

## RSP 1068

### 1 Byte waveform format

Baud Rate	Parity	bits	value	Handshaking	Data type
19200	n	8	1	none	string

### 1. RSP1068 -> PC

#### Display data

Start	Count	ID	Type	Data						Chk
0xfe	0x31	0xa1	0x20	char1	...	char42	flag1	...	flag5	xx

char1~42  
ASCII Characters

#### flag1:

bit7	Optical
bit6	Coaxial
bit5	[1]
bit4	[2]
bit3	[3]
bit2	[4]
bit1	[5]
bit0	[A]

#### flag2:

bit7	Dolby Digital
bit6	Dolby Pro Logic
bit5	dts
bit4	THX
bit3	EX
bit2	DSP
bit1	"0"
bit0	"0"

#### flag3:

bit7	PRESET
bit6	RDS
bit5	Stereo (Tuner)
bit4	Tuned
bit3	Standby LED
bit2	"0"
bit1	display mode1
bit0	display mode0

#### flag4:

bit7	Zone
bit6	"5.1"
bit5	"7.1"
bit4	">"
bit3	"<"
bit2	"0"
bit1	"0"
bit0	"sb"

#### flag5:

bit7	"FL"
bit6	"C"
bit5	"FR"
bit4	"SL"
bit3	"SR"
bit2	"SW"
bit1	"CBR"
bit0	"CBL"

	Normal	FL off
display mode1	0	1
display mode0	0	0

## 2. PC -> RSP1068

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa1	0x10	xx	xx

key:		key:		key:		key:	
0x00	RMC Vol+	0x10	Contour LF-	0x22	Surround+	0x50	
0x01	RMC Vol-	0x11	Stereo	0x23	Zone	0x51	
0x02	CD	0x12	3 Stereo			0x52	Display On/Off
0x03	Tuner	0x13	Pro Logic	0x4a	Power Off	0x53	ProLogic / 3 Stereo
0x04	Tape	0x14	DSP	0x4b	Power On	0x54	dts Neo:6
0x05	Video1	0x15	5.1CH[Multi Input]	0x4c	C	0x55	
0x06	Video2	0x16	Dynamic	0x4d	S	0x56	
0x07	Video3	0x17	Rec	0x4e	R	0x57	Music1
0x08	Video4	0x18	OSD Menu	0x4f	Filter (EQ)	0x58	Music2
0x09	Video5	0x19	OSD Enter			0x59	Music3
0x0a	Power	0x1a	OSD Right(+)			0x5a	Music4
0x0b	Vol+	0x1b	OSD Left(-)			0x5b	5Ch Stereo
0x0c	Vol-	0x1c	OSD Up/Trim Sel			0x5c	7Ch Stereo
0x0d	Contour HF+	0x1d	OSD Down/Dynamic			0x5d	PLII Cinema
0x0e	Contour HF-	0x1e	Mute			0x5e	PLII Music
0x0f	Contour LF+	0x1f	Digital In Select			0x5f	Dolby Pro Logic

key:		key:	
0x60	Neo6Music	0x70	
0x61	Neo6Cinema	0x71	
0x62	PLII Panorama on/off	0x72	
0x63	PLII Dimension Up [0-6]	0x73	
0x64	PL II Dimension Down [0-6]	0x74	PLII Game
0x65	PLII Center Width Up [0-7]	0x75	
0x66	PLII Center Width Down [0-7]	0x76	
0x67	Tone	0x77	
0x68	DD EX or XS On/Off	0x78	
0x69	Tuning Select	0x79	
0x6a	Preset Select	0x7a	
0x6b	Source	0x7b	
0x6c	Mute On	0x7c	
0x6d	Mute Off	0x7d	
0x6e		0x7e	
0x6f		0x7f	NULL Key
		0xff	Display Refresh

### 3. PC -> RSP1068 (Direct Select Main Zone)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa1	0x14	xx	xx

key:		key:	
0x00	RMC Vol+	0x1e	Mute
0x01	RMC Vol-		
0x02	CD	0x6c	Mute On
0x03	Tuner	0x6d	Mute Off
0x04	Tape		
0x05	Video1		
0x06	Video2		
0x07	Video3		
0x08	Video4		
0x09	Video5		
0x0a	Power		

