ENSEMBLE
DESIGNS

Avenue 54005405 Test Signal Generator

Command Set Protocol

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This document details the control numbers and their functions for SNMP control of an Ensemble Designs 5400/5405 Test Signal Generator.   The information provided herein can also be used in TCP/IP interfaces that follow the Avenue Serial Control Protocol as well.

For each module there are two types of Controls, Status and Modcontrols. The Status is generic to each module and gives the status of the modules CPU, Input Signal and Reference Status, these are read-back controls only. Modcontrols are specific controls that relate directly to individual cards or modules and can be read only or read/write.

Module Status Read-Backs

StatusX - X relates to the slot number of the module. There are 3 status read-backs available for each module.

Name:	ModuleX - Indicates status of module. X = slot the module is in.
Type:	Read Only
Min/Max:	1/3
Reports:	1 - normal
	2 - kernal
	3- not installed

Name:	SignalX - Signal input or output Status. X = slot the module is in.
Type:	Read Only
Min/Max:	1/3
Reports:	1 - normal * 5400 will always read normal.
	2 - faulted
	3 - unknown

Name:	ReferenceX - Status of module reference. X = slot the module is in.
	*Will show ref fail if either the Pri or Sec is using the Config. Ref and there is no ref. is present.
Type:	Read Only
Min/Max	1/3
Reports:	1 - normal
	2 - faulted
	3 - unknown

ModControls

CountX:	Total count of controls used on Module.
Reports:	49

Control 0	This Control is not supported
Name:	Top Line
Menu:	Slate
Type:	Text box for Slate.
Min/Max:	N/A
Reports:	N/A
Change:	N/A

Control 1	This control is not supported
Name:	Bottom Line
Menu:	Slate
Type:	Text box for Slate.
Min/Max:	N/A
Reports:	N/A
Control:	N/A

Control 2	*** Not supported on 5405**
Name:	Slate Select
Menu:	Slate
Type:	Scroll List Read/Write
Min/Max:	0/6
Reports:	0 Off
	1 Slate 1 on
	2 Slate 2 on
	3 Slate 3 on
	4 Slate 4 on
	5 GPI Low
	6 GPI High
Control:	Write 0 to turn the Slate Off, 1 to turn Slate 1 on.

Control 3

Name:	Config Ref
Menu:	Config
Type:	Scroll List Read/Write
Min/Max:	0/1
Reports:	0 Ext Video.
	1 Master Ref.
Control:	Write 0 to select Ext Video. Write 1 to select Master Ref.

Control 4

Name:	Ref Present
Menu:	Config
Type:	Status Box - Read Only
Min/Max:	0/3
Reports:	0 - 525
	1 - 625
	2 - none
	3 - 10MHz
Control:	This is a read only control.

Control 5

Name:	Pri Source
Menu:	Primary
Type:	Scroll List Read/Write
Min/Max:	0/1
Reports:	0 - "Internal"
	1 - "Config Ref"
Control:	Write 0 to internal and 1 for Config Ref.

Control 6

Name:	Sync Lock
Menu:	Primary
Type:	Status Box - Read Only
Min/Max:	0/2
Reports:	0 - "525"
	1 - "625"
	2 - "none'
	3 - "10MHz"
Control:	This is a read only command

Control 7
Name: Standard (Pri)
Menu: Primary
Type: Scroll List   Read/Write
Min/Max: 0/1
Reports: 0 - 525 - 60 Hz
             1 - 625 - 50 Hz
Control: Write 0 or 1 for Primary standard.

Control 8
Name: Set Up
Menu: Primary
Type: Scroll List   Read/Write
Min/Max: 0/1
Reports: 0 - "Off"
             1 - "On"
Control: Write 0, or 1 to turn Set Up off/on.

Control 9
Name: Sec Source
Menu: Secondary
Type: Scroll List Read/Write
Min/Max: 0/3
Reports: 0 - Internal
             1 - Config Ref
             2 - Track Primary
Control: Write corresponding number to select secondary ref. source.

Control 10
Name: Sync Lock
Menu: Secondary
Type: Scroll List   Read/Write
Min/Max: 0/3
Reports: 0 - "525"
             1 - "625"
             2 - "none'
             3 - "10MHz"
Control: Read Only

Control 11
Name: Standard (Sec)
Menu: Secondary
Type: Scroll List   Read/Write
Min/Max: 0/1
Reports: 0 - 525 - 60 Hz
             1 - 625 - 50 Hz
Control: Write 0 or 1 to to select secondary standard

Control 12
Name: Setup
Menu: Secondary
Type: Scroll List   Read/Write
Min/Max: 0/1
Reports: 0 - "Off"
            1 - "On"
Control: Write 0, or 1 to turn Set Up off/on.

Control 13
Name: Vert Timing
Menu: Primary Timing
Type: Adjustable Numerical Field   Read/Write
Min/Max: -525/525
Reports: Vertical timing in lines
Control: When writing a negative number add -256 to the number. To set to
            -525 write -768. Read back will report back the correct number of lines.

