SONY

FLAT WIDE DISPLAY MONITOR

FWD-S47H1/S42H1

PROTOCOL MANUAL (For Customer)

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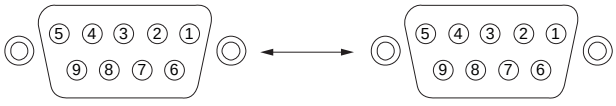
Section 1
RS-232C

1. Communication Parameters

Communication method	RS-232C
Synchronous method	Asynchronous
Baud rate	9600bps
Character length	8bit
Parity	None
Start bit length	1bit
Stop bit length	1bit
Flow control	None

2. Pin Assignment

Monitor side (D-sub 9-pin) Host side (D-sub 9-pin)



– External view – – External view –

Pin No.	Function
1	NC
2	TXD
3	RXD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Pin No.	Function
1	NC
2	RXD
3	TXD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

3. Communication Data Format

(a) Control message

No.	Item	Value
1	Header	0x8C: Control
2	Category	0xXX
3	Function	0xXX
4	Data1 (Length)	0xXX
5	Data2 (Data1)	0xXX
:	:	0xXX
:	:	0xXX
X	DataX	0xXX
X+1	Check Sum	0xXX

∗ Check Sum: Sum total of 1 to X. Lower one-byte data is validated when a value exceeds 255 (1byte).
∗ Set the command interval to 500 ms or more when transmitting the Control command continuously.
∗ Set the command interval to 500 ms or more when transmitting the same command (Enquiry) after the Control command.

(b) Enquiry message

No.	Item	Value
1	Header	0x83: Enquiry
2	Category	0xXX
3	Function	0xXX
4	Data1	0xFF
5	Data2	0xFF
6	Check Sum	0xXX

∗ Check Sum: Sum total of 1 to X, lower one-byte data is validated when a value exceeds 255 (1byte).

(c) Answer message

① Control answer

No.	Item	Value
1	Header	0x70: Answer
2	Answer∗	0x00: Completed
		0x01: Limit Over
		0x02: Limit Under
		0x03: Command Canceled
3	Check Sum	0xXX

∗ 0x00: Completed — Packet is correctly received and process is also correctly completed.
0x01: Limit Over — Packet is correctly received, but the data value is over the upper limit.
0x02: Limit Under — Packet is correctly received, but the data value under the lower limit.
0x03: Command Canceled — Packet is correctly received, but the data value is not correct or the request cannot be accepted in the current host state.
∗ Check Sum: — Sum total of 1 to X, lower one-byte data is validated when a value exceeds 255 (1byte).

② Enquiry answer (Complete)

No.	Item	Value
1	Header	0x70: Answer
2	Answer	0x00: Completed
3	Return Data Size	0xXX
4	Return Data1	0xXX
:	:	0xXX
:	:	0xXX
X	Return DataX	0xXX
X+1	Check Sum	0xXX

∗ 0x00: Completed — Packet is correctly received and process is also correctly completed.
∗ Return Data: — Returns the read value.
∗ Check Sum: — Sum total of 1 to X, lower one-byte data is validated when a value exceeds 255 (1byte).

③ Enquiry answer (Command cancel)

No.	Item	Value
1	Header	0x70: Answer
2	Answer	0x03: Command Canceled
3	Check Sum	0x73

0x03: Command Canceled — Packet is correctly received, but the data value is not correct or the request cannot be accepted in the current host state.

④ Error answer

No.	Item	Value
1	Header	0xE0: Answer
2	Answer*	0x00: No Function Error
		0x01: Check Sum Error
		0x02: Data Length Error
3	Check Sum	0xXX

* 0x00: No Function Error — Packet header,category or function code are not included in this protocol.
0x01: Check Sum Error — Check sum value of received packet is not correct.
0x02: Data Length Error — The data size of received packet is not correct.

4. General Function

(a) Mode Control

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Control	0x8C	0x00	Code Table (1-a) [a]	0x02	Code Table (1-a) [b]	0xXX
Enquiry	0x83			0xFF	0xFF	0xXX

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x01	0x71	Limit Over
	0x70	0x02	0x72	Limit Under
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Code Table (1-a) [b]	0xXX	Completed

Code Table (1-a)

[a]Function		[b]Range/Switch Code		Command Control	Enquiry	Standby	Power On
0x00	Power	0x00	OFF	Yes	Yes	Enable	Enable
		0x01	ON				
0x01	Input Select*1	0x08	HD15 RGB	Yes	Yes	Disable	Enable
		0x09	HD15 YUV				
		0x0E	OPTION RGB				
		0x0F	OPTION COMPONENT				
		0x20	DVI				
		0x30	VIDEO				
		0x31	S-VIDEO				
		0x84	Option Digital1 (HDMI1/SDI)				
		0x85	Option Digital2 (HDMI2)				
0x02	Force Status Display	0x00	ON	Yes	Yes	Disable	Enable
		0x01	OFF				
0x03	Audio Mute	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	ON				
0x04	Auto Status Display	0x00	ON	Yes	Yes	Enable	Enable
		0x01	OFF				

(Continued)

Code Table (1-a)

[a]Function		[b]Range/Switch Code		Command Control	Enquiry	Standby	Power On
0x06	Color System	0x00	Auto	Yes	Yes	Disable	Enable
		0x01	NTSC				
		0x02	NTSC4.43				
		0x03	PAL				
		0x05	PAL-M				
		0x06	PAL-N				
		0x07	PAL60				
0x0F	Language	0x00	Japanese	Yes	Yes	Disable	Enable
		0x01	English				
		0x02	Deutsch				
		0x03	Français				
		0x04	Español				
		0x05	Italiano				
0x10	Index Number	0x01-0xFF		Yes	Yes	Disable	Enable
0x12	Standby Power	0x00	Standard	Yes	Yes	Disable	Enable
		0x01	Low				
0x13	ECO Mode (Power Saving)	0x00	Off	Yes	Yes	Disable	Enable
		0x01	ECO High				
		0x02	ECO Low				
0x14	Speaker Out	0x00	ON	Yes	Yes	Disable	Enable
		0x01	OFF				
0x18	Sync Mode	0x00	H/Comp	Yes	Yes	Disable	Enable
		0x01	Video				
0x1B	Clock Display	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	ON				
0x24	Input Detect (Option)	0x00	FW12 (HD15)	No	Yes	Disable	Enable
		0x02	FW11 (BNC)				
		0x03	Reserved				
		0x05	FW50 (RGB)				
		0x06	FW21 (UART + CTRL-S)				
		0x08	FW15 (HDMI × 2)				
		0x09	FW16 (HD-SDI)				
		0x0A	Reserved				
		0x0B	Reserved				
		0x0C	Reserved				
		0x0D	Reserved				
		0x0E	Reserved				
		0x0F	Not Connect				