### 4. PC -> RSP1068 (Direct Select Record Source)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa1	0x15	xx	xx

key:		key:	
0x02	CD	0x6b	Source
0x03	Tuner		
0x04	Tape		
0x05	Video1		
0x06	Video2		
0x07	Video3		
0x08	Video4		
0x09	Video5		

### 5. PC -> RSP1068 (Direct Select Zone 2)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa1	0x16	xx	xx

key:		key:	
0x00	RMC Vol+	0x1e	Mute
0x01	RMC Vol-		
0x02	CD	0x4a	Zone Power Off
0x03	Tuner	0x4b	Zone Power On
0x04	Tape		
0x05	Video1	0x6b	Source
0x06	Video2	0x6c	Mute On
0x07	Video3	0x6d	Mute Off
0x08	Video4		
0x09	Video5		
0x0a	Zone Power		

## 6. PC -> RSP1068 (Volume Direct)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa1	0x30	xx	xx

key:		key:	
0x00	volume min	0x10	volume 16
0x01	volume 1		
0x02	volume 2	0x20	volume 32
0x03	volume 3		
0x04	volume 4	0x30	volume 48
0x05	volume 5		
0x06	volume 6	0x40	volume 64
0x07	volume 7		
0x08	volume 8	0x50	volume 80
0x09	volume 9		
0x0a	volume 10	0x5f	volume 95
0x0b	volume 11	0x60	volume max
0x0c	volume 12		
0x0d	volume 13		
0x0e	volume 14		
0x0f	volume 15		

## 7. PC -> RSP1068 (Volume Direct Zone 2)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa1	0x32	xx	xx

key:		key:	
0x00	volume min	0x10	volume 16
0x01	volume 1		
0x02	volume 2	0x20	volume 32
0x03	volume 3		
0x04	volume 4	0x30	volume 48
0x05	volume 5		
0x06	volume 6	0x40	volume 64
0x07	volume 7		
0x08	volume 8	0x50	volume 80
0x09	volume 9		
0x0a	volume 10	0x59	volume 89
0x0b	volume 11	0x5a	volume max
0x0c	volume 12		
0x0d	volume 13		
0x0e	volume 14		
0x0f	volume 15		

## RSP 1068 RS232 Controller Command List

**Table: RSP 1068 Waveform format expected:**

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

**Table: RSP 1068 expected format of a request by RS 232 controller:**

Start	Count	Device ID	Type	Key	Checksum
0xFE	0x03	0xa1	0x10	0xXX	0xXX

### **Table 1: Type 10 Primary Command List**

NOTE: The values in the table below show the exact byte sequence of all requests. The device will expect the bytes only - no spaces, no delimiter, etc. The controlling device may implement its own method to download each command sequence. The numerical values in the first column are Hexadecimal.

RSP 1068 HEX	Command	Command Description
FE 03 A1 10 00 B4	RMC Vol+	Remote Volume Up
FE 03 A1 10 01 B5	RMC Vol-	Remote Volume Down
FE 03 A1 10 02 B6	CD	Source CD
FE 03 A1 10 03 B7	Tuner	Source Tuner
FE 03 A1 10 04 B8	Tape	Source Tape
FE 03 A1 10 05 B9	Video 1	Source Video 1
FE 03 A1 10 06 BA	Video 2	Source Video 2
FE 03 A1 10 07 BB	Video 3	Source Video 3
FE 03 A1 10 08 BC	Video 4	Source Video 4
FE 03 A1 10 09 BD	Video 5	Source Video 5
FE 03 A1 10 0A BE	Power	Power Toggle
FE 03 A1 10 0B BF	Vol+	Volume Up
FE 03 A1 10 0C C0	Vol-	Volume Down
FE 03 A1 10 0D C1	Treble+	Treble Up
FE 03 A1 10 0E C2	Treble-	Treble Down
FE 03 A1 10 0F C3	Bass+	Bass Up
FE 03 A1 10 10 C4	Bass-	Bass Down
FE 03 A1 10 11 C5	Stereo	Stereo
FE 03 A1 10 12 C6	3 Stereo	Dolby 3 Stereo
FE 03 A1 10 13 C7	Pro Logic	Dolby Pro Logic
FE 03 A1 10 14 C8	DSP	DSP Music
FE 03 A1 10 15 C9	Multi	Multi Input
FE 03 A1 10 16 CA	Dynamic	Dynamic Range
FE 03 A1 10 17 CB	Rec	Record
FE 03 A1 10 18 CC	OSD Menu	OSD Menu
FE 03 A1 10 19 CD	OSD Enter	OSD Enter
FE 03 A1 10 1A CE	OSD Right (+)	OSD Right
FE 03 A1 10 1B CF	OSD Left (-)	OSD Left
FE 03 A1 10 1C D0	OSD Up	OSD Up

