RS232 Specification for Classe Audio SSP-800
Rev 1.5 6 July 2010

History:
1.00 Imported from SSP-900
1.10 Corrected some typos, added additional status commands.
1.20 Added commands to enable and disable the Room EQ system.
1.30 Added commands SCSM and AMX.
1.4 Added Post Processing Modes
1.5 Added Appendixes for Audio & Video signals, Dolby Late Night and Subwoofer Trim statuses

Data Format

The RS232 communication with the SSP-800 operates with a UART configuration for 9600 baud, 8 bits, no parity, with one stop bit. System setup for the SSP-800 allows for other baud selections. There is no minimum time between bytes required, as the SSP-800 allows for a 16 byte FIFO. The PC or home controller system similarly must accept status data without delays between bytes from the SSP-800. All command and status data are ASCII bytes.

Command Structure

All commands and status strings follow a format, which include 4 leading bytes, which serve as the address of the command. The address and command fields are separated by a period and zero or more space characters. The end of the command line is identified by a carriage return/line feed.

For the SSP-800, the address field is "S800". The address data and the period delimiter may be omitted if the controller/PC uniquely connects to the SSP-800. Any commands that are received without an address field are interpreted for local operation.

Command Strings

The command strings consist of all ASCII characters between the period and carriage return. Leading blanks in the command string are ignored. The following is the list of commands recognized by the SSP-800:

MAIN n	change main input to input number n
MINP+	steps to the next input.
MINP-	steps to the previous input.
LPSN c	sets the current configuration to configuration c
VOLA vv	sets volume to absolute vv, or the nearest possible value, mute disengaged
MVOL+ (*)	steps the main volume up from current, mute disengaged
MVOL- (*)	steps the main volume down from current, mute disengaged
MUTE	if not muted, engage mutes and adjusts volume for main outputs
UNMT	if muted, un-mutes and returns to pre-mute volume level at main outs
BALL	shift balance 1 dB to left
BALC	re-center to even balance
BALR	shift balance 1 dB to the right

SUB+	adds 1dB to temporary sub trim
SUB-	subtracts 1dB to temporary sub trim
SUB2+	adds 1dB to temporary sub2 trim
SUB2-	subtracts 1dB to temporary sub2 trim
SUB3+	adds 1dB to temporary sub3 trim
SUB3-	subtracts 1dB to temporary sub3 trim
CNT+	adds 1dB to temporary center trim
CNT-	subtracts 1dB to temporary center trim
SRN+	adds 1dB to temporary surround trim
SRN-	subtracts 1dB to temporary surround trim
BAK+	adds 1dB to temporary back trim
BAK-	subtracts 1dB to temporary back trim
LSY+	adds 1ms to lip sync
LSY-	subtracts 1ms from lip sync
LSY0	restores to no added lip sync delay
TRM0	resets temporary channel offset trims to zero
DDLN	engages Dolby Digital late night compression
DDNC	turns off Dolby Digital late night compression
STBY	puts SSP-800 into standby.
OPER	puts SSP-800 into operate mode
T1_0	turns off trigger 1
T1_1	turns on trigger 1
T2_0	turns off trigger 2
T2_1	turns on trigger 2
LCD0	sets the front panel LCD to low power "screen saver" mode
LCD1	sets the front panel LCD to low intensity
LCD2	sets the front panel LCD to medium intensity
LCD3	sets the front panel LCD to high intensity
IRC nnn	passes IR code nnn, where nnn is the code identified in the SSP-800 IR code table
CSK n	Sets skin to 'n' (1 = Classe, …. 5 = Green)
EQON	Activates all defined Room EQ filters
EQOFF	Deactivates all defined Room EQ filters as a temporary trim
STAT MAIN	request for main volume and input selection
STAT AUTO	status requests for automatic status updates
STAT OFF	disables automatic status updates
STAT MODE	request the current post processing mode.
STAT AUDIO	requests current audio signal status
STAT VIDEO	requests current video signal status
STAT TEMP	requests current internal temperature
STAT VERS	requests software version information
STAT AC	requests current AC voltage sense information
SCSM	requests an e-mail test transmission
AMX AMX	auto discovery beacon request

(*) note that in order to use the system acceleration mode, the xVOL +/- commands must be received within 200ms of the system's reply (see below)

Replies and Status

The SSP-800 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 SSP-800 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 SSP-800:

SY PWRUP	SSP-800 has completed power up
SY STBY	SSP-800 is in standby
SY OPER	SSP-800 is in operate
SY VOLA vv	Volume is at vv. If mute engaged the string "muted" is appended.
SY VOLR +/- vv	same as above, with volume displayed relative to unity gain
SY MAIN n NN	SSP-800 is selected to input number n, named NN
SY AUDIO yy zz	yy is a numeric value indicating the received audio stream
	zz is a numeric value indicating the received sample rate
SY VIDEO zz	zz is a numeric value indicating the received video signal
SY TEMP xx	xx is the SSP800 internal temperature (degrees Centigrade)
SY AC zzz	zzz current AC line voltage
SY VERS vvv	vvv is a string showing the software version information
SY MODE n	n is a numeric value representing the mode.
SY DLN n	n is a numeric value representing Dolby Late Night (0 off, 1 on)
SY SUB10 n	n is a numeric value representing the status of the LFE 10dB offset 0 = 0dB, 1 = -10dB
AMXB str	str is the AMX auto discovery beacon string.