(Continued)

Code Table (1-a)

[a]Function		[b]Range/Switch Code		Command Control	Enquiry	Standby	Power On
0x26	Auto Shut OFF	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	ON				
0x27	Auto Screen Adjust	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	ON				
0x30	PAP	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	P&P				
		0x02	PinP				
0x31	Active Picture	0x00	Left (P&P)/Main (PinP)	Yes	Yes	Disable	Enable
		0x01	Right (P&P)/Sub (PinP)				
		0x02	Swap				
0x32	Picture Size (P&P)	0x00-0x0E		Yes	Yes	Disable	Enable
0x33	Sub Picture Size (PinP)	0x00	Large	Yes	Yes	Disable	Enable
		0x01	Small				
0x34	Picture Position (PinP)	0x00	Position1	Yes	Yes	Disable	Enable
		0x01	Position2				
		0x02	Position3				
		0x03	Position4				
0x35	PAP Input Detect (Left/Main)	0x08	HD15 RGB	No	Yes	Disable	Enable
		0x09	HD15 YUV				
		0x0E	OPTION RGB				
		0x0F	OPTION COMPONENT				
		0x20	DVI				
		0x30	VIDEO				
		0x31	S-VIDEO				
		0x84	Option Digital1 (HDMI1/SDI)				
		0x85	Option Digital2 (HDMI2)				
0x36	PAP Input Detect (Right/Sub)	0x08	HD15 RGB	No	Yes	Disable	Enable
		0x09	HD15 YUV				
		0x0E	OPTION RGB				
		0x0F	OPTION COMPONENT				
		0x20	DVI				
		0x30	VIDEO				
		0x31	S-VIDEO				
		0x84	Option Digital1 (HDMI1/SDI)				
		0x85	Option Digital2 (HDMI2)				

(Continued)

Code Table (1-a)

[a]Function		[b]Range/Switch Code Control		Command Enquiry	Standby	Power On	
0x40	Screen Saver	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	All White ON				
		0x02	Sweep ON				
		0x03	Standby				
0x43	Back Light	0x00-0x64		Yes	Yes	Disable	Enable
0x44	Logo Illumination	0x00	Logo Off	Yes	Yes	Enable	Enable
		0x01	Logo On (Low)				
		0x02	Logo On (High)				
0x45	Control Mode	0x00	Main + Remocon	Yes	Yes	Disable	Enable
		0x01	Main				
		0x02	Remocon				
		0x03	All Off				
		0x04	Limited*2				
0x46	On Off Timer Mode	0x00	Every Day (Repeat)	Yes	Yes	Enable	Enable
		0x01	Day Of Week				
0x47	On Timer Enable	bit0	Sunday 1: Enable, 0: Disable	Yes	Yes	Enable	Enable
		bit1	Monday 1: Enable, 0: Disable				
		bit2	Tuesday 1: Enable, 0: Disable				
		bit3	Wednesday 1: Enable, 0: Disable				
		bit4	Thursday 1: Enable, 0: Disable				
		bit5	Friday 1: Enable, 0: Disable				
		bit6	Saturday 1: Enable, 0: Disable				
		bit7	Every day 1: Enable, 0: Disable				
0x48	Off Timer Enable	bit0	Sunday 1: Enable, 0: Disable	Yes	Yes	Enable	Enable
		bit1	Monday 1: Enable, 0: Disable				
		bit2	Tuesday 1: Enable, 0: Disable				
		bit3	Wednesday 1: Enable, 0: Disable				
		bit4	Thursday 1: Enable, 0: Disable				
		bit5	Friday 1: Enable, 0: Disable				
		bit6	Saturday 1: Enable, 0: Disable				
		bit7	Every day 1: Enable, 0: Disable				
0x65	IP Setting Mode	0x00	DHCP	Yes	Yes	Enable	Enable
		0x01	Manual				
		0x02	Speed				
0x66	IP Setting Execute	0x00	Shut Down	No	Yes	Enable	Enable
		0x01	IP Setting				
		0x02	NVR Reset				
		0x03	Alarm				
		0x04	LAN FW version				

(Continued)

Code Table (1-a)

[a]Function		[b]Range/Switch Code		Command Control	Enquiry	Standby	Power On
0x67	IP Setting Result	0x00	Done	Yes	No	Enable	Enable
		0x01	Error 1 (UART Commu.)				
		0x02	Error 2 (Duplication)				
		0x03	Error 3 (IP Add Setting)				
		0x04	Error 4 (GW Add setting)				
		0x05	Error 5 (DNS1 Setting)				
		0x06	Error 6 (DNS2 Setting)				
		0x07	Error 7 (Sbnt Msk Setting)				
0x68	Speed Setting	0x00	100Mbps/Full Duplex	Yes	Yes	Enable	Enable
		0x01	100Mbps/Half Duplex				
		0x02	10Mbps/Full Duplex				
		0x03	10Mbps/Half Duplex				
		0x04	Auto				
0x70	Input Skip	bit0	HD15	Yes	Yes	Disable	Enable
		bit1	DVI				
		bit2	Reserved				
		bit3	VIDEO				
		bit4	S-VIDEO				
		bit5	Reserved				
		bit6	Reserved				
		bit7	Reserved				
0x71	Default Input	0x00	Last Memory	Yes	Yes	Enable	Enable
		0x01	Option				
0x74	Digital Signal Detect	0x00	VIDEO	No	Yes	Disable	Enable
	(DVI/HDMI/etc.) *3	0x01	PC				
0x75	Signal Status*4	0x00	Stable	No	Yes	Disable	Enable
		0x01	Unstable/No Signal				
0x76	VIDEO Signal Detect	0x00	NTSC	No	Yes	Disable	Enable
		0x01	PAL				
0x7A	Logo Position	0x00	Auto	Yes	Yes	Enable	Enable
		0x01	Landscape				
		0x02	Portrait				
0x7D	Power Management	0x00	OFF	Yes	Yes	Disable	Enable
	Mode*5	0x01	ON				

