

RSP 1098

1 Byte waveform format

Baud Rate	Parity	Valid data bits	Stop bit value	Handshaking	Data type
19200	n	8	1	none	string

1. RSP1098 -> PC

Display data

Start	Count	ID	Type	Data						Chk
0xfe	0x17	0xa0	0x20	char1	...	char13	flag1	...	flag8	xx

char1~13
ASCII Characters

flag1:

bit7	
bit6	char7_dot
bit5	char6_dot
bit4	char5_dot
bit3	char4_dot
bit2	char3_dot
bit1	char2_dot
bit0	char1_dot

flag2:

bit7	
bit6	char8_colon
bit5	char13_dot
bit4	char12_dot
bit3	char11_dot
bit2	char10_dot
bit1	char9_dot
bit0	char8_dot

flag3:

bit7	Optical
bit6	Coaxial
bit5	1
bit4	2
bit3	3
bit2	4
bit1	Multi
bit0	Tapem

flag4:

bit7	RBDS
bit6	RDS
bit5	RT
bit4	TP
bit3	TA
bit2	PTY
bit1	St (Tuner)
bit0	Tuned

flag5:

bit7	Dolby Digital
bit6	Dolby Pro Logic
bit5	Dolby Pro Logic II
bit4	Dolby 3 Stereo
bit3	HDCD
bit2	DSP
bit1	Dynamic Range
bit0	Zone

flag6:

bit7	Preset
bit6	Memory
bit5	Auto
bit4	OSD
bit3	Stby_LED
bit2	
bit1	Disp Mode0
bit0	Disp Mode1

flag7:

bit7	MPEG
bit6	dts
bit5	dts ES
bit4	THX
bit3	Sur
bit2	EX
bit1	SBL
bit0	SBR

flag8:

bit7	FL
bit6	C
bit5	FR
bit4	SL
bit3	SR
bit2	LFE
bit1	S
bit0	CB

	Normal	FL off
display mode1	0	1
display mode0	0	0

2. PC -> RSP1098

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa0	0x10	xx	xx

key:		key:		key:		key:	
0x00	RMC Vol+	0x10	Contour LF-	0x20		0x40	
0x01	RMC Vol-	0x11	Stereo	0x21		0x41	
0x02	CD	0x12	3 Stereo	0x22	Surround+	0x42	
0x03	Tuner	0x13	Pro Logic	0x23	Zone 2/Main	0x43	
0x04	Tape	0x14	DSP	0x24		0x44	
0x05	Video1	0x15	5.1CH[Multi Input]	0x25		0x45	
0x06	Video2	0x16	Dynamic	0x26		0x46	
0x07	Video3	0x17	Rec	0x27		0x47	
0x08	Video4	0x18	OSD Menu	0x28		0x48	
0x09	Video5	0x19	OSD Enter	0x29		0x49	
0x0a	Power	0x1a	OSD Right(+)	0x2a		0x4a	Power Off
0x0b	Vol+	0x1b	OSD Left(-)	0x2b		0x4b	Power On
0x0c	Vol-	0x1c	OSD Up/Trim Sel	0x2c		0x4c	C
0x0d	Contour HF+	0x1d	OSD Down/Dynamic	0x2d		0x4d	S
0x0e	Contour HF-	0x1e	Mute	0x2e		0x4e	R
0x0f	Contour LF+	0x1f	Digital In Select	0x2f		0x4f	Filter (EQ)

key:		key:		key:		key:	
0x50		0x60	Neo:6 Music	0x70			
0x51		0x61	Neo:6 Cinema	0x71			
0x52	FL On/Off	0x62	PLII Music Panorama on/off toggle	0x72			
0x53	PLII / 3 Stereo	0x63	PLII Music Dimension_up [0~6]	0x73			
0x54	dts Neo:6	0x64	PLII Music Dimension_down [0~6]	0x74	PLII Game		
0x55		0x65	PLII Music CenterWidth_up [0~7]	0x75			
0x56		0x66	PLII Music CenterWidth_down [0~7]	0x76			
0x57	Music 1	0x67	SHIFT[treble,bass]	0x77			
0x58	Music 2	0x68	DD EX / XS On / Off	0x78			
0x59	Music 3	0x69		0x79			
0x5a	Music 4	0x6a					
0x5b	5 Ch Stereo	0x6b	Source				
0x5c	7 Ch Stereo	0x6c					
0x5d	PLII Cinema	0x6d					
0x5e	PLII Music	0x6e		0x7f	NULL Key		
0x5f	Dolby Pro Logic	0x6f		0xff	Display Refresh		

The following RS232 commands are only available on units with serial #s beyond 079/979-3411001. Units before this serial # will require an update to the installed software and EPROM on the unit.