Refer to the appendixes below for more details on SY AUDIO, SY VIDEO and SY MODE strings.

Appendix A: Audio Streams

SY AUDIO returns 2 numeric values – the first is the stream type, the second is the sample rate.

Stream types are:

RESERVED	SY AUDIO 0 zz
DIGITAL_ZERO_SIGNAL	SY AUDIO 1 zz
DIGITAL_PCM	SY AUDIO 2 zz
DOLBY_DIGITAL	SY AUDIO 3 zz
DTS	SY AUDIO 4 zz
MPEG	SY AUDIO 5 zz
NOISE	SY AUDIO 6 zz
ANALOG	SY AUDIO 7 zz
DIGITAL_ERROR	SY AUDIO 8 zz
DTS_ES_MATRIX	SY AUDIO 9 zz
DTS_ES_DISCRETE	SY AUDIO 10 zz
DTS96_51	SY AUDIO 11 zz
DTS96_MATRIX	SY AUDIO 12 zz
DTS96_DISCRETE	SY AUDIO 13 zz
HDMI_AUDIO_MCH	SY AUDIO 14 zz
DTS96_24	SY AUDIO 15 zz
DIGITAL_PCM_STEREO	SY AUDIO 16 zz
DIGITAL_PCM_MCH	SY AUDIO 17 zz
DIGITAL_PCM_96_24	SY AUDIO 18 zz
AAC	SY AUDIO 19 zz
AAC_STEREO	SY AUDIO 20 zz
AAC_MCH	SY AUDIO 21 zz
MP2	SY AUDIO 22 zz
MP3	SY AUDIO 23 zz
DOLBY_DIGITAL_PLUS	SY AUDIO 24 zz
DOLBY_TRUE_HD	SY AUDIO 25 zz
DTS_MASTER_AUDIO	SY AUDIO 26 zz
DTS_HIGH_RESOLUTION	SY AUDIO 27 zz
NONE	SY AUDIO 28 zz

Sample Rates are:

32k	SY AUDIO yy 2
44k	SY AUDIO yy 3
48k	SY AUDIO yy 4
88k	SY AUDIO yy 5
96k	SY AUDIO yy 6
192k	SY AUDIO yy 7
176k	SY AUDIO yy 10

Appendix B: Video Streams

SY VIDEO returns a single value for the video resolution detected

No Signal	SY VIDEO 0
480i 4:3	SY VIDEO 1
576i 4:3	SY VIDEO 2
480p 4:3	SY VIDEO 3
576p 4:3	SY VIDEO 4
480i 16:9	SY VIDEO 5
576i 16:9	SY VIDEO 6
480p 16:9	SY VIDEO 7
576p 16:9	SY VIDEO 8
720p 60Hz	SY VIDEO 9
720p 50Hz	SY VIDEO 10
768p 60Hz	SY VIDEO 11
1080i 60Hz	SY VIDEO 12
1080i 50Hz	SY VIDEO 13
1080p 60Hz	SY VIDEO 14
1080p 50Hz	SY VIDEO 15
1080p 24Hz	SY VIDEO 16
Unsupported	SY VIDEO 17
VGA	SY VIDEO 18

Appendix C: Post Processing Modes

Mono	SY MODE 0
Stereo	SY MODE 1
Music Mode Party	SY MODE 2
Mono Plus	SY MODE 3
Movie Plus	SY MODE 4
Music Plus	SY MODE 5
Dolby Pro Logic	SY MODE 6
Dolby PLIIx Music	SY MODE 7
Dolby PLIIx Movie	SY MODE 8
Dolby PLIIx Matrix	SY MODE 9
Dolby PLIIx Game	SY MODE 10
DTS Neo:6	SY MODE 11
DTS Neo:6 Cinema	SY MODE 12
DTS Neo:6 Music	SY MODE 13
Discrete	SY MODE 14
DTS Neo:6 Cinema ES	SY MODE 15

DTS Neo:6 Music ES   SY MODE 16
Dolby Digital EX   SY MODE 17
The modes available for use at any one time are dependent on the source stream.