CLASSE

Rev History:
1.00   Initial specification.
1.01   Added VERS, STAT MODE, STAT AUDIO, STAT VIDEO, STAT VOL. Removed SY VERS.
         Added return values for SY MODE. Added Unknown to Channel Config in SY AUDIO

The Classe Sigma-SSP has the ability to be remote controlled in various ways. This document describes the three most common methods (RS-232, IR and IP) and commands to accomplish this.

Classé IP Automation Control

Classé products equipped for digital audio streaming via Ethernet (AirPlay and DLNA) are also capable of remote control over Ethernet.

To take advantage of this feature several requirements need to be met.

1; The Classé product should have the appropriate firmware installed and be attached to your local area network and have a valid IP address for that network. The Classé product IP address can be viewed on the front panel touch screen by pressing the 'Menu' hard key on the left side of the screen followed by 'System Setup' and then the 'Network' buttons on the touch screen.   Please check the Classé web site for details about products and firmware versions that support Ethernet remote control.

2; The remote control or automation device needs to be able to transmit and receive Ethernet packets using TCP protocol and be attached to the same physical network as the Classé product and be addressed on the same sub-net.

The port that Classé products use for TCP control is 50001.

Commands used are the same as used for RS-232 control and the documents describing those commands and replies should be consulted, the current versions are available on the Classé web site.

Control is simply sending a TCP packet to the Classé product at its IP address and port number (50001) with the message or payload being the RS-232 command.   Only one command should be issued per packet, a valid reply should be received before a new command is issued.

Any replies to the command or status messages will be sent back to the originating IP address (the remote control devices IP) and same port number (50001).

RS232 Specification for Classé Audio Sigma-SSP

Data format
The RS232 communication with the Sigma-SSP operates with a PC UART configured for 19200 baud, 8 bits, no parity, with one stop bit.
There is no minimum time between bytes required, as the Sigma-SSP allows for a 16 byte FIFO. The PC or home controller system similarly must accept status data without delays between bytes from the Sigma-SSP. All command and status data are ASCII bytes.

Command structure
All commands are terminated with an ASCII carriage return.
All Status strings are terminated with an ASCII carriage return and line feed.

Command strings
The command strings consist of all ASCII characters and carriage return.
The following is a list of commands that are recognized by the Sigma-SSP:

MAIN n	Change main input to input number n (unit will turn on if in standby)
INP+	Steps to the next input
INP-	Steps to the previous input
OUTP n	Output configuration n
VOLM vv.v	Sets volume to vv.v, or the nearest possible value, mute disengaged
VOL+	Steps the volume up from current, mute disengaged
VOL-	Steps the volume down from current, mute disengaged
MUTE	If not muted, engage mutes and adjusts volume
UNMT	If muted, disengages mute and returns to premute volume level
BALL	Shift balance ½ dB to left
BALC	Re-center to even balance
BALR	Shift balance ½ dB to the right
LSY+	Adds 1ms to lip sync
LSY-	Subtracts 1ms from lip sync
LSY0	Restores to no added lip sync delay
DDLN	Engages Dolby Digital late night compression
DDNC	Turns off Dolby Digital late night compression
STBY	Puts Sigma-SSP into standby.
OPER	Puts Sigma-SSP into operate mode
LCD0	Sets the front panel LCD to low power "screen saver" mode
LCD1	Sets the front panel LCD to high intensity
LCD2	Sets the front panel LCD to medium intensity
LCD3	Sets the front panel LCD to low intensity
IRC xxx	Passes IR code xxx
	(See Sigma-SSP IR Code document for details)
AMX	Requests the AMX Beacon
EQON	Activates all defined Room EQ filters
EQOFF	Deactivates all defined Room EQ filters as a temporary trim
TCDIS	Disable tone control
TCEN	Enable tone control
TTCW	Tone tilt clockwise (bass cut, treble boost), must be in tilt mode
TTCCW	Tone tilt counter clockwise (bass boost, treble cut), must be in tilt mode
TCB+	Tone control bass boost, must be in discrete tone control mode

TCB-	Tone control bass cut, must be in discrete tone control mode
TCT+	Tone control treble boost, must be in discrete tone control mode
TCT-	Tone control treble cut, must be in discrete tone control mode
VERS	Returns the device name, version and serial number.
STAT MAIN	Request for main volume and input selection
STAT AUTO	Status requests for automatic status updates, volume relative display (--- : +14.0)
STAT AUTA	Same as STAT AUTO but volume will be shown as absolute (0.0 : 100.0)
STAT OUTP	Request for output status
STAT OFF	Disables automatic status updates
STAT PWR	Request for standby status
STAT MODE	Request for the current audio processing mode
STAT AUDIO	Request for the current audio stream, channel configuration and sample rate
STAT VIDEO	Request for the current video format and resolution
STAT VOL	Request for the current volume setting (returns SY VOLM message)

Replies and Status

The Sigma-SSP will send a 3 character reply to acknowledge each recognized command. The acknowledgement character is an exclamation point (!) followed by a carriage return and line feed. There is no leading address field for this reply. If the command received by the Sigma-SSP is not recognized, a question mark character replaces the exclamation point. The reply is generated within 100ms of the receipt of the last command termination character (line feed). If no reply is received at the PC/controller host after 100ms., the command should be reissued.

The following status strings are returned by the Sigma-SSP:

SY PWRUP	Sigma-SSP has completed power up
SY STBY	Sigma-SSP is in standby
SY OPER	Sigma-SSP is in operate
SY PWR xxx	xxx = ON (unit operational) or OFF (unit in standby)
SY VOLM xx.x	Volume is at xx.x. If mute engaged the string "muted" is appended.
SY MAIN x	Sigma-SSP has source number x selected.

