



N-SERIES CONTROL SOLUTIONS PROTOCOL

A SVSi system is comprised of encoders, decoders, and potentially other accessories including DVR Recording solutions, window processing units, and audio-only end points. The system allows you to distribute HD Video and Audio across a gigabit Ethernet network. The encoders accept DVI-I sources including HDMI, DVI-D, DVI-A, VGA, Component through the use of passive adaptors, and analog audio utilizing a 3.5mm connection. The decoders have DVI-D video output ports and will support digital audio (with DVI to HDMI cable or adaptor). Options for PoE, Analog Audio and more depend on the version of decoder utilized. Please verify hardware capabilities needed prior to ordering.

Legacy hardware and N-Series hardware is backwards compatible, both legacy and NSeries products can be utilized within the same system as needed.

Each device is controllable via TCP/IP direct socket using the devices' I.P. addresses and port 50002. Port 50002 will only support a single connection at a time; all other connection attempts are rejected until the established connection is closed.

Commands will need to be sent with a semi-colon or CRLF following the command.

Command Example:

To change the stream on a decoder (perform a video switch)

set:212;

or

set:<stream#>

Utilizing the Onboard RS-232 Port:

Serial communications have been enabled on port 50004. If a persistent socket is maintained, this becomes a bi-directional serial port to control the attached source or display. There are no commands to send a serial string, simply send the manufacturers serial string to port 50004, any response will return via port 50004 as well. To set the serial ports settings, utilize Conductor (Netlite, N8001, N8002, VDC108, or VDC208) to set the appropriate settings for the external device. Similar to port 50002, this port only supports a single socket connection and will reject all other connection attempts until the open connection is successfully closed.

Control utilizing Conductor (except Netlite)

This document does not describe controlling a SVSi device when utilizing a N8001 or N8002. For control of devices utilizing the Conductor Platform for control, please refer to the document found here:

<http://svsiav.com/support/resources/#Guides>

Products this document applies to: N1000, N2000, N3000 Series Encoders and Decoders.

DECODERS

Device Status				
Command	Description	Response	Example	Notes
getStatus	Returns with Current status of device	Current Status	getStatus;	Refer to return packet information below
VIDEO/AUDIO SWITCH				
Command	Description	Response	Example	Notes
set	Switch Video Streams	Current Status	set:1;	If decoder is set to Audio Follows Video this will also switch the audio stream. If set to a non-existent stream (like stream 0) then decoder will revert to local play content.
seta	Switch Audio Streams	Current Status	seta:1;	
AUDIO CONTROLS				
Command	Description	Response	Example	Notes
mute	Disables audio output	Current Status	mute;	This affects both analog outputs (if available) and digital outputs
unmute	Enables audio output	Current Status	unmute;	
lovol	Changes audio output level	Current Status	lovol:50;	Range in Percentage 0 - 100%
lovolleft	Changes audio output level left channel	Current Status	lovolleft:50;	Range in Percentage 0 - 100%
lovolright	Changes audio output level right channel	Current Status	lovolright:50;	Range in Percentage 0 - 100%
MODE CHANGE				
Command	Description	Response	Example	Notes
live	Mode Change to Live play	Current Status	live;	Only needed if decoder has been commanded to local play
local	Mode Change to Local Play	Current Status	local:4;	8 playlists available, values: 1 - 8
dviOff	Disables video output	Current Status	dviOff;	
dviOn	Enables video output	Current Status	dviOn;	On by default, only needed if DVI port has already been disabled
SCALER CONTROLS				
Command	Description	Response	Example	Notes
scalerenable	Enables Scaled Output	Current Status	scalerenable;	Enables scaler to selected output resolution
scalerdisable	Disables Scaled output	Current Status	scalerdisable;	Disables scaler. Video output is source resolution
modeset	Changes output resolution	Current Status	modeset:1080p60;	Modes = auto 1080p59.94 1080p60 480p 480p59.94 720p59.94 720p60 Auto = Scale to display native resolution
croppref	Changes crop location for decoder output	Current Status	croppref:5,50,720,720;	Based on a 1080p pixel size (1920 x 1080): croppref:xUL,yUL,xL-R,yLR
EXTERNAL DEVICE CONTROL				
Command	Description	Response	Example	Notes
sendir	Activates a Stored IR command on decoder	Current Status	sendir:commandname;	command name is name created during commissioning project. If command is saved as PON - then command would be: sendir:PON
irpronto:	Send IR command with Pronto Code	Current Status	irpronto: 0000 006C 0022 0000 015B 00AD 0016 0016 0016 0016 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0622;	Sends Pronto Hex Code to attached IR port. No need to pre-store command in device.
serSet	Configures serial port to desired settings	Current Status	serSet:9600:8:none:1;	

