RS-232C standard command specification

MODEL: **RX-V1800**
RX-V3800
HTR-6190

Revision 1.02

Rev.	Date	Contents
1.01	10/29/2007	
1.02	02/03/2008	The command specification of the input name of 5.4 is changed.

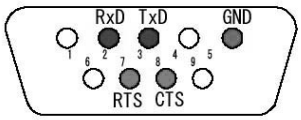
1. Outline

RX-Vx800 in this protocol refers to the RX-V1800 and RX-V3800.

1.1 Connection

5 wire system

	TxD(PIN3)	Transpose	--------->	RxD(PIN2)	
	RxD(PIN2)	Receive	<---------	TxD(PIN3)	
RX-Vx800	GND(PIN5)	Ground	----------	GND(PIN5)	HOST.
Slave	CTS(PIN8)	Permit to send data	<---------	RTS(PIN7)	master
	RTS(PIN7)	Request to send data	--------->	CTS(PIN8)	



*When not connected, data transmission to RX-Vx800 is prohibited (CTS port pull down).

1.2 RS-232C Settings

*Full duplex, start-stop synchronization communication

Baud rate	9600bps
Data bits	8
Parity	No
Stop bit	1bit
Handshaking	Hardware

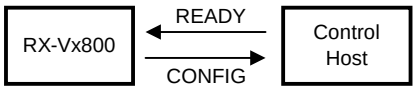
*The RX-Vx800 RTS port outputs at low level when the AC plug is disconnected.
If RTS output stays low even when the AC plug is connected, a problem may occur.

1.3 Data block timeout

It takes the RX-Vx800 a maximum of 500msec to send one data block. If a complete data block is not received within 500msec, cancel the transaction. A problem may occur.

2. Start Commands

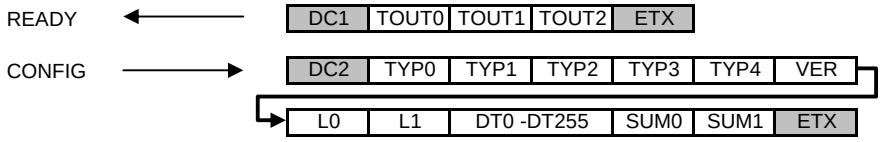
2.1 Starting Communication



The Ready command is the first command to be sent to the RX-Vx800 at the start of communication. TOUT0 - 2 in the Ready Command sets communication timeout.

RX-Vx800 sends a Configuration command (Model ID, software version and setting data) to the host in reply to the Ready command.

The RX-Vx800 will send a Configuration command within 1 sec. after receiving a Ready command from the host. If not, send a Ready Command again (max 5 times).
If the RX-Vx800 won't send a Configuration command after the fifth retry, cancel the transaction because there may be a problem.



*TYPx Model ID = "R0226" (RX-V1800)
Model ID = "R0227" (HTR-6190)
Model ID = "R0225" (RX-V3800)
*VER Software Version
*SUM The sum of all data except for the header and footer

function name	function	data (ASCII)	range (HEX)
TOUT0 - 2	communication timeout	0 - 9, A - F	0 - 0xFFF

*timeout between the header and the footer

*timeout=0 means no timeout

function name	function	data (ASCII)	range (HEX)
TYP0 - 4	model ID	0 - 9, A - F	voluntary
VER	software version	A - Z	voluntary
L0 - 1	data length	0 - 9, A - F	0 - 0xFF
DT0 - 255	data	0 - 9, A - F	0 - 0xF
SUM0	upper 4 bit of SUM	0 - 9, A - F	0 - 0xF
SUM1	lower 4 bit of SUM	0 - 9, A - F	0 - 0xF

*Data Structure of Configuration Command

When the power is OFF, only DT0,1,…,9 are sent to the Host.

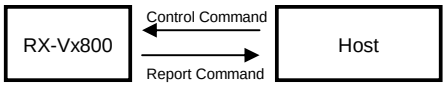
data	Report				
DT0	-	Fixed	Baud Rate	Don't care ('@')	
DT1	-	Fixed	Receive Buffer	Don't care ('E')	
DT2	-	Fixed	Receive Buffer	Don't care ('0')	
DT3	-	Fixed	Command Timeout	Don't care ('1')	
DT4	-	Fixed	Command Timeout	Don't care ('9')	
DT5	-	Fixed	Command Timeout	Don't care ('0')	
DT6	-	Fixed	Handshaking	Don't care ('0')	
DT7	00	0 / 2	System	0: OK / 1: Busy / 2: Standby	
DT8	20	0 - 7	Power	Main Room / Zone2 / Zone3 Power Status (All off , All on, Main on…)	
DT9	21	0 - F	Input	Upper 4 bit	
DT10		0 - F	Input	Lower 4 bit	
DT11	22	0 - 8	Audio Select	0: Auto / 3: COAX/OPT / 4: Analog / 8:HDMI	
DT12	23	0 - 1	Audio Mute	0: Off / 1: On	
DT13	24	0 - E	Zone2 Input	0: PHONO / 1: CD / 2: TUNER / 3: CD-R / 4: MD/TAPE / 5: DVD / 6: DTV/CBL 9: VCR / A: DVR / C: V-AUX / D: NET/USB* / E:XM** / F: BD/HD DVD *Only RX-V3800 **Only USA & Canada	
DT14	25	0 / 1	Zone2 Mute	0: Off / 1: On	
DT15	26	0 - F	Master Volume	Upper 4 bit	
DT16		0 - F	Master Volume	Lower 4 bit	
DT17	27	0 - F	Zone2 Volume	Upper 4 bit	
DT18		0 - F	Zone2 Volume	Lower 4 bit	
DT19	28	0 - F	Program	Upper 4 bit	
DT20		0 - F	Program	Lower 4 bit	
~~DT21~~	~~28~~	~~0 / 1~~	~~Effect~~	~~0: Off / 1: On~~	
DT22	2D	0 - 6	Extended Surround	0: Off / 1: EX/ES / 3: Auto / 4: EX / 5: PLIIx Movie / 6: PLIIx Music 7: Neural THX	
DT23	2B	1 - 2	Short Message	1: On / 2: Off	
DT24	2C	0 - 4	Sleep	0: 120 / 1: 90 / 2: 60 / 4: 30 / 4: OFF	
DT25	29	0 - 4	Tuner Preset Page	0: Page A / 1: Page B / 2: Page C / 3: Page D / 4: Page E	
DT26	2A	0 - 7	Tuner Preset Number	0: No.1 / 1: No.2 / 2: No.3 / 3: No.4 / 4: No.5 / 5: No.6 / 6: No.7 / 7: No.8	
DT27	8B	0 - 2	Night Mode	Upper 4 bit 0: OFF / 1:Cinema / 2:Music	Deletion
DT28	8B	0 - 2	Night Mode Parameter	Lower 4 bit 0:Low / 1:Mid / 2:High	Deletion
~~DT29~~	~~2E~~	~~0 / 1~~	~~Speaker Relay A~~	~~0: Off / 1: On~~	
~~DT30~~	~~2F~~	~~0 / 1~~	~~Speaker Relay B~~	~~0: Off / 1: On~~	
DT31	10	0 - F	Format	Upper 4 bit	
DT32		0 - F	Format	Lower 4 bit	
DT33	11	0 - F	Sampling	Upper 4 bit	
DT34		0 - F	Sampling	Lower 4 bit	
DT35	12	0 - F	Channel Front/Rear	0: 1+1 / 1: 1/0 / 2: 2/0 / 3: 3/0 / 4: 2/1 / 5: 3/1 / 6: 2/2 / 7: 3/2 / 8: 2/3 / 9: 3/3 A: 2/4 / B: 3/4 / C: MLT / F: ---	
DT36	34	0 / 1	Head Phone	0: Off / 1: On	
DT37	35	0 / 1	Tuner Band	0: FM / 1: AM	
DT38	13	0 - F	Channel LFE	0: 0.1 / 1: 0.2 / F: ---	
DT39	36	0 / 1	Trigger1 Output	0: Low / 1: High	
DT40	5E	0 - 2	Decoder Mode	0: Auto / 1:DTS / 2:AAC* *Only Japanese Model	
DT41	39	0 - 2	Dual Mono	0: Main / 1:Sub / 2:All (Only Japanese Model)	
DT42	3A	0 - 3	Trigger1 Control	0: All (Zone1-3) / 1:Main / 2: Zone2 / 3: Zone3	
~~DT43~~			~~Don't care~~		
DT44	3B	0 - 3	Trigger2 Control	0: All (Zone1-3) / 1:Main / 2: Zone2 / 3: Zone3	
DT45	3C	0 / 1	Trigger2 Output	0: Low / 1: High	
~~DT46~~	~~3D~~	~~0 / 1~~	~~Speaker B set~~	~~0: Main / 1: Zone B~~	
DT47	3E	0 - 3	Zone 2 Amplifier	0: EXT / 1: INT: Speaker[1] / 2: INT: Speaker[2] / 3: INT Both	
DT48	40	0 - F	Level Front R	Upper 4 bit	
DT49		0 - F	Level Front R	Lower 4 bit	
DT50	41	0 - F	Level Front L	Upper 4 bit	
DT51		0 - F	Level Front L	Lower 4 bit	
DT52	42	0 - F	Level Center	Upper 4 bit	
DT53		0 - F	Level Center	Lower 4 bit	
DT54	43	0 - F	Level Surround R	Upper 4 bit	
DT55		0 - F	Level Surround R	Lower 4 bit	
DT56	44	0 - F	Level Surround L	Upper 4 bit	
DT57		0 - F	Level Surround L	Lower 4 bit	
DT58	45	0 - F	Level Surround Back R	Upper 4 bit	
DT59		0 - F	Level Surround Back R	Lower 4 bit	
DT60	46	0 - F	Level Surround Back L	Upper 4 bit	
DT61		0 - F	Level Surround Back L	Lower 4 bit	

