connectors	75 Ohm Triax Trompeter CBBJR79 for: Channel A X, Y, Z Stroke 75 Ohm BNC Trompeter UCBBJR26 for: Channel B X, Y, Z Stroke

Video Out 1 & 2, Video In, CS/HS In, VS In,
VID+CS out, S/R In 1 & 2
15-pin High Density D-Sub for: SVGA Out
9 pin D female AMP 747844-6 for Remote Control Port
Corcom 1EGS1-2 for power input

3.6 Environmental

Operating temperature 0 to +50°C

Model SSC/623
Stroke-to-Video Scan Converter

Appendix A

Model SSC/623 Part Numbers

Item	Description	Delta P/N	Figure
Model SSC/623	Stroke-to-Video Scan Converter	830-900064-01	Figure 1
SSC/623	Scan Converter Circuit Board	730-100469-01	n/a
	Power Supply	520-500023	n/a

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