RSP 1068 HEX	Command	Command Description
FE 03 A1 10 1D D1	OSD Down / Dynamic	OSD Down / Dynamic
FE 03 A1 10 1E D2	Mute	Mute
FE 03 A1 10 1F D3	Digital In Select	Digital Input Select
FE 03 A1 10 22 D6	Surround+	Next Surround Mode
FE 03 A1 10 23 D7	Zone 2 / Main	Zone
FE 03 A1 10 4A FE	Power Off	Power Off
FE 03 A1 10 4B FF	Power On	Power On
FE 03 A1 10 4C 00	C	Center
FE 03 A1 10 4D 01	S	Subwoofer
FE 03 A1 10 4E 02	R	Surround
FE 03 A1 10 4F 03	Filter (EQ)	Cinema EQ
FE 03 A1 10 52 06	FL On / Off	FL Display Toggle
FE 03 A1 10 53 07	Pro Logic / 3 Stereo	Dolby 3 Stereo
FE 03 A1 10 54 08	dts Neo:6	dts Neo:6
FE 03 A1 10 57 0B	Music 1	Music 1
FE 03 A1 10 58 0C	Music 2	Music 2
FE 03 A1 10 59 0D	Music 3	Music 3
FE 03 A1 10 5A 0E	Music 4	Music 4
FE 03 A1 10 5B 0F	5Ch Stereo	5Ch Stereo
FE 03 A1 10 5C 10	7Ch Stereo	7Ch Stereo
FE 03 A1 10 5D 11	PLII Cinema	Dolby PLII Cinema
FE 03 A1 10 5E 12	PLII Music	Dolby PLII Music
FE 03 A1 10 5F 13	Pro Logic	Dolby Pro Logic
FE 03 A1 10 60 14	dts Neo:6 Music	dts Neo:6 Music
FE 03 A1 10 61 15	dts Neo:6 Cinema	dts Neo:6 Cinema
FE 03 A1 10 62 16	PLII Panorama	PLII Panorama
FE 03 A1 10 63 17	PLII Dimension Up	PLII Dimension Up
FE 03 A1 10 64 18	PLII Dimension Down	PLII Dimension Down
FE 03 A1 10 65 19	PLII Center Width Up	PLII Center Width Up
FE 03 A1 10 66 1A	PLII Center Width Down	PLII Center Width Down
FE 03 A1 10 67 1B	Shift (Treble Bass)	Tone Controls
FE 03 A1 10 68 1C	DD EX On/Off	DD EX On/Off
FE 03 A1 10 74 28	PLII Game	Dolby PLII Game
FE 03 A1 10 FF B3	Display Refresh	Display Refresh

**Table 1A: Commands Sent with exceptions or modifications required**

RSP 1068 HEX	Command Expected	Command
FE 03 A1 10 4A FE	FE 03 A1 10 4A FD 01	Power Off

The table above list commands with exceptions. To keep the RSP 1068 from encountering the start byte FE in any position other than as the start byte, any occurrence of the bytes FE or FD in the 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.

**Table 2: Type 14 Main Zone Command List**

NOTE: These commands are duplicate functions of the primary commands in the table above bearing the same name, but are discrete for the main zone only. For multi-zone installation applications, it is recommended that the below commands be used rather than the type 10 commands to avoid zone conflicts.