DT62	47	0 - F	Level Presence R	Upper 4 bit
DT63		0 - F	Level Presence R	Lower 4 bit
DT64	48	0 - F	Level Presence L	Upper 4 bit
DT65		0 - F	Level Presence L	Lower 4 bit
DT66	49	0 - F	Level Subwoofer	Upper 4 bit
DT67		0 - F	Level Subwoofer	Lower 4 bit
DT68	90	0 - 4	XM Preset Page	0: Page A / 1: Page B / 2: Page C / 3: Page D / 4: Page E (Only USA & Canada)
DT69	91	0 - 7	XM Preset Number	(Only USA & Canada)
DT70	92	0 - 2	XM Search Mode	0: All CH / 1: Category / 2: Preset (Only USA & Canada)
DT71	93	1 - 3	On Screen	1: 10sec / 2: 30sec / 3: Always
DT72	94	0 - F	XM Channel Number	Upper 4 bit (Only USA & Canada)
DT73		0 - F	XM Channel Number	Lower 4 bit (Only USA & Canada)
DT74	51	0 - F	LFE Level SP	Upper 4 bit
DT75		0 - F	LFE Level SP	Lower 4 bit
DT76	52	0 - F	LFE Level HP	Upper 4 bit
DT77		0 - F	LFE Level HP	Lower 4 bit
DT78	53	0 - F	Manual Audio Delay	Upper 4 bit
DT79		0 - F	Manual Audio Delay	Lower 4 bit
DT80	5B	0 - F	Initial Volume	Upper 4 bit added to RX-V1800 too
DT81		0 - F	Initial Volume	Lower 4 bit added to RX-V1800 too
DT82	5A	0 - A	Max Volume	0: -30dB / 1: -25dB / 2: -20dB / 3: -15dB / 4: -10dB / 5: -5dB / 6: 0dB / 7: 5dB / 8: 10dB / 9: 15dB / A: 16.5dB added to RX-V1800 too
DT83	5F	0 / 1	Decoder Mode Set	0: Auto / 1: Last
DT84	60	0 / 1	Audio Select Set	0: Auto / 1: Last
DT85	61	0 - 4	Dimmer	0: -4 / 1: -3 / 2: -2 / 3: -1 / 4: 0
~~**DT86**~~			~~**Don't care**~~	
DT87	62	0 - A	OSD Shift / GUI position	Upper 4 bit
DT88		0 - A	OSD Shift / GUI position	Lower 4 bit
DT89	63	0 / 1	Gray back	0: Off / 1: Auto (Only RX-V1800)
DT90	69	0 / 1	Video conversion	0: Off / 1: On
DT91	64	0 - 2	D. Rang SP	0: MAX / 1: STD / 2: MIN
DT92	65	0 - 2	D. Rang HP	0: MAX / 1: STD / 2: MIN
DT93	66	0 / 1	Zone2 Volume Out	0: Variable / 1: Fixed
DT94	6B	0 / 1	Zone3 Volume Out	0: Variable / 1: Fixed
DT95	68	0 / 1	Memory guard	0: Off / 1: On
DT96	70	0 - 2	SP set Center	0: Large / 1: Small / 2: None
DT97	71	0 / 1	Front	0: Large / 1: Small
DT98	72	0 - 2	Sur. L/R	0: Large / 1: Small / 2: None
DT99	73	0 - 4	Sur. Back	0: Large x2 / 1: Large x1 / 2:Small x2 / 3:Small x1 / 4:None
DT100	3F	0 - 3	Zone3 Amplifier	0: EXT / 1: INT: Speaker[1] / 2: INT: Speaker[2] / 3: INT Both
DT101	74	0 / 1	SP set Presence	0: Yes / 1: None
DT102	75	0 - 2	LFE/BASS	0: SWFR / 1: Front / 2: Both
DT103	76	0 / 1	Subwoofer Phase	Upper 4 bit : Phase 0:Normal / 1:Reverse
~~**DT104**~~			~~Subwoofer Phase~~	~~Lower 4 bit : Don't Care~~
DT105	80	0 / 1	Test mode	0: OFF / 1: ON
DT106	A7	0 - 2	EQ Select	0: Auto PEQ / 1: GEQ / 2: Off (Only RX-V1800)
DT107	58	0 - F	Wall Paper	0: Yes / E: Gray / F: None (Only RX-V3800)
~~**DT108**~~			~~**Don't care**~~	
~~**DT109**~~			~~**Don't care**~~	
~~**DT110**~~			~~**Don't care**~~	
DT111	8F	0 / 1	HDMI Support Audio	0: RX-V3800 or RX-V1800 or HTR-6190 / 1: Other
DT112	85	0 / 1	Component I/P	0: Off / 1: On
DT113	86	0 / 1	HDMI IP	0: Off / 1: On (Only RX-V1800) Deletion
DT114	B6	0 - 5	GUI Language	0: English / 1: Japanese / 2: French / 3: German / 4: Spanish / 5: Russian (Only RX-V3800)
DT115	87	0 - 4	HDMI Up-Scaling	0: Through / 1: 480p(576p) / 2: 1080i / 3: 720p / 4: 1080p added to RX-V1800 too
DT116	88	0 - 2	HDMI Aspect	0: Through / 1: 16: 9 Normal / 2: Smart Zoom added to RX-V1800 too
~~**DT117**~~	~~8A~~	~~0 - 2~~	~~THX SB Speaker Distance~~	~~0: under 1ft(0.3m) / 1: 1-4ft (0.3-1.2m) / 2: over 4ft (1.2m)~~
DT118	6C	0 - 2	Zone OSD	0: Off / 1: Zone2 / 2: Zone2 & Zone3 (Only RX-V3800)
DT119	6E	0 - 9	Decoder Select	0: Pro Logic / 1: PLIIx Movie / 2: PLIIx Music / 3: PLIIx Game / 4: Neo: 6 Cinema / 5: Neo: 6 Music / 6: CSII Cinema* / 7: CSII Music* / 9: Neural Sur. *Only Japanese Model
DT120	B5	0 / 1	Remote ID Tuner	0: ID1 / 1: ID2
DT121	B0	0 / 1	Advanced Setup	0: Off / 1: On
DT122	B1	0 / 1	Remote ID AMP	0: ID1 / 1: ID2
~~**DT123**~~	~~B2~~	~~0 / 1~~	~~Fan Control Mode~~	~~0: Auto / 1: Cont~~
DT124	B3	0 / 1	Speaker Impedance	0: 8 ohm / 1: 6 ohm (Except Japanese Model)
DT125	B4	0 / 1	Tuner Setup	0: AM10/FM100 / 1: AM9/FM50 (Only Destination R & L)
DT126	8C	0 / 1	Pure Direct	0: Off / 1: On
DT127	A0	0 - E	Zone3 Input	0: PHONO / 1: CD / 2: TUNER / 3: CD-R / 4: MD/TAPE / 5: DVD / 6: DTV/CBL 9: VCR / A: DVR / C: V-AUX / D: NET/USB* / E:XM** / F: BD/HD DVD *Only RX-V3800 **Only USA & Canada

DT128	A1	0 / 1	Zone3 Mute	0: Off / 1:On
DT129	A2	0 - F	Zone3 Volume	Upper 4 bit
DT130		0 - F		Lower 4 bit
DT131	B9	0 / 1	Remote Sensor	0: On / 1: Off
DT132	7B	0 - C	Multi CH Select	0: 6ch / 2: 8ch CD / 3: 8ch CD-R / 4: 8ch MD/TAPE / 5: 8ch DVD / 6: 8ch DTV/CBL / 9: 8ch VCR / A: 8ch DVR / C: 8ch V-AUX /F: 8ch BD/HD DVD
DT133	BA	0 / 1	Remote ID XM	0: ID1 / 1: ID2 (Only USA & Canada)
DT134	BB	0 / 1	Bi – AMP	0: On / 1: Off
DT135	7E	0 - 8	Subwoofer Crossover	0: 40Hz / 1: 60Hz / 2: 80Hz / 3: 90Hz / 4: 100Hz / 5: 110Hz / 6: 120Hz / 7: 160Hz / 8: 200Hz
DT136	BC	0 / 1	TV Format	0: PAL / 1: NTSC (Only RX-V3800)
DT137	7D	0 / 1	PR/SB Priority	0: Presence / 1: Surround Back
DT138			**Don't care**	
DT139	4B	0 - F	Zone2 Tone Control Bass	Upper 4 bit
DT140		0 - F		Lower 4 bit
DT141	4C	0 - F	Zone2 Tone Control Treble	Upper 4 bit
DT142		0 - F		Lower 4 bit
DT143	A8	0 / 1	Tone Bypass	0: Auto / 1: Off
DT144	BD	0 / 1	Wake on RS-232C Access	0: No / 1: Yes
DT145	14	0 - F	Bit Rate	Upper 4 bit
DT146		0 - F	Bit Rate	Lower 4 bit
DT147	15	0 - F	Dialog	Upper 4 bit
DT148		0 - F	Dialog	Lower 4 bit
DT149	67	0 - 1	FL Scroll	0: Continue / 1: Once
DT150	6F	0 - C	Multi CH BGV	0: Off / 1: Last / 5: DVD / 6: DTV/CBL / 9: VCR / A: DVR / C: V-AUX / F: BD/HD DVD
DT151	96	0 - 1	iPod Charge on Standby	0: Off / 1: Auto
DT152	97	0 - 2	iPod Repeat	0: Off / 1: One / 2: All
DT153	98	0 - 2	iPod Shuffle	0: Off / 1: Songs / 2: Albums
DT154	99	0 - 2	NET/USB Repeat	0: Off / 1: Single / 2: All (Only RX-V3800)
DT155	9A	0 - 1	NET/USB Shuffle	0: Off / 1: On (Only RX-V3800)
DT156	A9	0 - A	Zone2 Max Volume	0: -30dB / 1: -25dB / 2: -20dB / 3: -15dB / 4: -10dB / 5: -5dB / 6: 0dB / 7: 5dB / 8: 10dB / 9: 15dB / A: 16.5dB added to RX-V1800 too
DT157	AB	0 - F	Zone2 Initial Volume	Upper 4 bit added to RX-V1800 too
DT158		0 - F	Zone2 Initial Volume	Lower 4 bit added to RX-V1800 too
DT159	AD	0 - F	Zone2 Balance	Upper 4 bit
DT160		0 - F	Zone2 Balance	Lower 4 bit
DT161	AA	0 - A	Zone3 Max Volume	0: -30dB / 1: -25dB / 2: -20dB / 3: -15dB / 4: -10dB / 5: -5dB / 6: 0dB / 7: 5dB / 8: 10dB / 9: 15dB / A: 16.5dB added to RX-V1800 too
DT162	AC	0 - F	Zone3 Initial Volume	Upper 4 bit added to RX-V1800 too
DT163		0 - F	Zone3 Initial Volume	Lower 4 bit added to RX-V1800 too
DT164	AE	0 - F	Zone3 Balance	Upper 4 bit
DT165		0 - F	Zone3 Balance	Lower 4 bit
DT166	9B	0 - 2	NET/USB Source Select	0: PC/MCX / 1: NET Radio / 2: USB (Only RX-V3800)
DT167	BF	0 - 1	Monitor Check	0: Skip / 1: Yes added to RX-V1800 too
DT168	4D	0 - F	Zone3 Tone Control Bass	Upper 4 bit
DT169		0 - F		Lower 4 bit
DT170	4E	0 - F	Zone3 Tone Control Treble	Upper 4 bit
DT171		0 - F		Lower 4 bit
DT172	16	0 - F	Flag	Upper 4 bit
DT173		0 - F		Lower 4 bit

*OSD = On Screen Display

3. Control Commands



* The RX-Vx800 can receive control commands only when the power is on (except Power commands and System commands*).

* Do not send any control commands when the system status is Wait. No commands are permitted until the RX-Vx800 reports OK.