DECODER RESPONSE

Field	Purpose	Notes
Response packet is sent as a confirmation to all commands. Additional information may be contained before the response packet. It is recommended when decoding response data to search for the field required, and then output the data accordingly. All fields are seperated by a "\x0D"		
SVSI_RXGEN2:N222A030000006	Device Type/Serial Number	
NAME:Adam N-DEC	Name Of device	Serial String with Name (255 Character Max)
MAC:00:19:0B:00:08:06	Mac Address of Device	
IP:169.254.101.76	IP address of Device	
NM:255.255.0.0	Subnet Mask of Device	
GW:169.254.1.1	Gateway of Device	
IPTRIAL:0	In Trial IP mode	SVSI Software Specific
IPMODE:AUTO IP	IP Mode of Device	DHCP Static Auto IP
SWVER:6/7/2013	Software Version running on Device	SVSI Software Specific
WEBVER:1370633101	Web Version running on Device	SVSI Software Specific
UPDATE:0	SVSI Software Specific	SVSI Software Specific
UPDTRY:0	SVSI Software Specific	SVSI Software Specific
UPDFAILED:0	SVSI Software Specific	SVSI Software Specific
MEDIAPORT0:off	P0 Multicast Status	Off = No Multicast can leave port on = Multicast can leave prot
MEDIAPORT1:on	P1 Multicast Status	Off = No Multicast can leave port on = Multicast can leave prot
DIVASEN:0	Device is configured to report to a N8001 or 8002 Controller	SVSI Software Specific
DIVASIP:0.0.0.0	Controller IP address	SVSI Software Specific
BAUD:9600	Serial Port Settings	
SNUMB:8	Serial Port Settings	
SPAR:none	Serial Port Settings	
SP2S:1	Serial Port Settings	
MODE:auto.mode	Scaler Output Mode	All Modes are followed by .mode. Modes = auto 1080p59.94 1080p60 480p 480p59.94 720p59.94 720p60
PORTSD1:no	P1 Disabled Completely	no = Active and working yes = Deactivated - no traffic
GARP:1	Gratuitous Arp	SVSI Software Specific
GARPINT:50	Gratuitous Arp Interval	SVSI Software Specific
UNSOLST:1	Unsolicited Status (Conductor Only)	SVSI Software Specific
UNSOLSTINT:10	Unsolicited Status Interval	SVSI Software Specific
LPDISKSPACE:94744576	Disk Space available for local play storage	SVSI Software Specific
LINEOUTVOL_L:100	Volume - Left Channel	0 - 100%
LINEOUTVOL_R:100	Volume - Right Channel	0 - 100%
MUTE:0	Mute Status	0 = Audio Enabled 1 = Muted
STREAM:135	Video Stream	Numeric 0 - XXXXX
STREAMAUDIO:0	Audio Stream	Numeric 0 - XXXXX
SCALERBYPASS:no	Scaler Status	No = Scaler Enabled Yes = Scaler Disabled
PLAYMODE:live	Video Ouput Mode	No = Scaler Enabled Yes = Scaler Disabled

Decoder Response

Field	Purpose	Notes
PLAYMODE:live	Video Ouput Mode	No = Scaler Enabled Yes = Scaler Disabled
PLAYLIST:5	Current Local Play List	Number 1 - 8
HDMIAUDIO:auto	HDMI Audio output	auto disabled enabled
LIVEAUDIOLP:off	Play stream audio in Local Play	off = use local play audio yes = use stream audio
YUVOUT:off	Color Correction using YUV Output Mode	off = normal output on = YUV output
GEN1COMP:on	SVSI Software Specific	SVSI Software Specific
SIMDVIDET:off	SVSI Software Specific	SVSI Software Specific
FRAMEHOLD:off	Hold Last Frame if stream lost	off = display local play on = hold last frame
VIDOFFNOSTRM:off	Disabled DVI port on loss of stream	off = display local play on = disable DVI on loss of stream
NEGSYNC:off	DVI Sync Option	off = normal sync on = switch sync
DVIOFF:off	DVI output status	Off = Outputting video on = DVI disabled
DVISTATUS:connected	Display Status	connected = Monitor On/Detected disconnected = Monitor Off/Detached
FPGAVER:6/6/2013	SVSI Software Specific	SVSI Software Specific

ENCODERS

Device Status

Command	Description	Response	Example	Notes
getStatus	Returns with Current status of device	Current Status of Device	getStatus;	Refer to return packet information below

Audio Status

Command	Description	Response	Example	Notes
mute	Disables audio output	Current Status of Device	mute;	This affects both analog outputs (if available) and digital outputs
unmute	Enables audio output	Current Status of Device	unmute;	

Mode Change

Command	Description	Response	Example	Notes
live	Mode Change to Live play	Current Status of Device	live;	Only needed if decoder has been commanded to local play
local	Mode Change to Host Play	Current Status of Device	local:4;	8 playlists available, values: 1 - 8
txdisable	Disables all broadcasts from Encoder	Current Status of Device	txdisable;	Any decoders currently viewing stream will transition to local play.
txenable	Enables broadcast from encoder	Current Status of Device	txenable;	

Scaler Controls

Command	Description	Response	Example	Notes
scalerenable	Enables Scaled Output	Current Status of Device	scalerenable;	Enables scaler. Content will be broadcast as selected output resolution.
scalerdisable	Disables Scaled output	Current Status of Device	scalerdisable;	Disables Scaler
modeset	Changes output resolution	Current Status of Device	modeset:1080p60;	Modes = 1080p59.94 1080p60 480p 480p59.94 720p59.94 720p60