Code Table (1-a)

[a]Function		[b]Range/Switch Code		Command Control	Enquiry	Standby	Power On
0x7E	On Screen Logo	0x00	OFF	Yes	Yes	Enable	Enable
		0x01	ON (Default)				
		0x02	Reserved				
0x7F	LED	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	ON				
0x81	Power On Delay	0x00-0x78 1sec × Data		Yes	Yes	Enable	Enable

∗1: Auto Signal Detect becomes Disable. When Option Slot is connected, Option command is Enable.
∗2: Restricts a part of keys operation following below.
[Remote Commander]
Menu, Picture, Sound, ECO (Power Saving), Contrast+/−,Brightness, Chroma, H Shift, V Shift, V size, PAP
[Main]
Menu
∗3: Digital Signal Status is Enable for Digital Input Signal Detect Function only in Stable.
∗4: Digital Signal or VIDEO Signal is Enable. Return Signal Status of Active Window.
∗5: Only the panel power supply is turned off at the standby when setting it “ON”.

5. Analog Signal Detect Function

(a) Mode Control

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	Code Table (1-a) [a]	Code Table (1-d)	0xFF	0xXX

Answer	Header	Answer	Return to Data Size	Return Data1	Data2	Check Sum	
Enquiry	0x70	0x00	0x02	Code Table (1-a) [b]	0xFF	0xXX	Completed

Code Table (1-a)

[a]Function		[b]Range/Switch Code		Command Control	Enquiry	Standby	Power On
0x78	Analog Signal Detect	0x00	VIDEO	No	Yes	Disable	Enable
		0x01	PC				

Code Table (1-d)

Input Select	
0x00	Main
0x01	Sub
0xFF	Present input

1-a[b]
When input is no signal or not supported signal, return value become Video(0x00).

6. Priority Signal Select Function

(a) Mode Control

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	Code Table (2-a) [a]	Code Table (2-d)	0xFF	0xXX

Answer	Header	Answer	Return to Data Size	Return Data1	Data2	Check Sum	
Enquiry	0x70	0x00	0x02	Code Table (2-a) [b]	0xFF	0xXX	Completed

Code Table (2-a)

[a]Function		[b]Range/Switch Code		Command Control	Enquiry	Standby	Power On
0x77	Priority Signal Select	0x00	Input1 Auto	No	Yes	Disable	Enable
		0x01	Input1 RGB				
		0x02	Input1 YPbPr				

Code Table (2-d)

Input Select	
0x00	HD15
0x01	Option

(b) Time Control

Data Set (Month, Date)

Syntax	Header	Category	Function	Data1	Data2	Data3	Check Sum
Control	0x8C	0x00	0x7C	0x03	Month: 0x01-0x0C	Date: 0x01-0x1F	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x7C	0xFF	0xFF	0xFD

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x01	0x71	Limit Over
	0x70	0x02	0x72	Limit Under
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Check Sum	
Enquiry	0x70	0x00	0x03	Month: 0x00-0x0C	Date: 0x01-0x1F	0xXX	Completed

Year Set

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Control	0x8C	0x00	0x7B	0x02	Year: 0x00-0x63	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x7B	0xFF	0xFF	0xFC

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x01	0x71	Limit Over
	0x70	0x02	0x72	Limit Under
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Year: 0x00-0x63	0xXX	Completed

Clock Set (Hour, Minute)

Syntax	Header	Category	Function	Data1	Data2	Data3	Check Sum
Control	0x8C	0x00	0x22	0x03	Hour: 0x00-0x17	Minute: 0x00-0x3B	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x22	0xFF	0xFF	0xA3

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x01	0x71	Limit Over
	0x70	0x02	0x72	Limit Under
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Check Sum	
Enquiry	0x70	0x00	0x03	Hour: *0x00-0x17	Minute: 0x00-0x3B	0xXX	Completed

Clock Set (Week)

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x23	0xFF	0xFF	0xA4

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Week: Code Table (1-e)	0xXX	Completed

Code Table (1-e)

Week Select	
0x00	Sunday
0x01	Monday
0x02	Tuesday
0x03	Wednesday
0x04	Thursday
0x05	Friday
0x06	Saturday

On Timer, Off Timer

Syntax	Header	Category	Function	Data1	Data2	Data3	Check Sum
Control	0x8C	0x00	Code Table (1-f) [a]	0x03	Hour: 0x00-0x17	Minute: 0x00-0x3B	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	Code Table (1-f) [a]	0xFF	0xFF	0xXX

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x01	0x71	Limit Over
	0x70	0x02	0x72	Limit Under
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Check Sum	
Enquiry	0x70	0x00	0x03	Hour: 0x00-0x17	Minute: 0x00-0x3B	0xXX	Completed

Code Table (1-f)

[a]Function		[b]Range/Switch code	Command Control	Enquiry	Standby	Power On
On Timer						
0x50	Sunday	–	Yes	Yes	Disable	Enable
0x51	Monday	–				
0x52	Tuesday	–				
0x53	Wednesday	–				
0x54	Thursday	–				
0x55	Friday	–				
0x56	Saturday	–				
0x57	Every day	–				
Off Timer						
0x58	Sunday	–	Yes	Yes	Disable	Enable
0x59	Monday	–				
0x5A	Tuesday	–				
0x5B	Wednesday	–				
0x5C	Thursday	–				
0x5D	Friday	–				
0x5E	Saturday	–				
0x5F	Every day	–				