SY AUDIO xx yy zz

           xx is a numeric value indicating the received audio stream
           yy is a numeric value indicating the decoded channel configuration
           zz is a numeric value indicating the received sample rate
           (see Sigma-SSP Status Messages document for details)

SY VIDEO xx   xx is a numeric value indicating the received video signal
           (see Sigma-SSP Status Messages document for details)

SY OUTP n	Sigma-SSP has output number n selected.
SY MODE x	x = Current Post Processing Mode
	(see Sigma-SSP Status Messages document for details)

SY TONE xxx B:y.y T:z.z
           xxx = EN or DIS B:y.y = bass cut or boost T:z.z treble cut or boost

SY VERS xxx	xxx is a string showing the software version information
ST PWR xxx	xxx is either ON or OFF.
AMXB xxx	xxx is the AMX auto discovery beacon string.

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Sigma-SSP Status Messages

SY AUDIO returns 3 values describing the incoming audio stream.
First is the stream type, second is the channel configuration, the third is the streams sample rate.

Stream types:	
Unknown	1
Pass	2
Noise	3
Auto	4
BitStream	5
PCM	6
Dolby Digital	7
DTS	8
AAC	9
MPEG	10
WMP	11
MP3	12
DSD	13
Dolby Digital Plus	14
DTS MA	15
Dolby TrueHD	16
DTS LBR	17
WAV	18
AIFF	19
ALAC	20
FLAC	21
WMA	22
MP3	23
OGG_VORBIS	24
Analog	25

Channel Configuration:	
Unknown	0
1.0	1
1.1	2
2.0	3
2.1	4
3.0	5
3.1	6
4.0	7
4.1	8
5.0	9
5.1	10
6.0	11
6.1	12
7.0	13
7.1	14

Sample Rates:	
32kHz	1
44.1kHz	2
48kHz	3
88.2kHz	4
96kHz	5
176.4kHz	6
192kHz	7

SY VIDEO returns a single value for the video resolution detected.

Streams types:	
NO_SIGNAL	0
480I_4_3	1
576I_4_3	2
480P_4_3	3
576P_4_3	4
480I_16_9	5
576I_16_9	6
480P_16_9	7
576P_16_9	8
720P_60	9
720P_50	10
768P_60	11
1080I_60	12
1080I_50	13
1080P_60	14
1080P_50	15
1080P_24	16
UNSUPPORTED	17
VGA	18
1080p 24Hz 3D FP	19
1080p 24Hz 3D TB	20
1080p 24Hz 3D SS	21
720p 60Hz 3D FP	22
720p 60Hz 3D TB	23
720p 60Hz 3D SS	24
720p 50Hz 3D FP	25
720p 50Hz 3D TB	26
720p 50Hz 3D SS	27
1080i 60Hz 3D SS	28
1080i 50Hz 3D SS	29

SY MODE returns a single value for the audio mode currently in use.

Mode types:	
NO PROCESSING	0
MONO	1
STEREO	2
PARTY	3
MONOPLUS	4
MOVIEPLUS	5
MUSICPLUS	6
PL2	7
PL2X_MUSIC	8
PL2X_MOVIE	9
PL2X_MATRIX	10
PL2X_GAME	11
NEO6	12
NEO6_MUSIC	13
NEO6_CINEMA	14
DISCRETE	15
DOLBY_EX	16
NEO6_MUSIC_ES	17
NEO6_CINEMA_ES	18

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IR code list for Classé Audio Sigma-SSP

Source 01	2	Operate	150
Source 02	3	Standby	151
Source 03	4	Mute	152
Source 04	5	Unmute	153
Source 05	6	Late Night_on	160
Source 06	7	Late Night_off	161
Source 07	8	Mode Down	167
Source 08	9	Configuration 1	185
Source UP	10	Configuration 2	186
Source DOWN	11	Configuration 3	187
Standby Toggle	12	Configuration 4	188
Mute Toggle	13	Configuration 5	189
Status	14	Configuration 6	190
Display Brightness Toggle	15	Dolby Volume (on/off)	216
Volume Up (+)	16	Lipsync (Page Access)	217
Volume Down (-)	17	Mode01: Mono	220
Tone	18	Mode02: Stereo	221
Late Night Toggle	19	Mode03: Party	222
Balance	21	Mode04: MonoPlus	223
Fkey 1	56	Mode05: MoviePlus	224
Fkey 2	57	Mode06: MusicPlus	225
PP Mode Up	68	Mode07: PLII	226
Menu	84	Mode08: PLIIzMusic	227
Home	85	Mode09: PLIIzMovie	228
Step Up (+)	88	Mode10: PLIIzMatrix	229
Step Down (-)	89	Mode11: PLIIzGame	230
Step Left	90	Mode12: Neo6	231
Step Right	91	Mode13: Neo6Music	232
Enter	92	Mode14: Neo6Cinema	233
Source 09	120	Mode15: Discrete	234
Source 10	121	Mode16: DolbyEx	235
Source 11	122	Mode17: Neo6MusicES	236
Source 12	123	Mode18: Neo6CinemaES	237
Source 13	124	Room EQ Toggle	247
Source 14	125		
Source 15	126		
Source 16	127		
Source 17	128		
Source 18	129		
Fkey 3	134		
Fkey 4	135		
Fkey 5	136		
Fkey 6	137		
Fkey 7	138		
Fkey 8	139		