3. PC -> RSP1098 (Direct Select Main Zone)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa0	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 -> RSP1098 (Direct Select Record Source)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa0	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 -> RSP1098 (Direct Select Zone 2)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa0	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 (Toggle)		

6. PC -> RSP1098 (Volume Direct)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa0	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 -> RSP1098 (Volume Direct Zone 2)

Start	Count	ID	Type	Key	Chk
0xfe	0x03	0xa0	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 1098 RS232 Controller Command List

Table: RSP 1098 Waveform format expected:

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

Table: RSP 1098 expected format of a request by RS232 controller:

Start	Count	Device ID	Type	Key	Checksum
0xFE	0x03	0xA0	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 1098 HEX	Command	Command Description
FE 03 A0 10 00 B3	RMC Vol+	Remote Volume Up
FE 03 A0 10 01 B4	RMC Vol-	Remote Volume Down
FE 03 A0 10 02 B5	CD	Source CD
FE 03 A0 10 03 B6	Tuner	Source Tuner
FE 03 A0 10 04 B7	Tape	Source Tape
FE 03 A0 10 05 B8	Video 1	Source Video 1
FE 03 A0 10 06 B9	Video 2	Source Video 2
FE 03 A0 10 07 BA	Video 3	Source Video 3
FE 03 A0 10 08 BB	Video 4	Source Video 4
FE 03 A0 10 09 BC	Video 5	Source Video 5
FE 03 A0 10 0A BD	Power	Power Toggle
FE 03 A0 10 0B BE	Vol+	Volume Up
FE 03 A0 10 0C BF	Vol-	Volume Down
FE 03 A0 10 0D C0	Treble+	Treble Up
FE 03 A0 10 0E C1	Treble-	Treble Down
FE 03 A0 10 0F C2	Bass+	Bass Up
FE 03 A0 10 10 C3	Bass-	Bass Down
FE 03 A0 10 11 C4	Stereo	Stereo
FE 03 A0 10 12 C5	3 Stereo	Dolby 3 Stereo
FE 03 A0 10 13 C6	Pro Logic	Dolby Pro Logic
FE 03 A0 10 14 C7	DSP	DSP Music
FE 03 A0 10 15 C8	Multi	Multi Input
FE 03 A0 10 16 C9	Dynamic	Dynamic Range
FE 03 A0 10 17 CA	Rec	Record
FE 03 A0 10 18 CB	OSD Menu	OSD Menu
FE 03 A0 10 19 CC	OSD Enter	OSD Enter
FE 03 A0 10 1A CD	OSD Right (+)	OSD Right
FE 03 A0 10 1B CE	OSD Left (-)	OSD Left
FE 03 A0 10 1C CF	OSD Up	OSD Up

RSP 1098 HEX	Command	Command Description
FE 03 A0 10 1D D0	OSD Down / Dynamic	OSD Down / Dynamic
FE 03 A0 10 1E D1	Mute	Mute
FE 03 A0 10 1F D2	Digital In Select	Digital Input Select
FE 03 A0 10 22 D5	Surround+	Next Surround Mode
FE 03 A0 10 23 D6	Zone 2 / Main	Zone
FE 03 A0 10 4A FD	Power Off	Power Off
FE 03 A0 10 4B FE	Power On	Power On
FE 03 A0 10 4C FF	C	Center
FE 03 A0 10 4D 00	S	Subwoofer
FE 03 A0 10 4E 01	R	Surround
FE 03 A0 10 4F 02	Filter (EQ)	Cinema EQ
FE 03 A0 10 52 05	FL On / Off	FL Display Toggle
FE 03 A0 10 53 06	Pro Logic / 3 Stereo	Dolby 3 Stereo
FE 03 A0 10 54 07	dts Neo:6	dts Neo:6
FE 03 A0 10 57 0A	Music 1	Music 1
FE 03 A0 10 58 0B	Music 2	Music 2
FE 03 A0 10 59 0C	Music 3	Music 3
FE 03 A0 10 5A 0D	Music 4	Music 4
FE 03 A0 10 5B 0E	5Ch Stereo	5Ch Stereo
FE 03 A0 10 5C 0F	7Ch Stereo	7Ch Stereo
FE 03 A0 10 5D 10	PLII Cinema	Dolby PLII Cinema
FE 03 A0 10 5E 11	PLII Music	Dolby PLII Music
FE 03 A0 10 5F 12	Pro Logic	Dolby Pro Logic
FE 03 A0 10 60 13	dts Neo:6 Music	dts Neo:6 Music
FE 03 A0 10 61 14	dts Neo:6 Cinema	dts Neo:6 Cinema
FE 03 A0 10 62 15	PLII Panorama	PLII Panorama
FE 03 A0 10 63 16	PLII Dimension Up	PLII Dimension Up
FE 03 A0 10 64 17	PLII Dimension Down	PLII Dimension Down
FE 03 A0 10 65 18	PLII Center Width Up	PLII Center Width Up
FE 03 A0 10 66 19	PLII Center Width Down	PLII Center Width Down
FE 03 A0 10 67 1A	Shift (Treble Bass)	Tone Controls
FE 03 A0 10 68 1B	DD EX On/Off	DD EX On/Off
FE 03 A0 10 74 27	PLII Game	Dolby PLII Game
FE 03 A0 10 FF B2	Display Refresh	Display Refresh