<b>RSP 1068 HEX</b>	<b>Command</b>	<b>Command Description</b>
FE 03 A1 14 00 B8	RMC Vol+	Remote Volume Up
FE 03 A1 14 01 B9	RMC Vol-	Remote Volume Down
FE 03 A1 14 02 BA	Main CD	Main Zone Source CD
FE 03 A1 14 03 BB	Main Tuner	Main Zone Source Tuner
FE 03 A1 14 04 BC	Main Tape	Main Zone Source Tape
FE 03 A1 14 05 BD	Main Video 1	Main Zone Source Video 1
FE 03 A1 14 06 BE	Main Video 2	Main Zone Source Video 2
FE 03 A1 14 07 BF	Main Video 3	Main Zone Source Video 3
FE 03 A1 14 08 C0	Main Video 4	Main Zone Source Video 4
FE 03 A1 14 09 C1	Main Video 5	Main Zone Source Video 5
FE 03 A1 14 0A C2	Main Power	Main Zone Power Toggle
FE 03 A1 14 1E D6	Main Mute	Main Zone Mute
FE 03 A1 14 6C 24	Main Mute On	Main Zone Mute On
FE 03 A1 14 6D 25	Main Mute Off	Main Zone Mute Off

**Table 3: Type 15 Record Source Command List**

<b>RSP 1068 HEX</b>	<b>Command</b>	<b>Command Description</b>
FE 03 A1 15 02 BB	Record CD	Record Source CD
FE 03 A1 15 03 BC	Record Tuner	Record Source Tuner
FE 03 A1 15 04 BD	Record Tape	Record Source Tape
FE 03 A1 15 05 BE	Record Video 1	Record Source Video 1
FE 03 A1 15 06 BF	Record Video 2	Record Source Video 2
FE 03 A1 15 07 C0	Record Video 3	Record Source Video 3
FE 03 A1 15 08 C1	Record Video 4	Record Source Video 4
FE 03 A1 15 09 C2	Record Video 5	Record Source Video 5
FE 03 A1 15 6B 24	Record Source	Record Source

**Table 4: Type 16 Zone 2 Command List**

<b>RSP 1068 HEX</b>	<b>Command</b>	<b>Command Description</b>
FE 03 A1 16 00 BA	Vol+	Zone 2 Volume Up
FE 03 A1 16 01 BB	Vol-	Zone 2 Volume Down
FE 03 A1 16 02 BC	Zone 2 CD	Zone 2 Source CD
FE 03 A1 16 03 BD	Zone 2 Tuner	Zone 2 Source Tuner
FE 03 A1 16 04 BE	Zone 2 Tape	Zone 2 Source Tape
FE 03 A1 16 05 BF	Zone 2 Video 1	Zone 2 Source Video 1
FE 03 A1 16 06 C0	Zone 2 Video 2	Zone 2 Source Video 2
FE 03 A1 16 07 C1	Zone 2 Video 3	Zone 2 Source Video 3

RSP 1068 HEX	Command	Command Description
FE 03 A1 16 08 C2	Zone 2 Video 4	Zone 2 Source Video 4
FE 03 A1 16 09 C3	Zone 2 Video 5	Zone 2 Source Video 5
FE 03 A1 16 0A C4	Zone 2 Power	Zone 2 Power Toggle
FE 03 A1 16 1E D8	Zone 2 Mute	Zone 2 Mute
FE 03 A1 16 4A 04	Zone 2 Power Off	Zone 2 Power Off
FE 03 A1 16 4B 05	Zone 2 Power On	Zone 2 Power On
FE 03 A1 16 6B 25	Zone 2 Source	Zone 2 Follow Main Source
FE 03 A1 16 6C 26	Zone 2 Mute On	Zone 2 Mute On
FE 03 A1 16 6D 27	Zone 2 Mute Off	Zone 2 Mute Off