Control 14
Name: Hor Timing
Menu: Primary Timing
Type: Adjustable Numerical Field   Read/Write
Min/Max: -1716/1716
Reports: Horizontal Timing in Clocks.
Control: When writing a negative number add -256 to the number. Read back
            will report back the correct number of clocks.

Control 15
Name: Fine Phase
Menu: Primary Timing
Type: Numerical Display Field   Read/Write
Min/Max: -35/35
Reports: Fine Phase setting in nsec.
Control: When writing a negative number add -256 to the number. Read back
            will report correctly.

Control 16
Name: Color Frame
Menu: Primary Timing
Type: Scroll List   Read/Write
Min/Max: 0/3
Reports: 0 - Normal
            1 - Field 3
            2 - Field 5
            3 - Field 7
Control: Write corresponding number to set color frame to desired field.

Control 17

Name:	Vert Timing
Menu:	Secondary Timing
Type:	Adjustable Numerical Field Read/Write
Min/Max:	-525/525
Reports:	Vertical timing in lines
Control:	When writing a negative number add -256 to the number. To set to -525 write -768. Read back will report back correct number of lines.

Control 18

Name:	Hor Timing
Menu:	Secondary Timing
Type:	Adjustable Numerical Field Read/Write
Min/Max:	-1716/1716
Reports:	Horizontal Timing in Clocks.
Control:	When writing a negative number add -256 to the number. Read back will report back the correct number of clocks.

Control 19

Name:	Fine Phase
Menu:	Secondary Timing
Type:	Numerical Display Field Read/Write
Min/Max:	-35/35
Reports:	Fine Phase setting in nsec.
Control:	When writing a negative number add -256 to the number. Read back will report correctly.

Control 20

Name:	Color Frame
Menu:	Secondary Timing
Type:	Scroll List Read/Write
Min/Max:	0/3
Reports:	0 - Normal
	1 - Field 3
	2 - Field 5
	3 - Field 7
Control:	Write corresponding number to set color frame to desired field.

Control 21 * Not supported on 5405

Name:	HD Standard
Menu:	HD Sync.
Type:	Scroll List Read/Write
Min/Max:	0/11
Reports:	0 - 720P / 50 Hz
	1 - 720P / 59.94 Hz
	2 - 720P / 60 Hz
	3 - 1080i / 50 Hz
	4 - 1080i / 59.94 Hz
	5 - 1080i / 60 Hz
	6 - 1080p / 23.98 Hz
	7 - 1080p / 24 Hz
	8 - 1080p / 25 Hz
	9 - 1080sF / 23.98 Hz
	10 - 1080sF / 24 Hz
	11 - 1080sF / 25 Hz
Control:	Write corresponding number to select Tri-Level standard.

Control 22 * Not supported on 5405

Name:	Vert Timing
Menu:	HD Sync
Type:	Numerical Display Field Read/Write
Min/Max:	-1125/1125
Reports:	Vertical Timing in lines in relation to the primary Serial output.
Control:	When writing a negative number add -256 to the number. To set to -1125 write -1381. Read back will report back correct number of lines.

Control 23 * Not supported on 5405

Name:	Hor Timing
Menu:	HD Sync
Type:	Numerical Display Field Read/Write
Min/Max:	-688/688
Reports:	Horizontal timing in clocks in relation to Primary Serial output.
Control:	When writing a negative number add -256 to the number. Read back will report back correct number of clocks.

Control 26 * Not supported on 5405

Name:	Pattern Type
Menu:	Test Pat
Type:	Scroll List Read/Write
Min/Max:	0/6
Reports:	0 - Bars * works in conjunction with Control 27
	1 - Black * works in conjunction with Control 28
	2 - Ramp * works in conjunction with Control 29
	3 - Sweep * works in conjunction with Control 30
	4 - Pulse Bar * works in conjunction with Control 31
	5 - Timing * works in conjunction with Control 32
	6 - Misc * works in conjunction with Control 33
Control:	Write corresponding number to select test pattern type, then use the associated control number for more selections in that group of test patterns.

Control 27 * Not supported on 5405

Name:	Tied to Control 26 when in Bars
Menu:	Test Pat
Type:	Scroll List Read/write
Min/Max:	0/4
Reports:	0 - Split Field 75
	1 - Split Field 100
	2 - SMPTE 75
	3 - Full Field 75
	4 - Full Field 100
Control:	When Control 26 is set to bars this control allows selection of type.

Control 28 * Not supported on 5405

Name:	Tied to Control 26 when in Black
Menu:	Test Pat
Type:	Scroll List Read/Write
Min/Max:	0/3
Reports:	0 - Black
	1 - Flat Field 50
	2 - Flat Field 80
	3 - White
Control:	When Control 26 is set to Black this control allows selection of type.

