REF 10 RS-232 Command Set

1 EXTERNAL RS-232 INTERFACE

The connector is a female DB9 (DCE) with Pin 2 TX out, Pin 3 RX in and Pin 5 ground. The serial settings are 9600 baud, 8 data bits, 1 stop bit, no parity and no handshaking.

2 COMMAND PROTOCOL

All commands received by the Reference 10 are ASCII upper case and are terminated with a line feed (0x0A). Carriage returns may be present (0x0D) and are ignored. Commands that take numerical values as a parameter are shown as minimum and maximum values between parentheses, i.e. the volume level (0 to 103). Commands ending in a question mark are status inquiries; they will return the current value of the requested item. The unit echoes back each character as it is received.

If a command is accepted the response will be ACK --> (note that ACK is followed by two dashes) along with an echo of the request and the current value. If a command is not accepted the response will be NACK-> along with an echo of the request followe by a question mark, (i.e NACK-> LOREM IPSUM?). All responses are terminated with carriage return and linefeed (0x0D 0x0A). The response may be multiline for some status requests.

The commands should only be sent one at a time due to the small input buffer.

2.1 Power On/Off Command Handling

After the POWER ON command is issued the unit will be in warm up. During this time the unit will be muted. If a MUTE OFF command is received during this time the response will be ACK--> MUTE ON. The request will be come out of mute is remembered and the unit will unmute when the warm up time is over.

When the unit is in the POWER OFF mode some commands will return NACK-> as they cannot be performed when the unit is off.

3 COMMAND TABLE

RS232 Command	RS-232 Response	Action
POWER ON	ACK--> POWER ON	Turns on the unit

POWER OFF	ACK--> POWER OFF	Turns off the unit
POWER TOGGLE	ACK--> POWER *(ON | OFF)*	Toggles the power state
MUTE ON	ACK--> MUTE ON	Turns on the mute
MUTE OFF	ACK--> MUTE OFF	Turns off the mute
MUTE TOGGLE	ACK--> MUTE *(ON | OFF)*	Toggles the mute state
MONO TOGGLE	ACK--> MONO *(ON | OFF)*	Toggles mono mode
INVERT TOGGLE	ACK--> INVERT *(ON | OFF)*	Toggles invert mode
OUTPUT TOGGLE	ACK--> OUTPUT *(SINGLE ENDED | BALANCED)*	Toggles the output mode
VOLUME UP	ACK--> VOLUME *(0 to 103)*	Increases the volume level one step
VOLUME DOWN	ACK--> VOLUME *(0 to 103)*	Decreases the volume level one step
BALANCE RIGHT	ACK--> BALANCE *(-22 to 22)*	Moves the balance setting one step right
BALANCE LEFT	ACK--> BALANCE *(-22 to 22)*	Moves the balance setting one step left
DISPLAY UP	ACK--> DISPLAY UP	Moves the display setting one step forward in the display brightness loop
DISPLAY DOWN	ACK--> DISPLAY DOWN	Moves the display setting one step backward in the display brightness loop
INPUT UP	ACK--> INPUT *(1 to 6 or PROCESSOR)*	Moves one step forward through the input loop
INPUT DOWN	ACK--> INPUT *(1 to 6 or PROCESSOR)*	Moves one step backward through the input loop
INPUT SET 1	ACK--> INPUT 1	Directly selects the input specified
INPUT SET 2	ACK--> INPUT 2	Directly selects the input specified

INPUT SET 3	ACK--> INPUT 3	Directly selects the input specified
INPUT SET 4	ACK--> INPUT 4	Directly selects the input specified
INPUT SET 5	ACK--> INPUT 5	Directly selects the input specified
INPUT SET 6	ACK--> INPUT 6	Directly selects the input specified
INPUT SET PROCESSOR	ACK--> INPUT PROCESSOR	Directly selects the input specified
STATUS ALL ?	ACK--> STATUS ALL*(CR/LF) followed by the responses below without ACK--> and CR/LF for each status response.*	Returns the status of the all the settings except renamed inputs
POWER ?	ACK--> POWER *(ON | OFF)*	Returns the power state
MUTE ?	ACK--> MUTE *(ON | OFF)*	Returns the mute state
INPUT ?	ACK--> INPUT *(1 to 6 or PROCESSOR)*	Return the current input selection
MONO ?	ACK--> MONO *(ON | OFF)*	Returns the mono mode
INVERT ?	ACK--> INVERT *(ON | OFF)*	Returns the invert mode
BALANCE ?	ACK--> BALANCE *(-22 to 22)*	Returns the balance setting
VOLUME ?	ACK--> VOLUME *(0 to 103)*	Returns the volume level
OUTPUT ?	ACK--> OUTPUT *(SINGLE ENDED | BALANCED)*	Returns the output mode
HOURS ?	ACK--> HOURS *(0 to 16,000,000)*	Returns the tube hours on time