Table 1A: Commands Sent with exceptions or modifications required

RSP 1098 HEX	Command Expected	Command
FE 03 A0 10 4A FD	FE 03 A0 10 4A FD 00	Power Off
FE 03 A0 10 4B FE	FE 03 A0 10 4B FD 01	Power On

The table above list commands with exceptions. To keep the RSP 1098 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.

RSP 1098 HEX	Command	Command Description
FE 03 A0 14 00 B7	RMC Vol+	Remote Volume Up
FE 03 A0 14 01 B8	RMC Vol-	Remote Volume Down
FE 03 A0 14 02 B9	Main CD	Main Zone Source CD
FE 03 A0 14 03 BA	Main Tuner	Main Zone Source Tuner
FE 03 A0 14 04 BB	Main Tape	Main Zone Source Tape
FE 03 A0 14 05 BC	Main Video 1	Main Zone Source Video 1
FE 03 A0 14 06 BD	Main Video 2	Main Zone Source Video 2
FE 03 A0 14 07 BE	Main Video 3	Main Zone Source Video 3
FE 03 A0 14 08 BF	Main Video 4	Main Zone Source Video 4
FE 03 A0 14 09 C0	Main Video 5	Main Zone Source Video 5
FE 03 A0 14 0A C1	Main Power	Main Zone Power Toggle
FE 03 A0 14 1E D5	Main Mute	Main Zone Mute
FE 03 A0 14 6C 23	Main Mute On	Main Zone Mute On
FE 03 A0 14 6D 24	Main Mute Off	Main Zone Mute Off

Table 3: Type 15 Record Source Command List

RSP 1098 HEX	Command	Command Description
FE 03 A0 15 02 BA	Record CD	Record Source CD
FE 03 A0 15 03 BB	Record Tuner	Record Source Tuner
FE 03 A0 15 04 BC	Record Tape	Record Source Tape
FE 03 A0 15 05 BD	Record Video 1	Record Source Video 1
FE 03 A0 15 06 BE	Record Video 2	Record Source Video 2
FE 03 A0 15 07 BF	Record Video 3	Record Source Video 3
FE 03 A0 15 08 C0	Record Video 4	Record Source Video 4
FE 03 A0 15 09 C1	Record Video 5	Record Source Video 5
FE 03 A0 15 6B 23	Record Source	Record Source

Table 4: Type 16 Zone 2 Command List

RSP 1098 HEX	Command	Command Description
FE 03 A0 16 00 B9	Vol+	Zone 2 Volume Up
FE 03 A0 16 01 BA	Vol-	Zone 2 Volume Down
FE 03 A0 16 02 BB	Zone 2 CD	Zone 2 Source CD
FE 03 A0 16 03 BC	Zone 2 Tuner	Zone 2 Source Tuner
FE 03 A0 16 04 BD	Zone 2 Tape	Zone 2 Source Tape
FE 03 A0 16 05 BE	Zone 2 Video 1	Zone 2 Source Video 1
FE 03 A0 16 06 BF	Zone 2 Video 2	Zone 2 Source Video 2
FE 03 A0 16 07 C0	Zone 2 Video 3	Zone 2 Source Video 3

RSP 1098 HEX	Command	Command Description
FE 03 A0 16 08 C1	Zone 2 Video 4	Zone 2 Source Video 4
FE 03 A0 16 09 C2	Zone 2 Video 5	Zone 2 Source Video 5
FE 03 A0 16 0A C3	Zone 2 Power	Zone 2 Power Toggle
FE 03 A0 16 1E D7	Zone 2 Mute	Zone 2 Mute
FE 03 A0 16 4A 03	Zone 2 Power Off	Zone 2 Power Off
FE 03 A0 16 4B 04	Zone 2 Power On	Zone 2 Power On
FE 03 A0 16 6B 24	Zone 2 Source	Zone 2 Follow Main Source
FE 03 A0 16 6C 25	Zone 2 Mute On	Zone 2 Mute On
FE 03 A0 16 6D 26	Zone 2 Mute Off	Zone 2 Mute Off