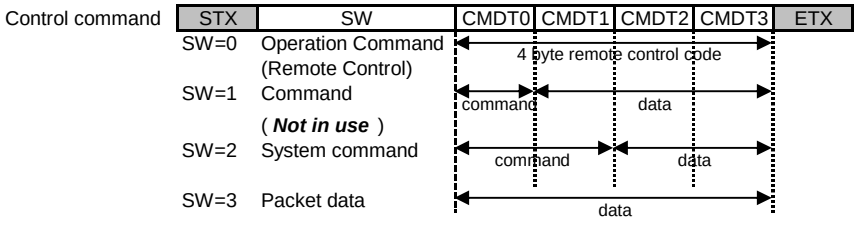
* The RX-Vx800 will send a Report Command** within 1 sec of receiving the Control Command. If no Report Command is received, resend control command (max 5 times).
  If the RX-Vx800 doesn't send a Report Command after the fifth retry, cancel the transaction because there may be a problem.

* 'SW' switches the type of the control command. When the 'SW' is set to '0', you can control the RX-Vx800 remotely via RS-232C.

* The RX-Vx800 will only send one report command for each type of control. The Report Command will report only the final status of all settings in strings of commands (may not report all steps in a status, only final status).
  For example, if the user sets the input selector on the unit to DTV just after the host sends a command to change the input to CD, the RX-Vx800 may report only the final status that the input was changed to DTV by the system operation.

*System command, **Report command --> described in later

- Command Switch (changing the type of control command)



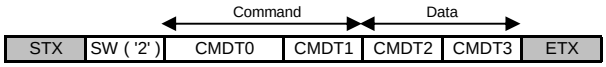
function name	function	data (ASCII)	range (HEX)
SW	command switch	0 - 9	0 - 9
CMDT0 - 3	command & data	0 - 9, A - F	variable

* 'SW' switches the command type of the Control Command.
  SW=0 : 4 byte command for remote control code **(CMDT0 = '7')**
  SW=1 : 1 byte command 0 - F (HEX expression in ASCII)
  SW=2 : 2 byte command 10 - FF (HEX expression in ASCII)
  SW=3 : 4 byte packet data for test data transmission

function name	function	data (ASCII)	range (HEX)
SW	command switch	0	0
CMDT0	command	F	F
CMDT1 - 8	command	0 - 9, A - F	variable

* 'SW' switches the command type of the Control Command.
  SW=0 : 9 byte command for remote control code **(CMDT0 = 'F')**

3.1 System Commands (SW = '2')



System Commands can be made by setting the 'SW' byte in the Control Command to '2'. With System commands you can control the RX-Vx800's system settings (Report Command Enable / Disable, Report Command delay, etc...)

With a System Command you can also...
- set absolute master volume value.
- send text strings to the On Screen Display (OSD).
- request RX-Vx800 text data regarding tuner freq., master volume, input name, zone 2 input name.

SW	Command			Data			Report command			Note
	CMDT0	CMDT1	Function	CMDT2	CMDT3	Parameter	Type	RCMD1,2	RDAT1,2	
2	0	0	Report Command Code	0	0	Enable	0	00	00(OK)	
				0	1	Disable				
2	0	1	Time between two report commands (Report Command Delay)	0	0	real time	0	00	00(OK)	
				0	1	50ms				
				0	2	100ms				
				0	3	150ms				
				0	4	200ms				
				0	5	250ms				
				0	6	300ms				
				0	7	350ms				
				0	8	400ms				
2	1	0	OSD message start command	0	0	Start	0	00	00(OK)	
2	2	0	Tuning frequency text request	0	0		Refer to the following section			
			Main volume value text request	0	1					
			Zone2 volume value text request	0	2					
			Main Input name text request	0	3					
			Zone2 input name text request	0	4					
			Zone3 volume value text request	0	5					
			Zone3 input name text request	0	6					
2	2	F	Firmware version request	0	0		0	00		
2	3	0	Main volume direct setting	X	X		0	26		
2	3	1	Zone2 volume direct setting	X	X		0	27		
2	3	4	Zone3 volume direct setting	X	X		0	A2		
2	3	8	Mute Type	0	0	Full	0	A5		
				0	1	-20dB				
2	3	E	Zone2 Amplifier	0	0	EXT	0	3E		
				0	1	INT: Speaker[1]				
				0	2	INT: Speaker[2]				
				0	3	INT: Both				
2	3	F	Zone3 Amplifier	0	0	EXT	0	3F		
				0	1	INT: Speaker[1]				
				0	2	INT: Speaker[2]				
				0	3	INT: Both				
2	4	0	Level Front R	X	X		0	40		
2	4	1	Level Front L	X	X		0	41		
2	4	2	Level Center	X	X		0	42		
2	4	3	Level Surround R	X	X		0	43		
2	4	4	Level Surround L	X	X		0	44		
2	4	5	Level Presence R	X	X		0	47		
2	4	6	Level Presence L	X	X		0	48		
2	4	7	Level Surround Back R	X	X		0	45		
2	4	8	Level Surround Back L	X	X		0	46		
2	4	9	Level Subwoofer (1)	X	X		0	49		
2	4	A	Level Subwoofer (2)	X	X		0	4A		
2	4	B	Zone2 Tone Control Bass	X	X		0	4B		
2	4	C	Zone2 Tone Control Treble	X	X		0	4C		
2	4	D	Zone3 Tone Control Bass	X	X		0	4D		
2	4	E	Zone3 Tone Control Treble	X	X		0	4E		
2	5	1	LFE Level for Speaker	X	X		0	51		
2	5	2	LFE Level for Headphone	X	X		0	52		
2	5	3	Manual Audio Delay	X	X		0	53		
2	5	6	HDMI Auto Audio Delay				0	56		
2	5	7	DSP 3D	0	0	Off	0	57		
				0	1	On				
2	5	8	Wall Paper	0	0	Yes	0	58		Only RX-V3800
				0	E	Gray				
				0	F	None				
2	5	9	HDMI Auto Lipsync	0	0	Auto	0	59		
				0	1	Off				

SW	Command			Data			Report command			Note
	CMDT0	CMDT1	Function	CMDT2	CMDT3	Parameter	Type	RCMD1,2	RDAT1,2	
2	5	A	MAX Volume	X	X		0	5A		added to RX-V1800
2	5	B	Initial Volume	X	X		0	5B		added to RX-V1800
2	5	C	Extended Surround Set	0	0	Auto	0	5C		
				0	1	Last				
2	5	D	Adaptive DSP Level	0	0	Auto	0	5D		
				0	1	Off				
2	5	E	Decoder Mode	X	X		0	5E		
2	5	F	Decoder Mode Set	0	0	Auto	0	5F		
				0	1	Last				
2	6	0	Audio Select Set	0	0	Auto	0	60		
				0	1	Last				
2	6	1	Dimmer	0	0	-4	0	61		
				0	1	-3				
				0	2	-2				
				0	3	-1				
				0	4	0				
2	6	2	OSD Shift* / GUI Position**	X	X		0	62		*RX-V1800 **RX-V3800
2	6	3	Gray Back	0	0	Off	0	63		Only RX-V1800
				0	1	Auto				
2	6	4	Dynamic Range for Speaker	0	0	MAX	0	64		
				0	1	STD				
				0	2	MIN				
2	6	5	Dynamic Range for Headphone	0	0	MAX	0	65		
				0	1	STD				
				0	2	MIN				
2	6	6	Zone2 Volume Out	0	0	Variable	0	66		
				0	1	Fixed				
2	6	7	FL Scroll	0	0	Continue	0	67		
				0	1	Once				
2	6	8	Memory Guard	0	0	Off	0	68		
				0	1	On				
2	6	9	Video Conversion	0	0	Off	0	69		
				0	1	On				
2	6	B	Zone3 Volume Out	0	0	Variable	0	6B		
				0	1	Fixed				
2	6	C	Zone OSD	0	0	Off	0	6C		Only RX-V3800
				0	1	Zone2				
				0	2	Zone2 & 3				
2	6	D	Adaptive DRC	0	0	Auto	0	6D		
				0	1	Last				
2	6	F	Multi CH BGV	0	0	Off				
				0	1	Last				
				0	5	DVD				
				0	6	DTV/CBL				
				0	7	CBL/SAT				Deletion
				0	9	VCR				
				0	A	DVR				
				0	C	V-AUX				
				0	F	BD/HD DVD				
2	7	0	Speaker Set Center	0	0	Large	0	70		
				0	1	Small				
				0	2	None				
2	7	1	Speaker Set Front	0	0	Large	0	71		
				0	1	Small				
2	7	2	Speaker Set Surround	0	0	Large	0	72		
				0	1	Small				
				0	2	None				
2	7	3	Speaker Set Surround Back	0	0	Large x2	0	73		
				0	1	Large x1				
				0	2	Small x2				
				0	3	Small x1				
				0	4	None				
2	7	4	Speaker Set Presence	0	0	Yes	0	74		
				0	1	None				
2	7	5	Speaker Set Bass Out	0	0	Subwoofer	0	75		
				0	1	Front				
				0	2	Both				
2	7	6	Speaker Set Subwoofer Phase	0	X	Normal	0	76		Lower 4 bit: Don't care
				1	X	Reverse				

SW	Command			Data			Report command			Note
	CMDT0	CMDT1	Function	CMDT2	CMDT3	Parameter	Type	RCMD1,2	RDAT1,2	
2	7	B	Multi CH Select	0	0	6ch	0	7B		
				0	2	8ch CD				
				0	3	8ch CD-R				
				0	4	8ch MD/TAPE				
				0	5	8ch DVD				
				0	6	8ch DTV/CBL				
				0	7	8ch CBL/SAT				Deletion
				0	9	8ch VCR				
				0	A	8ch DVR				
				0	C	8ch V-AUX				
				0	F	8ch BD/HD DVD				
2	7	D	PR/SB Priority	0	0	Presence	0	7D		
				0	1	Sur. Back				
2	7	E	Subwoofer Crossover	0	0	40Hz	0	7E		
				0	1	60Hz				
				0	2	80Hz				
				0	3	90Hz				
				0	4	100Hz				
				0	5	110Hz				
				0	6	120Hz				
				0	7	160Hz				
				0	8	200Hz				
2	8	0	Test Tone	0	0	Off	0	80		
				0	1	On				
2	8	5	Component I/P	0	0	Off	0	85		
				0	1	On				
2	8	6	HDMI I/P	0	0	Off	0	86		Deletion
				0	1	On				
2	8	7	HDMI Up-Scaling	0	0	Through	0	87		added to RX-V1800
				0	1	480p(576p)				
				0	2	1080i				
				0	3	720p				
				0	4	1080p				
2	8	8	HDMI Aspect	0	0	Through	0	88		Only RX-V3800
				0	1	16:9 Normal				
				0	2	Smart Zoom				
2	8	A	THX SB Speaker Dist.	0	0	under 1ft (0.3m)	0	8A		
				0	1	1-4ft (0.3-1.2m)				
				0	2	over 4ft (1.2m)				
2	8	B	Night Mode	0	0	Off	0	8B		Deletion
				1	0	Cinema Low				
				1	1	Cinema Mid				
				1	2	Cinema High				
				2	0	Music Low				
				2	1	Music Mid				
				2	2	Music High				
2	8	F	HDMI Support Audio	0	0	RX-V1800	0	8F		
						RX-V3800				
				0	1	Other				
2	9	3	On Screen	0	0	Off	0	93		
				0	1	10sec				
				0	2	30sec				
				0	3	Always				
2	9	4	XM Channel Number	X	X		0	94		Only USA & Canada
2	9	5	Hold / Release XM Display	0	0	Release	0	95		Only USA & Canada
				0	1	Hold				
2	9	6	iPod Charge on Standby	0	0	Off	0	96		
				0	1	Auto				
2	9	7	iPod Repeat	0	0	Off	0	97		
				0	1	One				
				0	2	All				
2	9	8	iPod Shuffle	0	0	Off	0	98		
				0	1	Songs				
				0	2	Albums				
2	9	9	NET/USB Repeat	0	0	Off	0	99		Only RX-V3800
				0	1	Single				
				0	2	All				
2	9	A	NET/USB Shuffle	0	0	Off	0	9A		Only RX-V3800
				0	1	On				