(d) IP Address Setting

IP Address

Syntax	Header	Category	Function	Data1	Data2	Data3	Data4	Data5	Check Sum
Control	0x8C	0x00	0x42	0x05	Address 0 0x00-0xFF	Address 1 0x00-0xFF	Address 2 0x00-0xFF	Address 3 0x00-0xFF	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x42	0xFF	0xFF	0xC3

Subnet Mask

Syntax	Header	Category	Function	Data1	Data2	Data3	Data4	Data5	Check Sum
Control	0x8C	0x00	0x61	0x05	Address 0 0x00-0xFF	Address 1 0x00-0xFF	Address 2 0x00-0xFF	Address 3 0x00-0xFF	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x61	0xFF	0xFF	0xE2

Gateway Address

Syntax	Header	Category	Function	Data1	Data2	Data3	Data4	Data5	Check Sum
Control	0x8C	0x00	0x62	0x05	Address 0 0x00-0xFF	Address 1 0x00-0xFF	Address 2 0x00-0xFF	Address 3 0x00-0xFF	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x62	0xFF	0xFF	0xE3

DNS Primary

Syntax	Header	Category	Function	Data1	Data2	Data3	Data4	Data5	Check Sum
Control	0x8C	0x00	0x63	0x05	Address 0 0x00-0xFF	Address 1 0x00-0xFF	Address 2 0x00-0xFF	Address 3 0x00-0xFF	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x63	0xFF	0xFF	0xE4

DNS Secondary

Syntax	Header	Category	Function	Data1	Data2	Data3	Data4	Data5	Check Sum
Control	0x8C	0x00	0x64	0x05	Address 0 0x00-0xFF	Address 1 0x00-0xFF	Address 2 0x00-0xFF	Address 3 0x00-0xFF	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x64	0xFF	0xFF	0xE5

Player IP Address

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x83	0xFF	0xFF	0x04

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x03	0x73	Command Canceled

Answer	Header	Category	Function	Data1	Data2	Data3	Data4	Data5	Check Sum
Enquiry	0x8C	0x00	Code Table (1-a)[a]	0x05	Address 0 0x00-0xFF	Address 1 0x00-0xFF	Address 2 0x00-0xFF	Address 3 0x00-0xFF	0xXX

IP Address ex)
192.128.14.1 → 192 (0xC0) Address 0
128 (0x80) Address 1
14 (0x0E) Address 2
1 (0x01) Address 3

∗ IP address command can be carried out even in the standby state.

Code Table (1-a)

[a]Function	[b]Range/Switch code	Command Control	Enquiry	Standby	Power On
0x42 IP Address	–	Enable	Enable	Enable	Enable
0x61 Subnet Mask	–				
0x62 Gateway Address	–				
0x63 DNS Primary	–				
0x64 DNS Secondary	–				
0x83 IP Address (Player)	–	Disable	Enable	Enable	Enable

7. Picture/Sound

(a) Picture/Sound

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Control	0x8C	0x10	Code Table (2-a) [a]	0x02	Code Table (2-a) [b]	0xXX
Enquiry	0x83			0xFF	0xFF	0xXX

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x01	0x71	Limit Over
	0x70	0x02	0x72	Limit Under
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Code Table (2-a) [b]	0xXX	Completed

Code Table (2-a)

[a]Function		[b]Range/Switch code		Command Control	Enquiry	Standby	Power On
0x00	Contrast	0x00-0x64		Yes	Yes	Disable	Enable
0x01	Brightness	0x00-0x64		Yes	Yes	Disable	Enable
0x02	Chroma	0x00-0x32		Yes	Yes	Disable	Enable
0x03	Phase	0x00-0x64		Yes	Yes	Disable	Enable
0x04	Color Temp	0x00	Cool	Yes	Yes	Disable	Enable
		0x01	Neutral				
		0x02	Warm				
		0x03	Custom				
0x09	Sharpness	0x00-0x14		Yes	Yes	Disable	Enable
0x0A	NR	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	Low				
		0x02	Mid				
		0x03	High				
0x0B	Cinema Drive	0x00	Auto	Yes	Yes	Disable	Enable
		0x01	OFF				
0x0C	Dynamic Picture	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	ON				
		0x02	Reserve				
0x0D	Color Correct	0x00	ON	Yes	Yes	Disable	Enable
		0x01	OFF				
0x0E	Gamma Correct	0x00	High	Yes	Yes	Disable	Enable
		0x01	Mid				
		0x02	Low				
		0x03	Option				
0x10	Picture Mode	0x00	Standard	Yes	Yes	Disable	Enable
		0x01	Vivid				
		0x02	Custom				
		0x05	TC Control				
		0x06	Conference				
0x11	Brightness Boost*1	0x00	ON	Yes	Yes	Disable	Enable
		0x01	OFF				
0x30	Volume	0x00-0x64		Yes	Yes	Enable	Enable
0x31	Treble*2	0x00-0x64		Yes	Yes	Disable	Enable
0x32	Bass*2	0x00-0x64		Yes	Yes	Disable	Enable
0x33	Balance	0x00-0x64		Yes	Yes	Disable	Enable
0x34	Surround	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	Hall				
		0x02	Simulate				
0x35	Sound Mode	0x00	Dynamic	Yes	Yes	Disable	Enable
		0x01	Standard				
		0x02	Reserve				
		0x03	Custom				

(Continued)

Code Table (2-a)

[a]Function		[b]Range/Switch code		Command Control	Enquiry	Standby	Power On
0x36	Default Volume Set	0x00-0x64		Yes	Yes	Enable	Enable
0x37	Volume Select	0x00	Last Memory	Yes	Yes	Enable	Enable
		0x01	Default Setting				
0x38	Max Volume Set	0x32	50	Yes	Yes	Enable	Enable
		0x46	70				
		0x64	100				

∗1 Picture Mode = Vivid Only is Enabled.
∗2 Sound Mode = Custom Only is Enabled.

