RS232 Specification for Classe Audio CAP-2100

Rev 1.92 23 November 2004

Rev History:

1.1	added IR code command and LCD low power control, selectable baud
1.2	added amplifier fault times status and tape monitor control
1.3	changed fault time status to include days, added running time status
1.4	modified IRC spec for 3 digit IR code
1.5	modified thermal values returned in status to match amplifier standard
1.6	removed tech items
1.7	added DC and internal comms faults in SYS FAULT status
1.8	updated the STAT FAULT code letters
1.9	added the T1_0, T1_1, T2_0, T2_1
1.92	added the SY PWRUP and SY OPER notifications

Data format

The RS232 communication with the CAP-2100 operates with a UART configuration for 9600 baud, 8 bits, no parity, with one stop bit. System setup for the CAP-2100 allows for other baud selections. There is no minimum time between bytes required, as the CAP-2100 allows for a 16 byte FIFO. The PC or home controller system similarly must accept status data without delays between bytes from the CAP-2100. 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 CAP-2100, the address field is “AP21”. The address data and the period delimiter may be omitted if the controller/PC uniquely connects to the CAP-2100. 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 list of commands are recognized by the CAP-2100:

MAIN n	change main input to input number n
INP+	steps to the next input
INP-	steps to the previous input
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	recenter to even balance

BALR	shift balance ½ dB to the right
STBY	puts CAP-2100 into standby.
OPER	puts CAP-2100 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. nnn is the code identified in the CAP-2100 IR code table
TAP0	turns off the tape monitor output
TAP1	turns on the tape monitor output
STAT MAIN	request for main volume and input selection
STAT AMP	request status for amplifier heatsink temperatures
STAT AUTO	status requests for automatic status updates
STAT OFF	disables automatic status updates

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

Replies and Status

The CAP-2100 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 CAP-2100 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 CAP-2100:

SY PWRUP	CAP-2100 has completed power up
SY STBY	CAP-2100 is in standby
SY OPER	CAP-2100 is in operate
SY VOLM vv.v	Volume is at vv.v. If mute engaged the string "muted" is appended.
SY MAIN n NN	CAP-2100 is selected to input number n, named NN
SY HEAT x	x is N for normal, H for high, V for very high, F for Fault
SY FAULT z n	z is fault condition (N - none, C - Current limit exceeded, T - Temperature limit exceeded, D - DC limit exceeded, I - Internal communication error, A – AC Line Fault) for amplifier n where n=1 for left, n=2 for right.