SW	Command			Data			Report command			Note
	CMDT0	CMDT1	Function	CMDT2	CMDT3	Parameter	Type	RCMD1,2	RDAT1,2	
2	9	C	NET/USB Preset Recall	X	X		0	9C		Only RX-V3800
2	9	D	NET/USB Preset Memory	X	X		0	9D		Only RX-V3800
2	A	7	EQ (Equalizer) Select	0	0	Auto PEQ	0	A7		Only RX-V1800
				0	1	GEQ				
				0	2	EQ Off				
2	A	8	Tone Control Auto Bypass	0	0	Auto	0	A8		
				0	1	Off				
2	A	9	Zone2 MAX Volume	X	X		0	A9		added to RX-V1800
2	A	A	Zone3 MAX Volume	X	X		0	AA		added to RX-V1800
2	A	B	Zone2 Initial Volume	X	X		0	AB		added to RX-V1800
2	A	C	Zone3 Initial Volume	X	X		0	AC		added to RX-V1800
2	A	D	Zone2 Balance	X	X		0	AD		
2	A	E	Zone3 Balance	X	X		0	AE		
2	A	F	Music Enhancer	0	0	Off	0	28		Deletion
				0	1	2ch Low				
				0	2	2ch High				
				0	3	7ch Low				
				0	4	7ch High				
2	B	0	Advanced Setup	0	0	Off	0	B0		Effective in STANDBY
				0	1	On				
2	B	1	Remote ID for AMP	0	0	ID1	0	B1		
				0	1	ID2				
2	B	2	Fan Control Mode	0	0	Auto	0	B2		
				0	1	Cont.				
2	B	3	Speaker Impedance	0	0	8 ohm	0	B3		Except Japanese Mode
				0	1	6 ohm				
2	B	4	Tuner Frequency Step	0	0	10k/100kHz	0	B4		Only Destination R & L
				0	1	9k/50kHz				
2	B	5	Remote ID for Tuner	0	0	ID1	0	B5		
				0	1	ID2				
2	B	6	Language	0	0	English	0	B6		Only RX-V3800
				0	1	Japanese				
				0	2	French				
				0	3	German				
				0	4	Spanish				
				0	5	Russian				
2	B	7	User Preset	0	0	Cancel	0	B7		
				0	1	All				
				0	2	DSP Parameter				
				0	3	Video				
				0	4	Network				Only RX-V3800
2	B	8	Video Reset	0	0	Cancel	0	B8		Deletion
				0	1	Yes				
2	B	9	Remote Sensor	0	0	On	0	B9		
				0	1	Off				
2	B	A	Remote ID for XM	0	0	ID1	0	BA		Only USA & Canada
				0	1	ID2				
2	B	B	Bi-Amplifier	0	0	On	0	BB		
				0	1	Off				
2	B	C	TV Format	0	0	PAL	0	BC		Only RX-V3800
				0	1	NTSC				
2	B	D	Wake on RS-232C Access	0	0	No	0	BD		
				0	1	Yes				
2	B	E	Network Reset	0	0	Cancel	0	BE		Deletion
				0	1	Yes				
2	B	F	Monitor Check	0	0	Skip	0	BF		added to RX-V1800
				0	1	Yes				

***OSD message function**

The OSD Message function can display a message of 16 characters to the RX-Vx800's OSD for a few seconds.
The command sequence block will start by sending "start command" as mentioned above, followed by four bytes of packet data (SW:3) repeated four times. Then a message of sixteen characters (ASCII) will display and the command block will finish automatically.
(ex.) Want to display " Test message ! " characters to OSD.

1. Send the start command.

STX	2	1	0	0	0	ETX

2. Send SW:3 commands four times as follows.

STX	3	' '	'T'	'e'	's'	ETX
STX	3	't'	' '	'm'	'e'	ETX
STX	3	's'	's'	'a'	'g'	ETX
STX	3	'e'	' '	'!'	' '	ETX

3. The command block will be finished automatically.

Characters available for displaying the message are as follows:

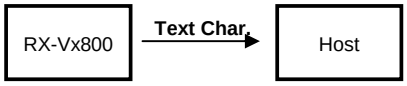
" "(SPACE) "!" "#" "%" "&" "(" ")" "*" "+" "," "-" "." "0" "1" "2" "3" "4" "5" "6" "7" "8" "9" ":" "<" "=" ">" "?" "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" "S" "T" "U" "V" "W" "X" "Y" "Z" "[" "]" "_" "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k" "l" "m" "n" "o" "p" "q" "r" "s" "t" "u" "v" "w" "x" "y" "z"

***Commands to get the display characters as text data (ASCII)**

This command can get certain text data (ASCII) from the RX-Vx800 to be used by a host device as follows.

- Tuner frequency characters : " 1 07.9 "(MHz)
- Master volume value characters : " –40.0dB" / " MUTE"
- Input name : " MY PC " (Even renamed by "SET MENU:INPUT RENAME")
- Zone2 input name : " PS 3 " (Even renamed by "SET MENU:INPUT RENAME")

The response protocol for the text request commands are as follows.

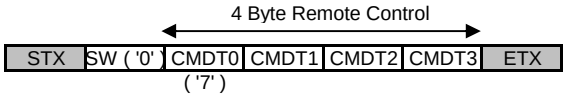


RCMD0,1	COMMAND	0 – 9,A - F	0...0xFF
DDAT	DATA	0 – 9,A - Z	ASCII char.
0 - 7		SP	Space char.

Report Command

	DC1	RCMD0	RCMD1	DDAT 0	DDAT 1	DDAT 2	DDAT 3	DDAT 4	DDAT 5	DDAT 6	DDAT 7	ETX
Tuner Frequency	DC1	0	0	SP	SP	x	x	x	x	x	x	ETX
Main Volume Value	DC1	0	1	SP	x	x	x	x	x	x	x	ETX
Zone2 Volume Value	DC1	0	2	SP	x	x	x	x	x	x	x	ETX
Input Name	DC1	0	3	x	x	x	x	x	x	x	x	ETX
Zone2 Input Name	DC1	0	4	x	x	x	x	x	x	x	x	ETX
Zone3 Volume Value	DC1	0	5	SP	x	x	x	x	x	x	x	ETX
Zone3 Input Name	DC1	0	6	x	x	x	x	x	x	x	x	ETX

3.2 Operation Commands (SW = '0', CMDT0 = '7')



SW	CMDT_ 0	1	2	3	Function	Setting	Report Command Type	RCMD1,2	Note
0	7	A	1	A	Main Volume	Up	0	26	
0	7	A	1	B		Down			
0	7	E	A	2	Audio Mute	On (Full)	0	23	
0	7	E	D	F		On (-20dB)			
0	7	E	A	3		Off			
0	7	A	1	4	Input	PHONO	0	21	
0	7	A	1	5		CD			
0	7	A	1	6		TUNER			
0	7	A	1	9		CD-R			
0	7	A	1	8		MD/TAPE			
0	7	A	C	8		BD/HD DVD			
0	7	A	C	1		DVD			
0	7	A	5	4		DTV /CBL			
0	7	A	C	0		CBL/SAT			Deletion
0	7	A	0	F		VCR			
0	7	A	1	3		DVR			
0	7	A	5	5		V-AUX/DOCK			
0	7	A	8	7		Multi CH			
0	7	A	B	4		XM			Only USA & Canada
0	7	E	A	4	Multi CH Input	On	0	21	
0	7	E	A	5		Off			
0	7	E	8	0	Pure Direct	On	0	8C	
0	7	E	8	2		Off			
0	7	E	A	6	Audio Select	Auto	0	22	
0	7	E	A	9		COAX/OPT			
0	7	E	A	A		Analog			
0	7	E	D	A		HDMI			
0	7	E	D	B	Decoder Mode	AUTO	0	5E	
0	7	E	A	8		DTS			
0	7	E	3	B		AAC			Only Japanese Model
0	7	A	D	A	Zone2 Volume	Up	0	27	
0	7	A	D	B		Down			
0	7	E	A	0	Zone2 Mute	On	0	25	
0	7	E	A	1		Off			
0	7	A	D	0	Zone2 Input	PHONO	0	24	
0	7	A	D	1		CD			
0	7	A	D	2		TUNER			
0	7	A	D	4		CD-R			
0	7	A	D	3		MD/TAPE			
0	7	A	C	E		BD/HD DVD			
0	7	A	C	D		DVD			
0	7	A	D	9		DTV /CBL			
0	7	A	C	C		CBL/SAT			Deletion
0	7	A	D	6		VCR			
0	7	A	D	7		DVR			
0	7	A	D	8		V-AUX/DOCK			
0	7	A	B	8		XM			Only USA & Canada
0	7	A	1	D	All Zone Power	On	0	20	
0	7	A	1	E		Standby			
0	7	E	7	E	Main Zone Power	On	0	20	
0	7	E	7	F		Standby			
0	7	E	B	A	Zone2 Power	On	0	20	
0	7	E	B	B		Standby			
0	7	A	E	D	Zone3 Power	On	0	20	
0	7	A	E	E		STANDBY			
0	7	E	2	6	Zone3 Mute	On	0	A1	
0	7	E	6	6		Off			
0	7	A	F	D	Zone3 Volume	Up	0	A2	
0	7	A	F	E		Down			