(c) Color Temp

Syntax	Header	Category	Function	Data1	Data2	Data3	Check Sum
Control	0x8C	0x10	Code Table (2-b) [a]	0x03	Code Table (2-c)	Code Table (2-b) [b]	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x10	Code Table (2-b) [a]	Code Table (2-c)	0xFF	0xXX

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Check Sum	
Enquiry	0x70	0x00	0x03	Code Table (2-c)	Code Table (2-b) [b]	0xXX	Completed

Code Table (2-b)

[a]Function		[b]Range/Switch code	Command Control	Enquiry	Standby	Power On
0x05	Red Gain	0x00-0x1E	Yes	Yes	Disable	Enable
0x06	Green Gain					
0x07	Blue Gain					

Code Table (2-c)

Format Select	
0x00	Cool
0x01	Neutral
0x02	Warm
0x03	Custom

8. Size/Shift

(a) 8Bits Register

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Control	0x8C	0x20	Code Table (3-b) [a]	0x02	Code Table (3-b) [b]	0xXX
Enquiry	0x83			0xFF	0xFF	0xXX

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x01	0x71	Limit Over
	0x70	0x02	0x72	Limit Under
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Code Table (3-b) [b]	0xXX	Completed

Code Table (3-b)

[a]Function		[b]Range/Switch code		Command Control	Enquiry	Standby	Power On
0x00	H Size	0x00-0x3C		Yes	Yes	Disable	Enable
0x01	H Shift	0x00-0x3C		Yes	Yes	Disable	Enable
0x02	V Size	0x00-0x3C		Yes	Yes	Disable	Enable
0x03	V Shift	0x00-0x3C		Yes	Yes	Disable	Enable
0x04	Aspect	0x00	Wide Zoom (VIDEO Only)	Yes	Yes	Disable	Enable
		0x01	Zoom (VIDEO Only)				
		0x02	Full (VIDEO Only)				
		0x04	Normal (PC:Real, VIDEO: 4:3)				
		0x05	Full 1 (PC Only)				
		0x06	Full 2 (PC Only)				
0x05	Multi Display	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	2 × 2				
		0x02	3 × 3				
		0x03	4 × 4				
		0x04	1 × 2				
		0x05	1 × 3				
		0x06	1 × 4				
		0x07	2 × 1				
		0x08	3 × 1				
		0x09	4 × 1				

(Continued)

Code Table (3-b)

[a]Function		[b]Range/Switch code		Command Control	Enquiry	Standby	Power On
0x06	Auto Pixel Adjust	0xFF	Execute	Yes	No	Disable	Enable
0x07	Dot Phase	0x00-0x1F		Yes	Yes	Disable	Enable
0x0B	Multi Position	0x00	Position1	Yes	Yes	Disable	Enable
	(2 × 2 ,1 × 2, 2 × 1)*1	0x01	Position2				
		0x02	Position3				
		0x03	Position4				
0x0C	Multi Position	0x00	Position1	Yes	Yes	Disable	Enable
	(3 × 3, 1 × 3, 3 × 1)*1	0x01	Position2				
		0x02	Position3				
		0x03	Position4				
		0x04	Position5				
		0x05	Position6				
		0x06	Position7				
		0x07	Position8				
		0x08	Position9				
0x0D	Multi Position	0x00	Position1	Yes	Yes	Disable	Enable
	(4 × 4, 1 × 4, 4 × 1)*1	0x01	Position2				
		0x02	Position3				
		0x03	Position4				
		0x04	Position5				
		0x05	Position6				
		0x06	Position7				
		0x07	Position8				
		0x08	Position9				
		0x09	Position10				
		0x0A	Position11				
		0x0B	Position12				
		0x0C	Position13				
		0x0D	Position14				
		0x0E	Position15				
		0x0F	Position16				
0x0E	Over Scan	0x00	OFF	Yes	Yes	Disable	Enable
		0x01	ON				
		0x02	AUTO				
0x0F	Multi Display	0x00	Tiles	Yes	Yes	Disable	Enable
	Output Format	0x01	Window				

∗1 Arrangement of Multi Position.

Multi Position (2 × 2)

1	2
3	4

Multi Position (1 × 2)

1
2

Multi Position (2 × 1)

1	2

Multi Position (3 × 3)

1	2	3
4	5	6
7	8	9

Multi Position (1 × 3)

1
2
3

Multi Position (3 × 1)

1	2	3

Multi Position (4 × 4)

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Multi Position (1 × 4)

1
2
3
4

Multi Position (4 × 1)

1	2	3	4

(b) Power On Batch

Syntax	Header	Category	Function	Data1	Data2	Data3	Check Sum
Control	0x8C	0x00	0x85	0x03	Input Select Code Table (1-a)[a]	Volume Code Table (1-a)[b]	0xXX

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x00	0x85	0xFF	0xFF	0xXX

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x01	0x71	Limit Over
	0x70	0x02	0x72	Limit Under
	0x70	0x03	0x73	Command Canceled

Answer	Header	Answer	Return to Data Size	Data2	Data3	Check Sum
Enquiry	0x70	0x00	0x03	Input Select Code Table (1-a)[a]	Volume Code Table (1-a)[b]	0xXX

Code Table (1-a)

Input Select [a]*2	0x08	HD15 RGB
	0x09	HD15 YUV
	0x0E	Option RGB
	0x0F	Option COMPONENT
	0x20	DVI
	0x30	VIDEO
	0x31	S-VIDEO
	0x84	Option Digital1 (HDMI1/SDI)
	0x85	Option Digital2 (HDMI2)
Volume [b]	0x00-0x64	

Code Table (1-b)

[a]Function	[b]Range/Switch code	Command Control	Enquiry	Standby	Power On
0x85 Power On Batch		Yes	No	Enable	Control/Disable

*1 When this control command is received, the power of a set will be turned on first.
*2 Input Select setting, Auto Signal Detect becomes Disable. When Option Slot is connected, Option command is Enable.

