



Rotel RSP-1066 RS232 HEX Protocol

Date	Version	Update Description
February 2, 2012	1.00	Original Specification

The RS232 protocol structure for the RSP-1066 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, delimiter, etc.

Standard Command String Format

Start	Count	Device ID	Type	Key	Checksum
0xFE	0x03	0xC2	0x10	0xFF	0xFF

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 bytes 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

RSP-1066 HEX	Command Description
POWER & VOLUME COMMANDS	
FE 03 C2 10 0A DF	Power Toggle
FE 03 C2 10 4A 1F	Power Off
FE 03 C2 10 4B 20	Power On
FE 03 C2 10 0B E0	Volume Up
FE 03 C2 10 0C E1	Volume Down
FE 03 C2 10 1E F3	Mute Toggle
SOURCE SELECTION COMMANDS	
FE 03 C2 10 02 D7	Source CD
FE 03 C2 10 03 D8	Source Tuner
FE 03 C2 10 04 D9	Source Tape
FE 03 C2 10 05 DA	Source Video 1
FE 03 C2 10 06 DB	Source Video 2
FE 03 C2 10 07 DC	Source Video 3
FE 03 C2 10 08 DD	Source Video 4
FE 03 C2 10 09 DE	Source Video 5
FE 03 C2 10 15 EA	Source Multi Input
SURROUND MODE COMMANDS	
FE 03 C2 10 11 E6	Stereo
FE 03 C2 10 12 E7	Dolby 3 Stereo
FE 03 C2 10 13 E8	Dolby Pro Logic
FE 03 C2 10 14 E9	DSP Music Mode Toggle
FE 03 C2 10 53 28	Dolby 3 Stereo / Pro Logic Toggle
FE 03 C2 10 54 29	dts Neo:6 Music/Cinema Toggle
FE 03 C2 10 57 2A	Music 1
FE 03 C2 10 58 2D	Music 2
FE 03 C2 10 59 2E	Music 3
FE 03 C2 10 5A 2F	Music 4
FE 03 C2 10 5B 30	5 Channel Stereo
FE 03 C2 10 5C 31	7 Channel Stereo
FE 03 C2 10 5D 32	Dolby PLII Cinema
FE 03 C2 10 5E 33	Dolby PLII Music
FE 03 C2 10 5F 34	Dolby Pro Logic
FE 03 C2 10 60 35	dts Neo:6 Music
FE 03 C2 10 61 36	dts Neo:6 Cinema
FE 03 C2 10 62 37	PLII Panorama Toggle
FE 03 C2 10 63 38	PLII Dimension Up
FE 03 C2 10 64 39	PLII Dimension Down
FE 03 C2 10 65 3A	PLII Center Width Up
FE 03 C2 10 66 3B	PLII Center Width Down

RSP-1066 HEX	Command Description
FE 03 C2 10 68 3D	Dolby Digital EX Toggle
FE 03 C2 10 22 F7	Next Surround Mode
TONE CONTROL COMMANDS	
FE 03 C2 10 0D E2	Treble Up
FE 03 C2 10 0E E3	Treble Down
FE 03 C2 10 0F E4	Bass Up
FE 03 C2 10 10 E5	Bass Down
FE 03 C2 10 67 3C	Tone Control Select
OSD MENU COMMANDS	
FE 03 C2 10 18 ED	OSD Menu
FE 03 C2 10 19 EE	Enter
FE 03 C2 10 1A EF	Cursor Right
FE 03 C2 10 1B F0	Cursor Left
FE 03 C2 10 1C F1	Cursor Up
FE 03 C2 10 1D F2	Cursor Down
OTHER COMMANDS	
FE 03 C2 10 17 EC	Record Function Select
FE 03 C2 10 16 EB	Dynamic Range
FE 03 C2 10 1F F4	Digital Input Select
FE 03 C2 10 23 F8	Zone 2 / Main
FE 03 C2 10 4C 21	Temporary Center Trim
FE 03 C2 10 4D 22	Temporary Subwoofer Trim
FE 03 C2 10 4E 23	Temporary Surround Trim
FE 03 C2 10 4F 24	Cinema EQ Toggle
FE 03 C2 10 52 27	Front Display On/Off
FE 03 C2 10 FF D4	Display Refresh

Section 2: Feedback String Format

Standard Response String Format

Start	Count	ID	Type	Data						Checksum
0xFE	0x17	0xC2	0x20	Char1	...	Char13	Flag1	...	Flag 8	0xXX

The feedback string is a representation of the display of the unit.

The Char1 - Char13 data bytes contain ASCII data representing the text that appears across the front display. It can contain source input, volume, and surround mode data and should be parsed to obtain this information.

The Flag1 - Flag8 data bytes contain data on which of the various icons on the front display are currently illuminated.

The display status uses 2 bits in Flag6 to confirm if the front display is On or Off.

Flag1 - Flag4 Data

	Flag1	Flag2	Flag3	Flag4
Bit0	char1_dot	char8_dot	TAPEM	
Bit1	char2_dot	char9_dot	MULTI	
Bit2	char3_dot	char10_dot	4	
Bit3	char4_dot	char11_dot	3	
Bit4	char5_dot	char12_dot	2	
Bit5	char6_dot	char13_dot	1	
Bit6	char7_dot	char8_colon	Coaxial	
Bit7			Optical	

Flag5 - Flag8 Data

	Flag5	Flag6	Flag7	Flag8
Bit0	Zone	Display Mode 1	SBR	CB
Bit1	Dynamic Range	Display Mode 0	SBL	S
Bit2	DSP		EX	LFE
Bit3	HDCD	Standby LED	Sur	SR
Bit4	Dolby 3 Stereo	OSD	THX	SL
Bit5	Dolby PLII		dts ES	FR
Bit6	Dolby Pro Logic		dts	C
Bit7	Dolby Digital		MPEG	FL

Display Status

	Display On	Display Off
Display Mode 1	0	1
Display Mode 0	0	0