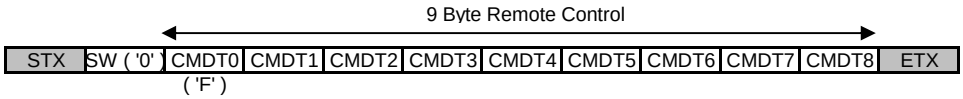
SW	CMDT_ 0	1	2	3	Function	Setting	Report Command Type	RCMD1,2	Note
0	7	A	F	1	Zone3 Input	PHONO	0	A0	
0	7	A	F	2		CD			
0	7	A	F	3		TUNER			
0	7	A	F	5		CD-R			
0	7	A	F	4		MD/TAPE			
0	7	A	F	B		BD/HD DVD			
0	7	A	F	C		DVD			
0	7	A	F	6		DTV /CBL			
0	7	A	F	7		CBL/SAT			Deletion
0	7	A	F	9		VCR			
0	7	A	F	A		DVR			
0	7	A	F	0		V-AUX/DOCK			
0	7	A	B	9		XM			Only USA & Canada
0	7	E	B	0	Short Message	Off	0	2B	
0	7	E	B	1		On			
0	7	E	B	2		Full			Only RX-V1800
0	7	E	B	3	Sleep Timer	Off	0	2C	
0	7	E	B	4		120			
0	7	E	B	5		90			
0	7	E	B	6		60			
0	7	E	B	7		30			
0	7	E	B	8	EXTD SUR.	EX/ES	0	2D	
0	7	E	B	9		Off	0		
0	7	E	7	C		Auto	0		
0	7	E	D	C		EX	0		
0	7	E	D	D		PLIIx Movie	0		
0	7	E	D	E		PLIIx Music	0		
0	7	E	9	C	Night Listening Mode	Off	0	8B	Deletion
0	7	E	9	B		Cinema			
0	7	E	C	F		Music			
0	7	E	2	7	EFFECT	ON	0	28	
0	7	E	E	0	STRAIGHT		0	28	
0	7	E	D	8	DSP / Surround	Straight Enhancer	0	28	
0	7	E	D	9		Off			Deletion
0	7	E	E	1	DSP / Surround	Munich	0	28	
0	7	E	E	5		Vienna			
0	7	E	E	6		Amsterdam			
0	7	E	E	8		Freiburg			
0	7	E	A	F		Chamber			
0	7	E	E	B		Village Vanguard			
0	7	E	E	E		Warehouse Loft			
0	7	E	C	D		Cellar Club			
0	7	E	E	C		The Bottom Line			
0	7	E	E	D		The Roxy Theatre			
0	7	E	F	0		Disco			
0	7	E	F	2		Game			
0	7	E	F	F		7ch Stereo			
0	7	E	C	0		2ch Stereo			
0	7	E	F	8		Sports			
0	7	E	F	2		Action Game			
0	7	E	C	E		Roleplaying Game			
0	7	E	F	3		Music Video			
0	7	E	F	5		Recital/Opera			
0	7	E	F	E		Standard			
0	7	E	F	9		Spectacle			
0	7	E	F	A		Sci-Fi			
0	7	E	F	B		Adventure			
0	7	E	F	C		Drama			
0	7	E	F	7		Mono Movie			
0	7	E	F	D		Surround Decode			
0	7	E	C	2		THX Cinema			
0	7	E	C	3		THX Music			
0	7	E	C	8		THX Game			
0	7	A	E	0	Tuner Preset Page	A	0	29	
0	7	A	E	1		B			
0	7	A	E	2		C			
0	7	A	E	3		D			
0	7	A	E	4		E			

SW	CMDT_ 0	1	2	3	Function	Setting	Report Command Type	RCMD1,2	Note
0	7	A	E	5	Tuner Preset Number	1	0	2A	
0	7	A	E	6		2			
0	7	A	E	7		3			
0	7	A	E	8		4			
0	7	A	E	9		5			
0	7	A	E	A		6			
0	7	A	E	B		7			
0	7	A	E	C		8			
0	7	E	B	C	Tuner Band	FM	0	35	
0	7	E	B	D		AM			
0	7	E	B	E	Tuner Auto Tuning	Up	0	15	
0	7	E	B	F		Down			
0	7	E	A	B	Speaker Relay A	On	0	2E	
0	7	E	A	C		Off			
0	7	E	A	D	Speaker Relay B	On	0	2F	
0	7	E	A	E		Off			
0	7	E	2	B	System Memory Save	1	0	31	
0	7	E	2	C		2			
0	7	E	2	D		3			
0	7	E	2	E		4			
0	7	E	2	F		5			
0	7	E	3	0		6			
0	7	E	3	5	System Memory Load	1	0	30	
0	7	E	3	6		2			
0	7	E	3	7		3			
0	7	E	3	8		4			
0	7	E	3	9		5			
0	7	E	3	A		6			
0	7	E	6	B	Main Volume Memory Save	1	0	33	
0	7	E	6	C		2			
0	7	E	6	D		3			
0	7	E	6	E		4			
0	7	E	6	F		5			
0	7	E	7	0		6			
0	7	E	7	5	Main Volume Memory Load	1	0	32	
0	7	E	7	6		2			
0	7	E	7	7		3			
0	7	E	7	8		4			
0	7	E	7	9		5			
0	7	E	7	A		6			
0	7	E	8	7	Zone2 Volume Memory Save	1	0	38	
0	7	E	8	8		2			
0	7	E	8	9		3			
0	7	E	8	A		4			
0	7	E	8	B		5			
0	7	E	8	C		6			
0	7	E	8	D	Zone2 Volume Memory Load	1	0	37	
0	7	E	8	E		2			
0	7	E	8	F		3			
0	7	E	9	0		4			
0	7	E	9	1		5			
0	7	E	9	2		6			
0	7	E	2	0	Zone3 Volume Memory Save	1	0	A4	
0	7	E	2	1		2			
0	7	E	2	2		3			
0	7	E	2	3		4			
0	7	E	2	4		5			
0	7	E	2	5		6			
0	7	E	6	0	Zone3 Volume Memory Load	1	0	A3	
0	7	E	6	1		2			
0	7	E	6	2		3			
0	7	E	6	3		4			
0	7	E	6	4		5			
0	7	E	6	5		6			
0	7	E	D	4	Zone2 Balance	Left	0	AD	
0	7	E	D	5		Right			

SW	CMDT_ 0	1	2	3	Function	Setting	Report Command Type	RCMD1,2	Note
0	7	E	D	6	Zone3 Balance	Left	0	AE	
0	7	E	D	7		Right			
0	7	E	3	2	Trigger1 Control	Main	0	3A	
0	7	E	3	3		Zone2			
0	7	E	3	1		Zone3			
0	7	E	3	4		All (Zone1-3)			
0	7	E	7	3	Trigger1 Main	High	0	36	
0	7	E	7	4		Low			
0	7	E	7	1	Trigger1 Zone2	High	0	36	
0	7	E	7	2		Low			
0	7	E	8	3	Trigger1 Zone3	High	0	36	
0	7	E	8	4		Low			
0	7	E	9	3	Dual Mono Mode	Main	0	39	Only Japanese Model
0	7	E	9	4		Sub			
0	7	E	9	5		All			
0	7	E	9	6	Trigger2 Control	Main	0	3B	
0	7	E	9	7		Zone2			
0	7	E	9	F		Zone3			
0	7	E	9	8		All (Zone1-3)			
0	7	E	3	E	Trigger2 Main	High	0	3C	
0	7	E	3	F		Low			
0	7	E	3	C	Trigger2 Zone2	High	0	3C	
0	7	E	3	D		Low			
0	7	E	8	5	Trigger2 Zone3	High	0	3C	
0	7	E	8	6		Low			
0	7	E	2	8	Speaker B SET	Main	0	3D	
0	7	E	2	9		Zone B			
0	7	E	9	9	ZONE2 Amp	INT: Presence	0	3E	
0	7	E	9	A		EXT			
0	7	E	6	7	2ch Decoder	PLIIx Movie	0	6E	
0	7	E	6	8		PLIIx Music			
0	7	E	6	9		Neo:6 Cinema			
0	7	E	6	A		Neo:6 Music			
0	7	E	C	7		PLIIx Game			
0	7	E	C	9		Pro Logic			
0	7	E	C	A		CSII Cinema			Only Japanese Model
0	7	E	C	B		CSII Music			Only Japanese Model
0	7	E	C	C		Neural Sur.			
0	7	A	6	0	XM CH Number	0	0		
0	7	A	6	1	XM CH/Preset Number	1	0	91*	*Preset Number
0	7	A	6	2	XM CH/Preset Number	2	0	91*	
0	7	A	6	3	XM CH/Preset Number	3	0	91*	
0	7	A	6	4	XM CH/Preset Number	4	0	91*	
0	7	A	6	5	XM CH/Preset Number	5	0	91*	
0	7	A	6	6	XM CH/Preset Number	6	0	91*	
0	7	A	6	7	XM CH/Preset Number	7	0	91*	
0	7	A	6	8	XM CH/Preset Number	8	0	91*	
0	7	A	6	9	XM CH Number	9	0		
0	7	A	6	A	XM CH/Preset Number	Up	0	91 / 94	91:Preset Number
0	7	A	6	B		Down			94:Channel Number
0	7	A	6	C	XM Category / Preset Page	Up	0	90	90:Preset Page
0	7	A	6	E		Down			
0	7	A	6	F	XM Hold/Release Display	Toggle	0	95	
0	7	A	7	0	XM History Next	Toggle			
0	7	A	7	1	XM Preset Memory				
0	7	A	B	5	XM Search Mode	All CH	0	92	
0	7	A	B	6		Category			
0	7	A	B	7		Preset			
0	7	A	B	A	XM Preset Page	A	0	90	
0	7	A	B	B		B			
0	7	A	B	C		C			
0	7	A	B	D		D			
0	7	A	B	E		E			
0	7	A	B	F	XM ENT.				Decide CH Number

SW	CMDT_				Function	Setting	Report Command		Note
	0	1	2	3			Type	RCMD1,2	
0	7	A	7	3	Zone2 Tone Control	Bass +	0	4B	
0	7	A	7	4		Bass -			
0	7	A	7	5		Treble +	0	4C	
0	7	A	7	6		Treble -			
0	7	A	7	7	Zone3 Tone Control	Bass +	0	4D	
0	7	A	7	8		Bass -			
0	7	A	7	9		Treble +	0	4E	
0	7	A	7	A		Treble -			
0	7	A	A	0	GUI Operation	Top Menu		**No Report**	
0	7	A	D	E		Enter			
0	7	A	A	1		Exit			
0	7	A	9	D		Cursor Up			
0	7	A	9	C		Cursor Down			
0	7	A	9	E		Cursor Right			
0	7	A	9	F		Cursor Left			
0	7	E	D	0	Main Source Display	On	0	**No Report**	
0	7	E	D	1		Off			
0	7	E	D	2	Zone2 Source Display	On	0	**No Report**	Only RX-V3800
0	7	E	D	3		Off			

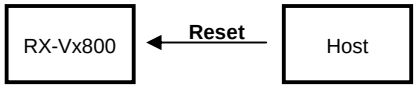
3.3 Extended Operation Command (SW = '0', CMDT0 = 'F')