**Table 5: Type 30 Volume Direct Command List**

RSP 1068 HEX	Command	Command Description
FE 03 A1 30 00 D4	Volume Min	Volume Min
FE 03 A1 30 01 D5	Volume 1	Volume 1
FE 03 A1 30 02 D6	Volume 2	Volume 2
FE 03 A1 30 03 D7	Volume 3	Volume 3
FE 03 A1 30 04 D8	Volume 4	Volume 4
FE 03 A1 30 05 D9	Volume 5	Volume 5
FE 03 A1 30 06 DA	Volume 6	Volume 6
FE 03 A1 30 07 DB	Volume 7	Volume 7
FE 03 A1 30 08 DC	Volume 8	Volume 8
FE 03 A1 30 09 DD	Volume 9	Volume 9
FE 03 A1 30 0A DE	Volume 10	Volume 10
FE 03 A1 30 0B DF	Volume 11	Volume 11
FE 03 A1 30 0C E0	Volume 12	Volume 12
FE 03 A1 30 0D E1	Volume 13	Volume 13
FE 03 A1 30 0E E2	Volume 14	Volume 14
FE 03 A1 30 0F E3	Volume 15	Volume 15
FE 03 A1 30 10 E4	Volume 16	Volume 16
FE 03 A1 30 20 F4	Volume 32	Volume 32
FE 03 A1 30 30 04	Volume 48	Volume 48
FE 03 A1 30 40 14	Volume 64	Volume 64
FE 03 A1 30 50 24	Volume 80	Volume 80
FE 03 A1 30 5F 33	Volume 95	Volume 95
FE 03 A1 30 60 34	Volume Max	Volume Max

**Table 5A: Commands Sent with exceptions or modifications required**

RSP 1068 HEX	Command Expected	Command
FE 03 A1 30 29 FD	FE 03 A1 30 29 FD 00	Volume 41
FE 03 A1 30 2A FE	FE 03 A1 30 2A FD 01	Volume 42

**Table 6: Type 32 Zone 2 Volume Direct Command List**

RSP 1068 HEX	Command	Command Description
FE 03 A1 32 00 D6	Zone 2 Volume Min	Zone 2 Volume Min
FE 03 A1 32 01 D7	Zone 2 Volume 1	Zone 2 Volume 1
FE 03 A1 32 02 D8	Zone 2 Volume 2	Zone 2 Volume 2
FE 03 A1 32 03 D9	Zone 2 Volume 3	Zone 2 Volume 3
FE 03 A1 32 04 DA	Zone 2 Volume 4	Zone 2 Volume 4
FE 03 A1 32 05 DB	Zone 2 Volume 5	Zone 2 Volume 5
FE 03 A1 32 06 DC	Zone 2 Volume 6	Zone 2 Volume 6
FE 03 A1 32 07 DD	Zone 2 Volume 7	Zone 2 Volume 7
FE 03 A1 32 08 DE	Zone 2 Volume 8	Zone 2 Volume 8
FE 03 A1 32 09 DF	Zone 2 Volume 9	Zone 2 Volume 9
FE 03 A1 32 0A E0	Zone 2 Volume 10	Zone 2 Volume 10
FE 03 A1 32 0B E1	Zone 2 Volume 11	Zone 2 Volume 11
FE 03 A1 32 0C E2	Zone 2 Volume 12	Zone 2 Volume 12
FE 03 A1 32 0D E3	Zone 2 Volume 13	Zone 2 Volume 13
FE 03 A1 32 0E E4	Zone 2 Volume 14	Zone 2 Volume 14
FE 03 A1 32 0F E5	Zone 2 Volume 15	Zone 2 Volume 15
FE 03 A1 32 10 E6	Zone 2 Volume 16	Zone 2 Volume 16
FE 03 A1 32 20 F6	Zone 2 Volume 32	Zone 2 Volume 32
FE 03 A1 32 30 06	Zone 2 Volume 48	Zone 2 Volume 48
FE 03 A1 32 40 16	Zone 2 Volume 64	Zone 2 Volume 64
FE 03 A1 32 50 26	Zone 2 Volume 80	Zone 2 Volume 80
FE 03 A1 32 5F 35	Zone 2 Volume 89	Zone 2 Volume 89
FE 03 A1 32 60 36	Zone 2 Volume Max	Zone 2 Volume Max

**Table 6A: Commands Sent with exceptions or modifications required**

RSP 1068 HEX	Command Expected	Command
FE 03 A1 32 27 FD	FE 03 A1 32 27 FD 00	Zone 2 Volume 39
FE 03 A1 32 28 FE	FE 03 A1 32 28 FD 01	Zone 2 Volume 40