9. Status Enquiry

(a) Model Name

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	0x00	0xFF	0xFF	0xB1

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Code Table (4-a)	0xXX	Completed

Code Table (4-a)

Format Select	
0x28	FWD-S42H1
0x29	FWD-S47H1

(b) Serial Number

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	0x01	0xFF	0xFF	0xB2

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Return Data3	Return Data4	Check Sum	
Enquiry	0x70	0x00	0x05	Upper 8bit Data	Middle Upper Data	Middle Lower Data	Lower 8bit Data	0xXX	Completed

Return Data1-Data4: 0x00000000-0x0098967F (0,000,000-9,999,999)

(c) Operation Time

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	0x02	0xFF	0xFF	0xB3

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Return Data3	Return Data4	Check Sum	
Enquiry	0x70	0x00	0x05	Upper 8bit Data	Middle Upper Data	Middle Lower Data	Lower 8bit Data	0xXX	Completed

Return Data1-Data4: 0x00000000-0xD693A3FF (0sec.~~-3,599,999,99sec.~~)

3,599,999,999 sec

(d) Soft Version (Main CPU/LAN)

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	Code Table (4-k)	0xFF	0xFF	0xB4

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Check Sum	
Enquiry	0x70	0x00	Code Table (4-k)	Upper 8bit Data	Lower 8bit Data	0xXX	Completed

Return Data1-Data2: 0x0000-0xFFFF (BCD Format)
ex) In Version0.100, it is set to 01 and 00.

Code Table (4-k)

Function	Return Data
0x03 Main CPU	0x0000-0xFFFF
0x0F LAN	0x0000-0xFFFF

(e) 8bits Register

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	Code Table (4-b)	0xFF	0xFF	0xXX

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Code Table (4-b)	0xXX	Completed

Code Table (4-b)*

Function		Return Data	Unit
0x07	Digital 3.3 V	0x00-0xFF	
0x08	Analog 24 V	0x00-0xFF	
0x09	Digital 5 V	0x00-0xFF	
0x0A	Temp1	0x00-0xFF	
0x0B	Temp2	0x00-0xFF	
0x0D	Inverter Alarm	0: Normal, 1: Abnormal	
0x11	Shutdown Log	0x00-0xFF	
0x12	Digital 3.3 V (Failure)	0x00-0xFF	
0x13	Digital 5 V (Failure)	0x00-0xFF	
0x14	Analog 12 V (Failure)	0x00-0xFF	
0x16	Analog 12 V	0x00-0xFF	

*

- **For function 0x07, 0x08, 0x09, 0x11, 0x12, 0x13, 0x14 and 0x16 in the left table**
  When the display value is 3.0 V, "0x1E" (30) is returned.
- **For function 0x0A, 0x0B and 0x0D in the left table**
  When the display value is 50 °C, "0x32" (50) is returned.
  When the display value is −20 °C, "0xEC" is returned.

(f) Shutdown Log

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	0x11	0xFF	0xFF	0xC2

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Shutdown Log Code Table (4-c)	0xXX	Completed

Return Data1: 0x00-0xFF

(g) Shutdown Log Clear

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Control	0x8C	0x30	0x11	0x02	0x00	0xCF

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x03	0x73	Command Canceled

(h) LAN Firmware Version

Syntax	Header	Category	Function	Data1	Data2	Data3	Check Sum
Control	0x8C	0x30	0x0F	0x03	Soft Version (LAN) Upper data	Soft Version (LAN) Lower data	0xXX

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x03	0x73	Command Canceled

Code Table (4-c)

Shutdown Information		
bit0	Reserved	
bit1	1: FAN Sensor Abnormal	0: Normal
bit2	1: Panel Temperature Abnormal	0: Normal
bit3	1: Temperature Sensor Abnormal	0: Normal
bit4	Reserved	
bit5	1: Power Abnormal (3.3 V, 5 V)	0: Normal
bit6	1: Analog Power Abnormal (12 V, 9 V, 24 V)	0: Normal
bit7	Reserved	

(i) Auto Input Detect

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	0x30	0xFF	0xFF	0xE1

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Return Data3	Return Data4	Return Data5
Enquiry	0x70	0x00	0x0C	Input1 Input Type Code Table (4-e)	Input2 Input Type Code Table (4-e)	Input3 Input Type Code Table (4-e)	Input4 Input Type Code Table (4-e)	Input5 Input Type Code Table (4-e)

Return Data6	Return Data7	Return Data8	Return Data9	Return Data10
Option1 Option Type Code Table (4-e)	Option1 Input Type Code Table (4-e)	Option2 Option Type Code Table (4-e)	Option2 Input Type Code Table (4-e)	Option3 Option Type Code Table (4-e)

Return Data11	Check Sum	
Option3 Input Type Code Table (4-e)	0xXX	Completed

Code Table (4-e)

Input	Input Type (Basic)		Option Type		Input Type (Option)	
INPUT1	0x02	S-Video				
INPUT2	0x01	Video				
INPUT3	0x06	RGB/YUV (Analog)				
INPUT4	0x07	DVI				
INPUT5	0x00	No Input				
OPTION1			0x00	Analog Only	0x00	No Input
			0x00	Analog Only	0x03	Video/S-Video
			0x00	Analog Only	0x06	RGB/YUV (Analog)
			0x00	Analog Only	0x07	Video/S-Video/RGB/YUV (Analog)
			0x01	Analog/Com	0x04	RGB
			0x03	Com Only	0x00	No Input
			0x04	Digital Only	0x0E	Digital/Digital
			0x04	Digital Only	0x0D	Digital
OPTION2			0x00	Analog Only	0x00	No Input
OPTION3			0x00	Analog Only	0x00	No Input

(j) Auto Panel Type Detect

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	0x31	0xFF	0xFF	0xE2

Answer	Header	Answer	Return to Data Size	Return Data1	Check Sum	
Enquiry	0x70	0x00	0x02	Code Table (4-h)	0x72	Completed

Code Table (4-h)

Panel Type	
0x00	LCD

Code Table (4-i)

H_Resolution	0x0780 (1920)
V_Resolution	0x0438 (1080)

Code Table (4-j)

Input Quantity	0x05
Option Slot Quantity	0x01

Code Table (4-d)