SW	CMDT_									Function	Setting	Report Command		Note
	0	1	2	3	4	5	6	7	8			Type	RCMD1,2	
0	F	7	F	0	1	0	F	F	0	iPod OSD (GUI) Operation	Menu		**No Report**	
0	F	7	F	0	1	1	1	E	E		Enter			
0	F	7	F	0	1	1	5	E	A		Display			
0	F	7	F	0	1	0	E	F	1		Cursor Up			
0	F	7	F	0	1	1	4	E	B		Cursor Down			
0	F	7	F	0	1	1	2	E	D		Cursor Right			
0	F	7	F	0	1	1	0	E	F		Cursor Left			
0	F	7	F	0	1	1	E	E	1	iPod Operation	Play		**No Report**	
0	F	7	F	0	1	1	D	E	2		Stop			
0	F	7	F	0	1	1	A	E	5		Pause			
0	F	7	F	0	1	1	C	E	3		Skip +			
0	F	7	F	0	1	1	B	E	4		SKip -			
0	F	7	F	0	1	3	F	C	0	Input	NET/USB	0	21	Only RX-V3800
0	F	7	F	0	1	4	0	B	F	Zone2 Input	NET/USB	0	24	Only RX-V3800
0	F	7	F	0	1	4	1	B	E	Zone3 Input	NET/USB	0	A0	Only RX-V3800
0	F	7	F	0	1	3	6	C	9	NET/USB Source Select	PC/MCX	0	9B	Only RX-V3800
0	F	7	F	0	1	3	7	C	8		NET Radio			
0	F	7	F	0	1	3	8	C	7		USB			
0	F	7	F	0	1	2	F	D	0	NET/USB OSD (GUI) Operation	Menu		**No Report**	Only RX-V3800
0	F	7	F	0	1	3	1	C	E		Enter			
0	F	7	F	0	1	3	5	C	A		Display			
0	F	7	F	0	1	2	E	D	1		Cursor Up			
0	F	7	F	0	1	3	4	C	B		Cursor Down			
0	F	7	F	0	1	3	2	C	D		Cursor Right			
0	F	7	F	0	1	3	0	C	F		Cursor Left			
0	F	7	F	0	1	3	E	C	1	NET/USB Operation	Play		**No Report**	Only RX-V3800
0	F	7	F	0	1	3	D	C	2		Stop			
0	F	7	F	0	1	3	C	C	3		Skip +			
0	F	7	F	0	1	3	B	C	4		SKip -			
0	F	7	A	8	5	0	0	7	F	System Memory Operation	Play	0	30 (Load) 31 (Save)	Only RX-V3800
0	F	7	A	8	5	0	3	7	C		Stop			
0	F	7	A	8	5	0	6	7	9		Skip +			
0	F	7	A	8	5	0	9	7	6		SKip -			
0	F	7	E	8	1	1	4	6	B	DSP / Surround	7ch Enhancer	0	28	

4. Reset Command

The Reset Command recalls factory preset data. Once the factory presets are recalled, all user controllable setting / parameter data will be deleted and replaced with original factory settings.
Do not use this command unless you have been experiencing problems with the system or if you just want to clean up the system.

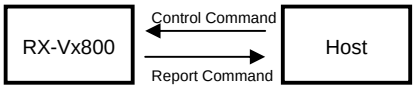


After the system is reset, request the Configuration Command using the Ready Command (see section 2) in order to get accurate feedback of RX-Vx800 status to your touch panel system.

*recall factory preset of all data

5. Report Command

The RX-Vx800 will send a Report Command in response to Control Commands from the host controller.
From the Report Command you can receive the current status of the RX-Vx800.



There are three types of Report Commands classified by their information type.

- System Status Report — RX-Vx800 reports a System Status Report when the system status has changed.
- Playback Status Report — RX-Vx800 reports a Playback Status Report when the internal playback status has changed.
- Operation Report — When the RX-Vx800 is controlled by remote controller, front panel, RS-232C or system controller, the RX-Vx800 sends an Operation Report, which includes the latest setting status of the controlled function.

*The RX-Vx800 reports a System State Report with system guard to inform its power status (power off) if it receives a control command while it is turned off.

*The guard status is included in the Report Command (GRD). If the control command the host sent was accepted, the guard status in the Report Command is '0' (No Guard).
On the contrary the guard status will be 'System Guard' or Setting Guard' if the command was guarded for some reason.
(e.g. If you send a 'Speaker A ON' command while you are using a headphone, the guard status will be 'System Guard' because the speaker controls are prohibited when a headphone is being used).

*If a status changes multiple times in a certain time, the RX-Vx800 reports only one report command.

function name	function	data (ASCII)	range (HEX)
TYP	control type	0 - 9	0 - 9
GRD	guard status	0 - 9	0 - 9
RCMD0, 1	command	0 - 9, A - F	0 - 0xFF
RDAT0, 1	data	0 - 9, A - F	0 - 0xFF

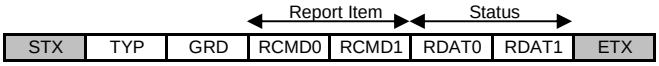
<Control type> This indicates for which type of control the report command is.

TYP	control type
0	controlled by RS-232C
1	controlled by remote controller (IR)
2	controlled by keys in the unit
3	controlled by system
4	controlled by encoder

<Guard status> This indicates guard status against all control commands

GRD	Guard status*
0	no guard
1	system guard
2	setting guard

5.1 System Status Reports



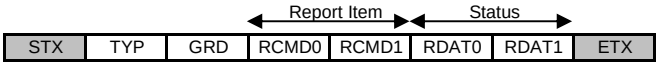
RCMD0, 1	Report Item	RDAT0, 1	Status	
00	system	00	OK	Ready to accept control commands
		01	Busy	Start of the term prohibits sending commands
		02	Standby	Report against commands which cannot be accepted when Power is on Standby

*RX-Vx800 sends this report when the system is reset or the power turns off.
It can be used for observation of the system revival.

RCMD0, 1	Report Item	RDAT0, 1	Status	
01	warning	00	Over Current	Report of abnormal states
		01	DC Detect	(Only when it's possible to report)
		02	Power Trouble	
		03	Over Heat	

RCMD0, 1	Report Item	RDAT0, 1	Status
06	XM Message	00	Check Antenna
		01	Updating
		02	No Signal
		03	Loading
		04	Off Air
		05	Unavailable
07	iPod Message	00	Loading
		01	Connect Error
		02	Unknown iPod
		03	iPod connected
		04	Disconnected
		05	Unable to play
08	NET/USB Message	00	Please wait
		01	Connected
		02	Disconnected
		03	Access error
		04	List updated
		05	Startup server
		06	Unable to play
		07	Connect error
		08	Bookmark ON
		09	Bookmark OFF
		0A	Not found

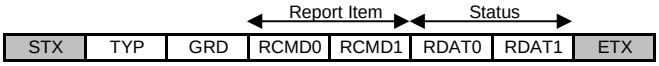
5.2 Playback Status Reports



RCMD0, 1	Report Item	RDAT0, 1	Status
10	Format	00	Analog
		01	PCM
		02	DSD
		03	Digital
		04	Dolby Digital
		05	DTS
		06	AAC
		07	DTS-HD
		08	DTS-HD MSTR
		09	DD Plus
		0A	TrueHD
		0B	WMA
		0C	MP3
		FE	???
		FF	---
11	Sampling	00	Analog
		01	8kHz
		02	11.025kHz
		03	12kHz
		04	16kHz
		05	22.05kHz
		06	24kHz
		07	32kHz
		08	44.1kHz
		09	48kHz
		0A	64kHz
		0B	88.2kHz
		0C	96kHz
		0D	128kHz
		0E	176.4kHz
		0F	192kHz
		10	2.8MHz (DSD)
		FE	???
		FF	---
12	Channel Front/Rear	00	1+1
		01	1/0
		02	2/0
		03	3/0
		04	2/1
		05	3/1
		06	2/2
		07	3/2
		08	2/3
		09	3/3
		0A	2/4
		0B	3/4
		0C	MLT
		0F	---
13	Channel LFE	00	0.1
		01	0.2
		FF	---

RCMD0, 1	Report Item	RDAT0, 1	Status
14	Bit Rate	00	32kbps
		01	40kbps
		02	48kbps
		03	56kbps
		04	64kbps
		05	72kbps
		06	80kbps
		07	96kbps
		08	112kbps
		09	128kbps
		0A	144kbps
		0B	160kbps
		0C	192kbps
		0D	224kbps
		0E	256kbps
		0F	288kbps
		10	320kbps
		11	384kbps
		12	448kbps
		13	512kbps
		14	576kbps
		15	640kbps
		16	768kbps
		17	960kbps
		18	1024kbps
		19	1152kbps
		1A	1280kbps
		1B	1344kbps
		1C	1408kbps
		1D	1411.2kbps
		1E	1472kbps
		1F	1536kbps
		20	1920kbps
		21	2048kbps
		22	3072kbps
		23	3840kbps
		24	Open
		25	Variable
		26	Loss less
		FF	---
15	Dialog	00	-31dB
		01	-30dB
		…	
		1E	-1dB
		1F	+0dB
		FF	---
16	Flag	xx	
		bit0	DD Karaoke
		bit1	DD 6.1
		bit2	dts ES Matrix 6.1
		bit3	dts ES Discrete 6.1
		bit4	dts 96kHz/24bit
		bit5	Pre Emphasis
		bit6	DPL Encoded
		bit7	Don't Care

5.3 Operation Reports



RCMD0, 1	Report Item	RDAT0, 1	Status
20	Power	00	ALL (Main/Zone2/3) OFF
		01	ALL (Main/Zone2/3) ON
		02	Main On / Zone2 Off / Zone3 Off
		03	Main Off / Zone2 On / Zone3 On
		04	Main On / Zone2 On / Zone3 Off
		05	Main On / Zone2 Off / Zone3 On
		06	Main Off / Zone2 On / Zone3 Off
		07	Main Off / Zone2 Off / Zone3 On
21	Input	00	PHONO
		01	CD
		02	TUNER
		03	CD-R
		04	MD/TAPE
		05	DVD
		06	DTV/CBL
		07	CBL/SAT
		08	SAT
		09	VCR
		0A	DVR
		0B	VCR3/DVR
		0C	V-AUX/DOCK
		0D	NET/USB
		0E	XM
		10	Multi CH
		0F	BD/HD DVD
		0(1, x	Multi CH input OFF/ON
22	Audio Select	x, 0	AUTO
		x, 3	COAX / OPT
		x, 4	ANALOG
		x, 5	ANALOG ONLY
		x, 8	HDMI
	Decoder Mode	0, x	AUTO
		1, x	DTS
		2, x	AAC
23	Audio Mute	00	Off
		01	On
24	Zone2 Input	00	PHONO
		01	CD
		02	TUNER
		03	CD-R
		04	MD/TAPE
		05	DVD
		06	DTV
		07	CBL/SAT
		08	SAT
		09	VCR1
		0A	DVR/VCR2
		0C	V-AUX/DOCK
		0D	NET/USB
		0E	XM
		0F	BD/HD DVD
25	Zone2 Mute	00	Off
		01	On
26	Main Volume	00	-oo (Infinite Attenuation)
		27	-80dB
		…	
		C7	0dB
		…	
		E8	16.5dB