Table 5: Type 30 Volume Direct Command List

RSP 1098 HEX	Command	Command Description
FE 03 A0 30 00 D3	Volume Min	Volume Min
FE 03 A0 30 01 D4	Volume 1	Volume 1
FE 03 A0 30 02 D5	Volume 2	Volume 2
FE 03 A0 30 03 D6	Volume 3	Volume 3
FE 03 A0 30 04 D7	Volume 4	Volume 4
FE 03 A0 30 05 D8	Volume 5	Volume 5
FE 03 A0 30 06 D9	Volume 6	Volume 6
FE 03 A0 30 07 DA	Volume 7	Volume 7
FE 03 A0 30 08 DB	Volume 8	Volume 8
FE 03 A0 30 09 DC	Volume 9	Volume 9
FE 03 A0 30 0A DD	Volume 10	Volume 10
FE 03 A0 30 0B DE	Volume 11	Volume 11
FE 03 A0 30 0C DF	Volume 12	Volume 12
FE 03 A0 30 0D E0	Volume 13	Volume 13
FE 03 A0 30 0E E1	Volume 14	Volume 14
FE 03 A0 30 0F E2	Volume 15	Volume 15
FE 03 A0 30 10 E3	Volume 16	Volume 16
FE 03 A0 30 20 F3	Volume 32	Volume 32
FE 03 A0 30 30 03	Volume 48	Volume 48
FE 03 A0 30 40 13	Volume 64	Volume 64
FE 03 A0 30 50 23	Volume 80	Volume 80
FE 03 A0 30 5F 32	Volume 95	Volume 95
FE 03 A0 30 60 33	Volume Max	Volume Max

Table 5A: Commands Sent with exceptions or modifications required

RSP 1098 HEX	Command Expected	Command
FE 03 A0 30 2A FD	FE 03 A0 30 2A FD 00	Volume 43
FE 03 A0 30 2B FE	FE 03 A0 30 2B FD 01	Volume 44

Table 6: Type 32 Zone 2 Volume Direct Command List

RSP 1098 HEX	Command	Command Description
FE 03 A0 32 00 D5	Zone 2 Volume Min	Zone 2 Volume Min
FE 03 A0 32 01 D6	Zone 2 Volume 1	Zone 2 Volume 1
FE 03 A0 32 02 D7	Zone 2 Volume 2	Zone 2 Volume 2
FE 03 A0 32 03 D8	Zone 2 Volume 3	Zone 2 Volume 3
FE 03 A0 32 04 D9	Zone 2 Volume 4	Zone 2 Volume 4
FE 03 A0 32 05 DA	Zone 2 Volume 5	Zone 2 Volume 5
FE 03 A0 32 06 DB	Zone 2 Volume 6	Zone 2 Volume 6
FE 03 A0 32 07 DC	Zone 2 Volume 7	Zone 2 Volume 7
FE 03 A0 32 08 DD	Zone 2 Volume 8	Zone 2 Volume 8
FE 03 A0 32 09 DE	Zone 2 Volume 9	Zone 2 Volume 9
FE 03 A0 32 0A DF	Zone 2 Volume 10	Zone 2 Volume 10
FE 03 A0 32 0B E0	Zone 2 Volume 11	Zone 2 Volume 11
FE 03 A0 32 0C E1	Zone 2 Volume 12	Zone 2 Volume 12
FE 03 A0 32 0D E2	Zone 2 Volume 13	Zone 2 Volume 13
FE 03 A0 32 0E E3	Zone 2 Volume 14	Zone 2 Volume 14
FE 03 A0 32 0F E4	Zone 2 Volume 15	Zone 2 Volume 15
FE 03 A0 32 10 E5	Zone 2 Volume 16	Zone 2 Volume 16
FE 03 A0 32 20 F5	Zone 2 Volume 32	Zone 2 Volume 32
FE 03 A0 32 30 05	Zone 2 Volume 48	Zone 2 Volume 48
FE 03 A0 32 40 15	Zone 2 Volume 64	Zone 2 Volume 64
FE 03 A0 32 50 25	Zone 2 Volume 80	Zone 2 Volume 80
FE 03 A0 32 5F 34	Zone 2 Volume 89	Zone 2 Volume 89
FE 03 A0 32 60 35	Zone 2 Volume Max	Zone 2 Volume Max

Table 6A: Commands Sent with exceptions or modifications required

RSP 1098 HEX	Command Expected	Command
FE 03 A0 32 28 FD	FE 03 A0 32 28 FD 00	Zone 2 Volume 40
FE 03 A0 32 29 FE	FE 03 A0 32 29 FD 01	Zone 2 Volume 41