[a]Function	[b]Range/Switch code	Command Control	Enquiry	Standby	Power On
0x00 Model Name	0x28, 0x29	No	Yes	Enable	Enable
0x01 Serial Number	0x00000000-0x0098967F (0,000,000-9,999,999)				
0x02 Operation Time	0x00000000-0xD693A3FF (0sec.-3,599,999,999sec.)				
0x03 Soft Version (Main)	0x0000-0x9999				
0x07 Digital 3.3 V	0x00-0xFF				
0x08 Analog 24 V	0x00-0xFF				
0x09 Digital 5 V	0x00-0xFF				
0x0A Temp1	0x00-0xFF				
0x0B Temp2	0x00-0xFF				
0x0C Temp3	0x00-0xFF				
0x0D Temp P/S	0x00-0xFF				
0x0E Inverter Alarm	0: Normal, 1: Abnormal				
0x0F Soft Version (LAN)	0x0000-0x9999				
0x10 Analog 9 V	0x00-0xFF				
0x11 Shutdown Log	0x00-0xFF				
0x12 Digital 3.3 V (Failure)	0x00-0xFF				
0x13 Digital 5 V (Failure)	0x00-0xFF				
0x14 Analog 9 V (Failure)	0x00-0xFF				
0x16 Analog 12 V	0x00-0xFF				
0x30 Auto Input Detect					
0x31 Auto Panel Type Detect					

(k) Auto Plug Detect

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Enquiry	0x83	0x30	0x32	0xFF	0xFF	0xE3

Answer	Header	Answer	Return to Data Size	Return Data1	Return Data2	Return Data3
Enquiry	0x70	0x00	0x21	Panel Type Code Table (4-h)	H_Resolution (H) Code Table (4-i)	H_Resolution (L) Code Table (4-i)

Return Data4	Return Data5	Return Data6	Return Data7
V_Resolution (H) Code Table (4-i)	V_Resolution (L) Code Table (4-i)	Input Quantity Code Table (4-j)	Input1 Input Type Code Table (4-e)

Return Data8	Return Data9	Return Data10	Return Data11
Input2 Input Type Code Table (4-e)	Input3 Input Type Code Table (4-e)	Input4 Input Type Code Table (4-e)	Input5 Input Type Code Table (4-e)

Return Data12	Return Data13	Return Data14	Return Data15
Option Slot Quantity Code Table (4-j)	Option1 Option Type Code Table (4-e)	Option1 Input Type Code Table (4-e)	Option2 Option Type Code Table (4-e)

Return Data16	Return Data17	Return Data18	Return Data19
Option2 Input Type Code Table (4-e)	Option3 Option Type Code Table (4-e)	Option3 Input Type Code Table (4-e)	(Reserve) 0xFF

Return Data20	Return Data21	Return Data22	Return Data23
(Reserve) 0xFF	(Reserve) 0xFF	(Reserve) 0xFF	(Reserve) 0xFF

Return Data24	Return Data25	Return Data26	Return Data27
(Reserve) 0xFF	(Reserve) 0xFF	(Reserve) 0xFF	(Reserve) 0xFF

Return Data28	Return Data29	Return Data30	Return Data31
(Reserve) 0xFF	(Reserve) 0xFF	(Reserve) 0xFF	(Reserve) 0xFF

Return Data32	Check Sum
(Reserve) 0xFF	0xXX

10. User Reset

Syntax	Header	Category	Function	Data1	Data2	Check Sum
Control	0x8C	0x50	Code Table (5)	0x02	0xFF	0xXX

Answer	Header	Answer	Check Sum	
Control	0x70	0x00	0x70	Completed
	0x70	0x03	0x73	Command Canceled

Code Table (5)

Function		Range/Switch code	Command Control	Enquiry	Standby	Power On
0x00	Picture Reset		Yes	No	Disable	Enable
0x01	Audio Reset					
0x02	Size Reset	Size, Shift				
0x03	Picture Reset2 (FW50)	Contrast, Brightness, Chroma, Phase				
0x04		All Reset				

Section 2
SNMP

1. SNMP

FWD-S42H1/S47H1 installs SNMP (Simple Network Management Protocol). SNMP is a standard protocol for network management that was standardized in IETF (Internet Engineer Task Force).
By using SNMP, the management information of equipment connected to a network can be gotten via a network. The information of multiple equipment gotten using SNMP can also be unitarily managed by using SNMP management software.
The equipment corresponding to SNMP has a “management information database” called MIB (Management Information Base) in the inside of equipment. In SNMP, the bidirectional communication of data contained in MIB is realized between a “management system” and “management object system” that exist in a network.
In MIB, there is the standard MIB prescribed by RFC. Especially, MIB-2 (formal name: MIB-II) is its representative MIB. MIB-2 was established to manage a network. MIB-2 is installed in much network equipment such as a PC, router, and switch as a standard feature. This unit installs this MIB-2.
Monitoring and monitored sides exist when equipment is monitored via a network using SNMP. The monitoring side is called an “SNMP manager”. It is mainly constituted by the software of PC. For the monitored side, a module called an “SNMP agent” is installed. SNMP-compatible equipment transmits MIB information to an SNMP manager via this SNMP agent. This unit installs this SNMP agent. This unit can realize the communication with a general-purpose SNMP manager using this SNMP agent.
Basically, an SNMP agent replies only when an inquiry is sent from an SNMP manager.
The SNMP manager periodically inquires the equipment, which it manages, about MIB information. This way to get information is called “polling”. In polling, equipment replies using a response command when an SNMP manger sends a request command to equipment. By polling, therefore, equipment can be monitored without applying a high load to the equipment.
On the other hand, notification can also be done from the equipment side to an SNMP manager. This notification is called a “trap”. Using this trap, when a serious trouble occurred in equipment, it can be notified to the SNMP manager in a short time.
This unit is compatible with the two polling and trap protocols described above. Equipment can be efficiently monitored using these protocols.

2. Specifications of SNMP Installation

The specifications of the SNMP agent installed in this unit are shown in below.