RCMD0, 1	Report Item	RDAT0, 1	Status
27	Zone 2 Vol.	00	-oo (Infinite Attenuation)
		27	-80dB
		…	
		C7	0dB
		…	
		E8	16.5dB
28	Program	00	Munich
		01	Hall B
		02	Hall C
		04	Hall D
		05	Vienna
		06	Live Concert
		07	Hall in Amsterdam
		08	Tokyo
		09	Freiburg
		0A	Royaumont
		0B	Chamber
		0C	Village Gate
		0D	Village Vanguard
		0E	The Bottom Line
		0F	Cellar Club
		10	The Roxy Theater
		11	Warehouse Loft
		12	Arena
		14	Disco
		15	Party
		16	Game
		17	7ch Stereo
		18	Music Video
		19	DJ
		1C	Recital/Opera
		1E	Action Game
		1F	Roleplaying Game
		1D	Pavilion
		20	Mono Movie
		21	Sports
		24	Spectacle
		25	Sci-Fi
		28	Adventure
		29	Drama
		2C	Surround Decode
		2D	Standard
		30	PLII Movie
		31	PLII Music
		32	Neo: 6 Movie
		33	Neo: 6 Music
		34	2ch Stereo
		35	Stereo B 2ch Direct Stereo
		36	THX Cinema
		37	THX Music
		3C	THX Game
		40	Enhancer 2ch Low
		41	Enhancer 2ch High
		42	Enhancer 7ch Low
		43	Enhancer 7ch High
		42	Enhancer 7ch Low
		43	Enhancer 7ch High
		80	STRAIGHT

RCMD0, 1	Report Item	RDAT0, 1	Status
29	Tuner Page	00	A
		01	B
		02	C
		03	D
		04	E
2A	Preset No.	00	1
		01	2
		02	3
		03	4
		04	5
		05	6
		06	7
		07	8
2B	Short Message	00	Full
		01	On
		02	Off
2C	Sleep	00	120
		01	90
		02	60
		03	30
		04	Off
2D	EXTD SUR	00	Off
		01	EX/ES
		02	Discrete On
		03	Auto
		04	EX
		05	PLIIx Movie
		06	PLIIx Music
2E	SP Relay A	00	Off
		01	On
2F	SP Relay B	00	Off
		01	On

RCMD0, 1	Report Item	RDAT0, 1	Status
30	System Memory	01	Load 1
		02	2
		03	3
		04	4
		05	5
		06	6
31	System Memory	01	Save 1
		02	2
		03	3
		04	4
		05	5
		06	6
32	Volume Memory	01	Load 1
		02	2
		03	3
		04	4
		05	5
		06	6
33	Volume Memory	01	Save 1
		02	2
		03	3
		04	4
		05	5
		06	6
34	Headphone	00	Off
		01	On
35	Tuner Band	00	FM
		01	AM
36	Trigger1 Output	00	Low (Due to the delay)
		01	High (Due to the delay)
37	Zone 2 Vol. Memory	01	Load 1
		02	2
		03	3
		04	4
		05	5
		06	6
38	Zone 2 Vol. Memory	01	Save 1
		02	2
		03	3
		04	4
		05	5
		06	6
39	Dual Mono	00	Main
		01	Sub
		02	All
3A	Trigger1 Control	00	All (Zone1-3)
		01	Main
		02	Zone 2
		03	Zone 3
3B	Trigger2 Control	00	All (Zone1-3)
		01	Main
		02	Zone2
		03	Zone3
3C	Trigger2 Output	00	Low (Due to the delay)
		01	High (Due to the delay)
3D	SP B SET	00	Main
		01	Zone B
3E	Zone 2 Amp	00	EXT
		01	INT: Speaker[1]
		02	INT: Speaker[2]
		03	INT: Both
3F	Zone 3 Amp	00	EXT
		01	INT: Speaker[1]
		02	INT: Speaker[2]
		03	INT: Both

RCMD0, 1	Report Item	RDAT0, 1	Status
40	Level Front R	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
41	Level Front L	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
42	Level Center	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
43	Level Surround R	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
44	Level Surround L	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
45	Level Surround Back R	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
46	Level Surround Back L	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
47	Level Presence R	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
48	Level Presence L	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
49	Level Subwoofer	14	-10dB
		15	-9.5dB
		…	
		3C	+10dB
4B	Zone2 Tone Control Bass	00	-10dB
		01	-9dB
		…	
		14	+10dB
4C	Zone2 Tone Control Treble	00	-10dB
		01	-9dB
		…	
		14	+10dB
4D	Zone3 Tone Control Bass	00	-10dB
		01	-9dB
		…	
		14	+10dB
4E	Zone3 Tone Control Treble	00	-10dB
		01	-9dB
		…	
		14	+10dB

RCMD0, 1	Report Item	RDAT0, 1	Status
50	Main L/R Balance	00	Lch Max
		…	
		14	Mid
		…	
		28	Rch Max
51	LFE Level SP	00	-20dB
		01	-19dB
		...	
		14	0dB
52	LFE Level HP	00	-20dB
		01	-19dB
		...	
		14	0dB
53	Manual Audio Delay	00	0ms
		01	1ms
		...	
		F0	240ms
56	HDMI Auto Audio Delay	00	0ms
		01	1ms
		...	
		F0	240ms
57	DSP 3D	00	OFF
		01	ON
58	Wall Paper	00	YES
		0E	Gray
		0F	NONE
59	HDMI AUTO Lipsync	00	Auto
		01	Off
5A	MAX Volume	00	-30dB
		01	-25dB
		02	-20dB
		...	
		08	10dB
		09	15dB
		0A	16.5dB
5B	Initial Volume	00	Off
		01	-oo (Infinite Attenuation)
		27	-80dB
		…	
		C7	0dB
		…	
		E8	16.5dB
5C	Extended Surround Set	00	Auto
		01	Off
5D	Adaptive DSP Level	00	Auto
		01	Off
5E	Decoder Mode	0, x	Auto
		1, x	DTS
		2, x	AAC
		x, 0	PHONO
		x, 1	CD
		x, 2	TUNER
		x, 3	CD-R
		x, 4	MD/TAPE
		x, 5	DVD
		x, 6	DTV
		x, 7	CBL/SAT
		x, 9	VCR1
		x, A	DVR / VCR2
		x, C	V-AUX
		x, E	XM
5F	Decoder Mode Set	00	Auto
		01	Last

RCMD0, 1	Report Item	RDAT0, 1	Status
60	Audio Select Set	00	Auto
		01	Last
61	Dimmer	00	-4
		01	-3
		02	-2
		03	-1
		04	0
62	OSD Shift (RX-V1800)	00	-5
		…	
		0A	5
	GUI Position (RX-V3800)	x, 0	Horizontal -5
		…	
		x, A	5
		0, x	Vertical -5
		…	
		A, x	5
63	Gray Back	00	Off
		01	Auto
64	Dynamic Range SP	00	Max.
		01	Std.
		02	Min.
65	Dynamic Range HP	00	Max.
		01	Std.
		02	Min.
66	Zone2 Volume Out	00	Variable
		01	Fixed
67	FL Scroll	00	Continue
		01	Once

RCMD0, 1	Report Item	RDAT0, 1	Status
68	Memory Guard	00	Off
		01	On
69	Video Conversion	00	Off
		01	On
6B	Zone3 Volume Out	00	Variable
		01	Fixed
6C	Zone OSD	00	Off
		01	Zone2
		02	Zone2 & Zone3
6D	Adaptive DRC	00	Auto
		01	Off
6E	2ch Decoder	00	Pro Logic
		01	PLIIx Movie
		02	PLIIx Music
		03	PLIIx Game
		04	Neo:6 Cinema
		05	Neo:6 Music
		06	CSII Cinema
		07	CSII Music
		09	Neural Sur.
6F	Multi CH BGV	00	Off
		01	Last
		05	DVD
		06	DTV/CBL
		07	CBL/SAT
		09	VCR
		0A	DVR
		0C	V-AUX
		0F	BD/HD DVD

RCMD0, 1	Report Item	RDAT0, 1	Status
70	Center SP	00	Large
		01	Small
		02	None
71	Front	00	Large
		01	Small
72	Surround SP	00	Large
		01	Small
		02	None
73	Surround Back	00	Large x2
		01	Large x1
		02	Small x2
		03	Small x1
		04	None
74	Presence	00	Yes
		01	None
75	LFE Bass Out	00	SWFR
		01	Main
		02	Both
76	Subwoofer Phase	0, x	Normal
		1, x	Reverse

RCMD0, 1	Report Item	RDAT0, 1	Status
7B	Multi CH Select	00	6ch
		02	8ch CD
		03	8ch CD-R
		04	8ch MD/TAPE
		05	8ch DVD
		06	8ch DTV/CBL
		07	8ch CBL/SAT
		09	8ch VCR
		0A	8ch DVR
		0C	8ch V-AUX
		0F	8ch BD/HD DVD
7D	PR/SB Priority	00	Presence
		01	Surround Back
7E	Subwoofer Crossover	00	40 Hz
		01	60 Hz
		02	80 Hz
		03	90 Hz
		04	100 Hz
		05	110 Hz
		06	120 Hz
		07	160 Hz
		08	200 Hz

RCMD0, 1	Report Item	RDAT0, 1	Status
80	Test	00	Off
		01	On
85	Component I/P	00	Off
		01	On
86	HDMI I/P	00	Off
		01	On
87	HDMI Up-Scaling	00	Through
		01	480p / 576p (NTSC / PAL) (*2)
		02	1080i
		03	720p
		04	1080p
88	HDMI Aspect	00	Through
		01	16:9 Normal
		02	Smart Zoom

RCMD0, 1	Report Item	RDAT0, 1	Status	
8A	THX SB Dist	00	Under 1f (0.3m)	
		01	1 – 4ft (0.3 – 1.2m)	
		02	Over 4ft (1.2m)	
8B	Night Mode Parameter	00	Off	
		10	Cinema level	Low
		11		Middle
		12		High
		20	Music Level	Low
		21		Middle
		22		High
8C	Pure Direct	00	Off	
		01	On	
8F	HDMI Support Audio	00	RX-V3800 / RX-V1800	
		01	Other	

RCMD0, 1	Report Item	RDAT0, 1	Status
90	XM Preset Page	00	A
		01	B
		02	C
		03	D
		04	E
91	XM Preset Num	00	1
		01	2
		02	3
		03	4
		04	5
		05	6
		06	7
		07	8
92	XM Search Mode	00	All CH
		01	Category
		02	Preset
93	On Screen	00	Off
		01	10sec
		02	30sec
		03	Always
94	XM CH Number	00	CH #0
		01	CH #1
		…	
		FF	CH #255
95	XM Display Hold / Release	00	Release
		01	Hold
96	iPod Charge on Standby	00	Off
		01	Auto
97	iPod Repeat	00	Off
		01	One
		02	All
98	iPod Shuffle	00	Off
		01	Songs
		02	Albums
99	NET/USB Repeat	00	Off
		01	Single
		02	All
9A	NET/USB Shuffle	00	Off
		01	On
9B	NET/USB Source Select	00	PC/MCX
		01	NET Radio
		02	USB
9C	NET/USB Preset Recall	00	Parameter Error
		01	1
		02	2
		…	
		08	8
9D	NET/USB Preset Memory	00	Parameter Error
		01	1
		02	2
		…	
		08	8