Control 29 * Not supported on 5405
Name: Tied to Control 26 when in Ramp.
Menu: Test Pat
Type: Scroll List   Read/Write
Min/Max: 0/4
Reports: 0 - Video Ramp
            1 - Data Ramp
            2 - Shallow
            3 - 5 Step
            4- DAC test
Control: When Control 26 is set to Ramp this control allows selection of type.

Control 30 * Not supported on 5405
Name: Tied to Control 26 when in Sweep.
Menu: Test Pat
Type: Scroll List   Read/Write
Min/Max: 0/2
Reports: 0 - W/Markers
            1 - Full Field
            2 - MultiBurst
Control: When Control 26 is set to Sweep this control allows selection of type.

Control 31 * Not supported on 5405
Name: Tied to Control 26 when in Pulse & Bar
Menu: Test Pat
Type: Scroll List   Read/Write
Min/Max: 0/4
Reports: 0 - Window
            1 - Full Field
            2 - Component
            3 - Window 100
            4 - Window 20
Control: When Control 26 is set to Pulse & Bar this control allow selection of
            type.

Control 32 * Not supported on 5405
Name: Tied to Control 26 when set to Timing
Menu: Test Pat
Type: Scroll List   Read/Write
Min/Max: 0/4
Reports: 0 - Analog Blanking
            1 - Digital Blanking
            2 - Cosite
            3 - Interlace
            4 - Bow Tie
Control: When Control 26 is set to Timing this control allows selection of type.

Control 33 * Not supported on 5405

Name:	Tied to Control 26 when in Misc.
Menu:	Test Pat
Type:	Scroll List Read/Write
Min/Max:	0/4
Reports:	1 - Black
	2 - Cross Hatch
	3 - Safe Title
	4 - Unit Circle
	5 - Multi Pattern
	6 - Multi Cpst
	7 - Pathological
	8 - 16 X 9
Reset:	When Control 26 is set to Misc. this control allows selection of type.

Control 34 * Not supported on 5405

Name:	Y Channel
Menu:	Test Pat
Type:	Push Button Read/Write
Min/Max:	0/1
Reports:	0 - Disabled
	1 - Enabled
Control:	Write a 1 or 0 to Enable or disable.

Control 35 * Not supported on 5405

Name:	Cr Channel
Menu:	Test Pat
Type:	Push Button Read/Write
Min/Max:	0/1
Reports:	0 - Disabled
	1 - Enabled
Control:	Write a 1 or 0 to Enable or disable.

Control 36 * Not supported on 5405

Name:	Cb Channel
Menu:	Test Pat
Type:	Push Button Read/Write
Min/Max:	0/1
Reports:	0 - Disabled
	1 - Enabled
Control:	Write a 1 or 0 to Enable or disable.

Control 37 * Not supported on 5405
Name: Aud Select
Menu: Test Pat
Type: Scroll List   Read/Write
Min/Max: 0/3
Reports: 0 - Tone
             1 - Pop
             2 - Beep
             3 - Silent
Control: Write the corresponding number to set audio as desired.
Note: 5410 must be installed

Control 38 * Not supported on 5405
Name: Embed
Menu: Test Pat
Type: Scroll List   Read/Write
Min/Max: 0/1
Reports: 0 - Off
             1 - On
Control: Write corresponding number to turn on/off embedded audio.
Note: 5410 must be installed.

Control 39 * Not supported on 5405
Name: Anlg RefLvl
Menu: Config
Type: Scroll List   Read/Write
Min/Max: 0/5
Reports: 0 - (-10dB)
             1 - (-6dB)
             2 - (-4dB)
             3 - (0dB)
             4 - (4dB)
             5 - (8dB)
Control: Write corresponding number to select Analog reference level.
Note: 5410 must be installed

Control 40 * Not supported on 5405
Name: Cyclops
Menu: Slate
Type: Scroll List   Read/Write
Min/Max: 0/1
Reports: 0 - Off
             1 - On
Change: Write a 1 or 0 to turn the cyclops on or off.

Control 41 * Not supported on 5405
Name: Make EDH Error
Menu: Config
Type: Scroll List   Read/Write
Min/Max: 0/6
Reports: 0 - No Errors
            1 - AP CRC Error
            2 - FF CRC Error
            3 - AP EDH Error
            4 - FF EDh Error
            5 - AP EDA Error
            6 - FF EDA Error
Control: Write corresponding number to add CRC errors.

Control 42 * Not supported on 5405
Name: Pulse Select
Menu: Config
Type: Scroll List   Read/Write
Min/Max: 0/2
Reports: 0 - 48KHz Word Clock
            1 - 6Hz 4:5 Align
            2 - 96KHz Word Clock
Control: Write corresponding number to select output format.
Note: 5410 option card must me installed these outputs.

Control 48 * Not supported on 5405
Name: AES RefLvl
Menu: Config
Type: Scroll List   Read/Write
Min/Max: 0/1
Reports: 0 - (-20dB)
            1 - (-18dB)
Control: Write corresponding number to selecct AES Ref. Level.
Note: 5410 must be installed.