Rotel RC-1580
RS232 HEX Protocol

Date	Version	Update Description
February 2, 2012	1.00	Original Specification

The RS232 protocol structure for the RC-1580 is detailed below. This is a HEX based communication protocol.

Connection Settings

Baud Rate	Parity	Valid Data Bits	Stop Bit Value	Handshaking	Data Type
19200	N	8	1	None	String

All commands sent to the attached Rotel device must follow the command structure detailed below, unless specified otherwise. Send only the bytes only, no spaces, delimeter, etc.

Standard Command String Format

Start	Count	Device ID	Type	Key	Checksum
0xFE	0x03	0x08	0x10	0xXX	0xXX

Note: *The count byte only includes the ID, Type, and Key bytes; it does not include the Start or Checksum bytes.*

Note 2: *Do not include any carriage returns or line feeds after the commands*

Communication Protocol

Command and response messages are included on the following pages. The standard response string of the unit mirrors the data that would be available on the front panel of the unit.

Any change to the status of the front display on the unit will prompt a feedback string mirroring that change.

Note that the spaces shown between hex bytes below are for clarity only; do not include spaces in the actual command sent to the unit.

Meta Encoding

The start byte for all command and response strings is FE. To keep the device from encountering the start byte FE in any position other than as the start byte, any occurrence of the byes FD or FE in a command string must be converted to either FD 00 (for FD), or FD 01 (for FE). This will allow the string to pass while masking any occurrence of the byte FE except as the start byte. Commands that have Meta Encoding applied will be highlighted in red.

Section 1: Control Command List

RC-1580 HEX	Command Description
POWER & VOLUME COMMANDS	
FE 03 08 10 00 0B	Power Toggle
FE 03 08 10 01 1C	Power Off
FE 03 08 10 02 1D	Power On
FE 03 08 10 13 2E	Volume Up
FE 03 08 10 14 2F	Volume Down
FE 03 08 10 15 30	Mute Toggle
SOURCE SELECTION COMMANDS	
FE 03 08 10 03 1E	Source Phono
FE 03 08 10 04 1F	Source CD
FE 03 08 10 05 20	Source Tuner
FE 03 08 10 06 21	Source Aux 1
FE 03 08 10 07 22	Source Aux 2
FE 03 08 10 08 23	Source Aux 3
FE 03 08 10 09 24	Source Tape 1
FE 03 08 10 0A 25	Source Tape 2
RECORD SOURCE SELECTION COMMANDS	
FE 03 08 10 0B 26	Record Source Phono
FE 03 08 10 0C 27	Record Source CD
FE 03 08 10 0D 28	Record Source Tuner
FE 03 08 10 0E 29	Record Source Aux 1
FE 03 08 10 0F 2A	Record Source Aux 2
FE 03 08 10 10 2B	Record Source Aux 3
FE 03 08 10 11 2C	Record Source Tape 1
FE 03 08 10 12 2D	Record Source Off
FE 03 08 10 1A 35	Record Function Select
THEATER BYPASS COMMANDS	
FE 03 08 10 1B 36	Theater Bypass Toggle
FE 03 08 10 1C 37	Theater Bypass On
FE 03 08 10 1D 38	Theater Bypass Off

Section 2: Feedback String Format

Standard Response String Format

Start	Count	Device ID	Type	Data0 - Data41 (42 Bytes)	Checksum
0xFE	0x2C	0x08	0x20	ASCII Characters	0xXX

The ASCII data will contain the source and record source name information and should be parsed to obtain unit status. Current volume is not available as this unit uses a rotary knob for volume not numerical values.