RCMD0, 1	Report Item	RDAT0, 1	Status
A0	Zone 3 Input	00	PHONO
		01	CD
		02	TUNER
		03	CD-R
		04	MD/TAPE
		05	DVD
		06	DTV
		07	CBL/SAT
		09	VCR1
		0A	DVR/VCR2
		0C	V-AUX/DOCK
		0D	NET/USB
		0E	XM
A1	Zone 3 Mute	00	Off
		01	On
A2	Zone 3 Volume	00	-oo (Infinite Attenuation)
		27	-80dB
		…	
		C7	0dB
		…	
		E8	16.5dB
A3	Zone 3 Volume Memory	01	Load 1
		02	2
		03	3
		04	4
		05	5
		06	6
A4	Zone 3 Volume Memory	01	Save 1
		02	2
		03	3
		04	4
		05	5
		06	6
A5	Mute Type	00	Full
		01	-20dB
A7	EQ Select Type	00	Auto PEQ
		01	GEQ
		02	EQ Off
A8	Tone Bypass	00	Auto
		01	off
A9	Zone2 MAX Volume	00	-30dB
		01	-25dB
		02	-20dB
		…	
		08	10dB
		09	15dB
		0A	16.5dB
AA	Zone3 MAX Volume	00	-30dB
		01	-25dB
		02	-20dB
		…	
		08	10dB
		09	15dB
		0A	16.5dB
AB	Zone2 Initial Volume	00	Off
		01	-oo (Infinite Attenuation)
		27	-80dB
		…	
		C7	0dB
		…	
		E8	16.5dB
AC	Zone3 Initial Volume	00	Off
		01	-oo (Infinite Attenuation)
		27	-80dB
		…	
		C7	0dB
		…	
		E8	16.5dB
AD	Zone2 Balance	00	L20
		01	L19
		…	
		14	Mid
		…	
		27	R19
		28	R20
AE	Zone3 Balance	00	L20
		01	L19
		…	
		14	Mid
		…	
		27	R19
		28	R20

RCMD0, 1	Report Item	RDAT0, 1	Status
B0	Advanced Setup	00	Off
		01	On
B1	Remote ID for AMP	00	ID1
		01	ID2
B2	Fan Control Mode	00	Auto
		01	Cont.
B3	Speaker Impedance	00	8 ohm
		01	6 ohm
B4	Tuner Step	00	AM10 / FM100 (kHz)
		01	AM 9 / FM50 (kHz)
B5	Remote ID for Tuner	00	ID1
		01	ID2
B6	Language	00	English
		01	Japanese
		02	French
		03	German
		04	Spanish
		05	Russian

RCMD0, 1	Report Item	RDAT0, 1	Status
B7	Initialize	00	Cancel
		01	All
		02	DSP Parameter
		03	Video
		04	Network (only RX-V3800)
B8	Video Reset	00	Cancel
		01	Yes
B9	Remote Sensor	00	On
		01	Off
BA	Remote ID for XM	00	ID1
		01	ID2
BB	Bi-AMP	00	On
		01	Off
BC	TV Format	00	PAL
		01	NTSC
BD	Wake on RS232C	00	No
		01	Yes
BE	Network Reset	00	Cancel
		01	Yes
BF	Monitor Check	00	Skip
		01	Yes

Attention

* When the Input is changed, the RX-Vx800 sends an Operation Report for Input (RCMD0,1="21") and Audio Select (RCMD0,1="22").

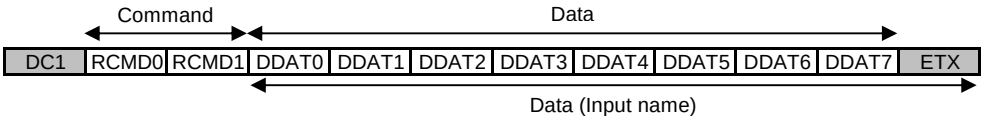
* When the System Memory is changed, the RX-Vx800 sends an Operation Report for System Memory (RCMD0,1="30") and Configuration Command.

* When a headphone is plugged into the headphone jack and the Speaker Relay is turned off, the RX-Vx800 sends an Operation Report for Speaker Relay A and B (RCMD0,1="2E","2F", RDAT="00(OFF)").
The RX-Vx800 sends an Operation Command for Speaker Relay A and B when the headphone is removed also.

* Each time the source from the Inputs or playback status (ex. 6.1/ES, RED DTS etc.) of the system changes, the RX-Vx800 sends a Playback Status report.

* Each time the busy status of the system changes, the RX-Vx800 sends a System Status report.

5.4 Display Text Data Report



RCMD0,1	ITEM	DDAT0-1	DDAT2-7
00	Tuner Frequency	SP	6digits <Upper Lower

(example)
AM 1710kHz = 'SP' 'SP' '1' '7' '1' '0'
FM 108.5MHz = 'SP' 'SP' '1' '0' '8' '.' 5' '0'

RCMD0,1	ITEM	DDAT0	DDAT1–7
01	Main Volume	SP	7digits <Upper Lower

(example)
-40.0dB = 'SP' '-' '4' '0' '.' '0' 'd' 'B'

RCMD0,1	ITEM	DDAT0	DDAT1-7
02	Zone2 Volume	SP	7digits <Upper Lower

RCMD0,1	ITEM	DDAT0-8
03	Input name	9letters <Right Left>

"DDAT8" is sent instead of "ETX".
"ETX" is not sent.

RCMD0, 1	ITEM	DDAT0-8
04	Zone 2 Input name	9letters <Right Left>

"DDAT8" is sent instead of "ETX".
"ETX" is not sent.

RCMD0,1	ITEM	DDAT0-2	DDAT3-7
05	Zone3 Volume	SP	5digits <Upper Lower

RCMD0, 1	ITEM	DDAT0-8
06	Zone 3 Input name	9letters <Right Left>

"DDAT8" is sent instead of "ETX".
"ETX" is not sent.

RCMD0,1	ITEM	DDAT0-3	DDAT4-7
F0	Remote Code	SP	4digits <Upper Lower

(example)
'SP' 'SP' 'SP' 'SP' '7' 'A' '0' '0'

RCMD0,1	ITEM	DDAT0	DDAT1-2	DDAT3	DDAT4	DDAT5-6	DDAT7
FF	Version Information	Major Version	Software Version	"_" (Don't care)	RS-232C Major Version	DSP Parameter Version	" " (Don't care)

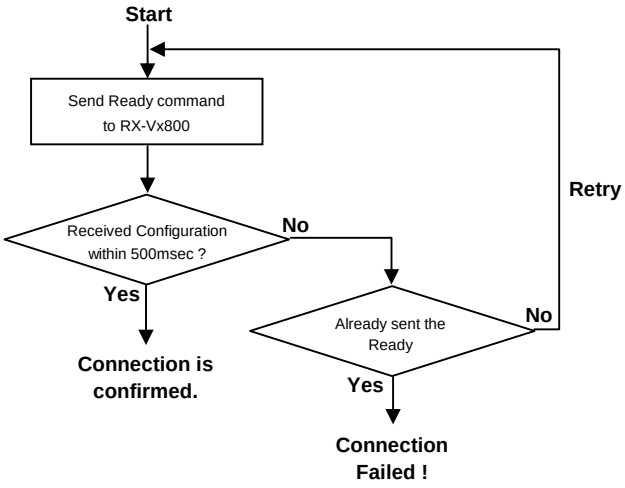
FUNCTION	ITEM	DATA (ADCII)	RANGE
RCMD0,1	Command	0-9, A-F	0...0xFF
DDAT 0-7	Data	0-9, A-Z SP, other ASCII	ASCII Space, dots

Example of RX-Vx800 Control Procedure

[1] Connection Start procedure (AC Plug / RS-232C cable connection)

When the AC plug / RS-232C cable are not connected, the RX-Vx800 cannot send any data to the host. If the host doesn't receive a configuration command after sending a Ready command 5 times, the host should disable the RS-232C communication and send an alert to the graphic user interface (GUI).

[1] : AC Plug / RS-232C connection check (Start transaction)



[2] AC plug / RS-232C connection check sequence after the connection has been confirmed in the procedure [1].

If the host doesn't receive a Report Command within 500ms of sending a command, the host should resend the command. If no Report Command is received after sending 5 times, check the AC plug/RS-232 cable (cf. [1]).

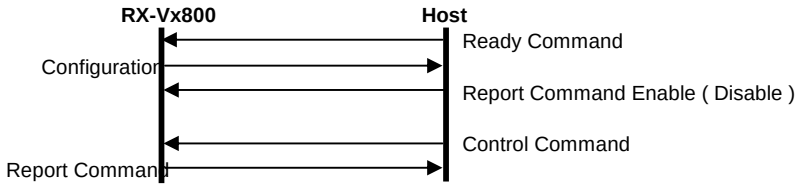
When the RS-232C cable is disconnected, the commands generated inside the RX-Vx800 are stored in the sending buffer. If the stored commands exceed the buffer memory size (buffer overflow), the RX-Vx800 stops reporting any commands. In this case, reconnecting the AC plug or Connection Start procedure [1] will be needed in order to enable the command report.

[3] AC plug connection detection (after [1],[2])

When the AC connection is reset, the RX-Vx800 sends a Configuration Command to the host.
The host can display the status of the RX-Vx800 to its GUI.

[4] Getting the status of the RX-Vx800 when the host boots up

At first, the host should send a Ready command and receive the Configuration Command from the RX-Vx800 (cf. [1]).
Once the connection is confirmed, the host can send Control Commands to the RX-Vx800.
When the RX-Vx800 is turned off, it accepts only System Commands and Power ON command.



[5] Error transactions after [4]

While sending a control command, if the RX-Vx800 didn't send any corresponding Report Commands regardless of re-trying for 5 times, the host should clear its send buffer and then check the AC plug / RS-232C connection sequence (cf. [1]). When the RX-Vx800 responds, the host can display the RX-Vx800 status to its GUI then return to the normal communication sequence. If not, the host should cancel the communication and report the alert to its GUI.

Appendix

* ASCII Chart

	0	1	2	3	4	5	6	7
0	NUL	DLE	SP	0	@	P	`	p
1	SOH	DC1	!	1	A	Q	a	q
2	STX	DC2	"	2	B	R	b	r
3	ETX	DC3	#	3	C	S	c	s
4	EOT	DC4	$	4	D	T	d	t
5	ENQ	NAK	%	5	E	U	e	u
6	ACK	SYN	&	6	F	V	f	v
7	BEL	ETB	'	7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x
9	HT	EM	)	9	I	Y	I	y
A	LF	SUB	*	:	J	Z	j	z
B	VT	EXC	+	;	K	[	k	{
C	FF	FS	,	<	L	\	l	|
D	CR	GS	-	=	M	]	m	}
E	SO	RS	.	>	N	^	n	...
F	SI	US	/	?	O	_	o	DEL

* Column numbers = the first hexadecimal digit
  Row numbers = the second hexadecimal digit

* The characters in the gray cells are available for RS-232C communication.