External Device Control

Command	Description	Response	Example	Notes
irpronto	Activates a Stored IR command on decoder	Current Status of Device	irpronto:commandname;	command name is name created during commissioning project. If command is saved as PON - then command would be: sendir:PON

Encoder Response

Field	Purpose	Notes
SVSI_TXGEN2:N212A030000006	Device Type/Serial Number	
NAME:Adam N-Enc	Device Name	
MAC:00:19:0B:00:08:86	Device MAC	
IP:169.254.119.168	Device IP	
NM:255.255.0.0	Device Subnet Mask	
GW:169.254.1.1	Device Gateway	
IPTRIAL:0	Ip Trial Mode (during resetting of IP addresses)	SVSI Software Specific
IPMODE:AUTO	IP Mode of Device	DHCP Static Auto IP
IPSWVER:6/21/2013	Software Version	SVSI Software Specific
WEBVER:1371820321	Web Interface Version	SVSI Software Specific
UPDATE:0	Update flags for SVSI updater	SVSI Software Specific
UPDTRY:0	Update flags for SVSI updater	SVSI Software Specific
UPDFAILED:0	Update flags for SVSI updater	SVSI Software Specific
MEDIAPORT0:on	P0 Multicast Status	Off = No Multicast can leave port on = Multicast can leave port
MEDIAPORT1:on	P1 Multicast Status	Off = No Multicast can leave port on = Multicast can leave port
DIVASEN:0	Conductor (N8001 or N8002) as master controller	SVSI Software Specific
DIVASIP:0.0.0.0	Conductor IP address	SVSI Software Specific
BAUD:9600	Serial Port Settings	
SNUMB:8	Serial Port Settings	
SPAR:none	Serial Port Settings	
SP2S:1	Serial Port Settings	
MODE:720p59.94.mode	Scaler Output Mode	All Modes are followed by .mode. Modes = auto 1080p59.94 1080p60 480p 480p59.94 720p59.94 720p60
PORTSD1:no	P1 Disabled Completely	no = Active and working yes = Deactivated - no traffic
GARP:0	Gratuitous ARP Enabled	Conductor Specific
GARPINT:50	Interval for ARP	Conductor Specific
UNSOLST:1	Unsolicited Status Enabled	Conductor Specific
UNSOLSTINT:10	Interval for Unsolicited Status	Conductor Specific
LPDISKSPACE:95454208	Host Play Disk Space	SVSI Software Specific
LINEIN:bal	Line in is balanced or unbalanced	se = Unbalanced Audio bal = balanced audio
MUTE:0	Mute Status	0 = Audio Enabled 1 = Muted
STREAM:134	Broadcast Stream of Encoder	
SAMPLE:44100	Audio Sample Rate	
AUDIODELAY:21000	Audio Delay in MS	SVSI Software Specific (not Currently utilized)
CLRSPCCOR:auto	Color Space Correction	auto on off (NOTE - Should be Auto)
HPNONSUP:off	Host Play in Supported Mode	SVSI Software Specific
HDMIAUDIO:auto	HDMI Audio State	auto on off

Encoder Response

Field	Purpose	Notes
UNCOMP:off	Uncompressed mode	SVSI Software Specific (note - In most systems, should be off)
LIVEAUDIOHP:off	Use Live Audio Source while in HP mode	off on (SVSI Software Specific)
EXTREMEQUAL:off	Extreme Quality Mode	SVSI Software Specific
QUALITY:100	Compression Level	SVSI Software Specific
MOTQUAL:100	Motion Level	SVSI Software Specific
SCALERBYPASS:yes	Scaler Enabled/Disabled	yes = disabled no = enabled
PLAYMODE:live	Device Mode	live local
PLAYLIST:1	Host Play List to be displayed	Playlists are 1 - 8
OUTBW:1034160	Output bandwidth in bytes/sec	SVSI Software Specific
OUTBWMBS: 7.8	Output bandwidth in MB/Sec	SVSI Software Specific
DVIINPUT:connected	Source Status	connected = Source is available disconnected = no source
DVIPASSTHR:disconnected	Pass through port	connected = Monitor Detected disconnected = no monitor
PTHDMIAUDIO:on	Pass Through HDMI audio	on off
PTYUVOUT:auto	Passthrough Color Correction	auto on off
PTSIMDVIDET:off	Simplified DVI detect for Pass Through Port	SVSI Software Specific
PTNEGSYNC:off	SVSI Software Specific	SVSI Software Specific
AGAINL:0	Volume Control - Left Channel (gain only)	0 - 100%
AGAINR:0	Volume Control - Right Channel (gain only)	0 - 100%
CPC:allowed	HDCP Status	allowed disallowed
CISPROT:not-protected	Current source Protected?	not-protected protected
FPGAVER:6/20/2013	SVSI Software Specific	SVSI Software Specific

ITSIMPLYWORKS

Distribution | Switching | Recording | Windowing | Wall Processing | Control