- SNMP version: SNMPv1
- MIB definition: SMIv2
- Support PDU: GetRequesat
  SetRequest
  GetNextRequest
  Trap
- Standard MIB to be installed: MIB-II

3. Installation

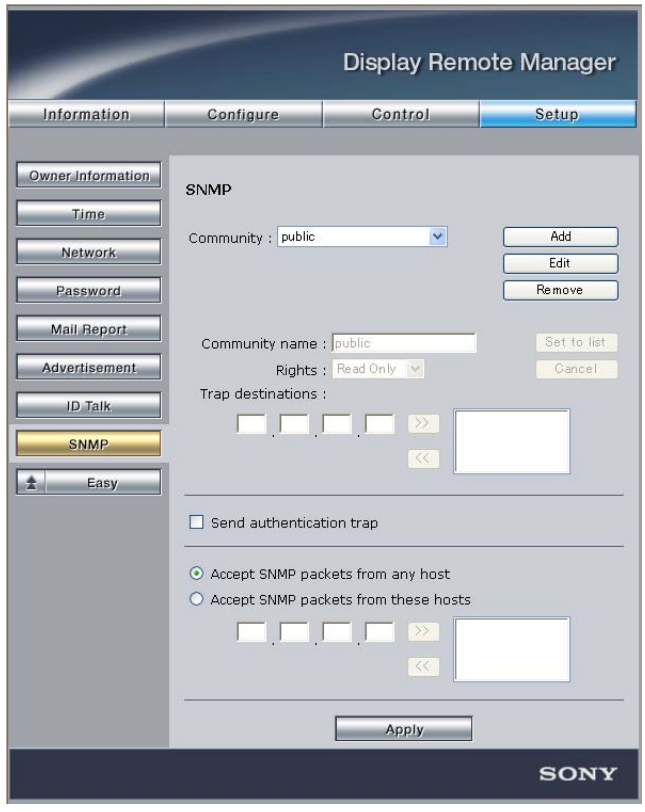
The setting below is required to use the SNMP function of this unit. (Set according to your network environment and SNMP management environment.)

- Community and its Community property
- Authentication trap
- Host restriction

The Web server function of this unit is used for setting. Refer to the Operation Manual of this unit for the operation of the Web server.
The contents of each item and the setting of SNMP are fully described in this specification.

4. Operation of SNMP Setting Window

This section describes the procedure and contents for setting of SNMP.
Open the Web page of this unit and click the SNMP button in the Advanced setting item on the Setup page (where an administrator's password is necessary). The SNMP setting window is displayed.



SNMP Setting window (on Web Page)

4-1. Community

A Community name is used as the password for SNMP access. The request received from an SNMP manager is accepted when the Community name contained in the request coincides with the Community name set. The request is rejected when the former does not coincide with the latter.

A maximum of three Communities can be set.
There are “Rights” and “Trap destinations” items in the property of Community. The property can be set for each set Community.

Note

When multiple Communities are set, all set Communities are validated.

1. Rights

The rights that can be set are as follows:

Read Only: An SNMP manager can reference MIB information using this Community name.
Read Write: This Community must be set when a write request is sent from an SNMP manager.
Other: Do not set this option because it is used for the function extension in future.

2. Trap destinations

When Trap destinations are set, during trap occurrence, a trap is notified to the equipment set as trap destinations using the Community name set.
Up to four Trap destinations can be set to one Community.
Trap destinations are not set in default.

Note

This product can be set on only the Web screen because it does not install the automatic setting function of Trap destinations.

3. Setting procedure of Community

Community can be added, edited, and removed.
The addition, editing, and removal procedures of Community are described below.

Addition of Community

1. Click the Add button.
   The “Community name”, “Rights”, and “Trap destinations” text boxes, and Set to List and Cancel buttons are validated.
2. Type the Community name you want to add.
3. Set the Rights of Community and the Trap destinations you want to add.
   When you want to save the setting, click the Set to List button and then click the Apply button at the bottom of the window.

Notes

- Click the Cancel button when you want to discard the setting during setting.
- When you want to save setting, be sure to click the Set to List button and then click the Apply button.

Editing of Community

1. Select the Community, you want to edit, from a drop-down list.
2. Click the Edit button.
   The "Community name", "Rights", and "Trap destinations" text boxes, and Set To List and Cancel buttons are validated.
   Edit the Community name when you want to edit a Community name.
3. Set the Rights of Community and the Trap destinations you want to edit.

Notes

- Click the Cancel button when you want to discard the setting during setting.
- When you want to save the setting, click the Set to List button and then click the Apply button at the bottom of the window.

Removal of Community

1. Select the Community, you want to remove, from a drop-down list.
2. Click the Remove button and then click the Apply button at the bottom of the window.

Note

Be sure to click the Remove button and then click the Apply button.

4-2. Authentication Trap

An authentication trap is the trap for making it detect by an SNMP manager that an illegal access was gained to this unit using an SNMP protocol.

- The authentication trap is validated when this check box is selected. A trap is transmitted when an illegal access is gained.
- The authentication trap is invalidated when this check box is not selected. A trap is not transmitted even if an illegal access is gained.

Note

Be sure to click the Apply button when you edited setting.

4-3. IP Restriction of Host

It is possible to put restrictions on the IP address of an SNMP manager, as one of the security countermeasures, which communicates using an SNMP protocol.

- IP address restriction is invalidated when you select "Accept packets from any host".
- Only the SNMP access from an SNMP manager that has the set IP address is accepted when you select "Accept packets from those hosts". The SNMP access from an IP address that has not been set is rejected.

Notes

- Up to four IP restrictions can be set.
- Be sure to click the Apply button when you edited setting.

5. MIB to Be Installed

This unit installs MIB-2.
MIB-2 is the most representative standard MIB. It is installed in various network products.
The statistical information on the amount of network traffic or the number of transmitted and received packets is defined, and the change or transition can be monitored by polling the information periodically.
Additionally, the management items to be installed can be defined using a TCP/IP device so as to get the information effective for the monitoring of the network communication state.
Refer to RFC1213 for the detailed definition of MIB-2.

6. Information to Be Notified on Trap

In software version 2.0 or later, the software have a function that transmits error information to this unit.
The error trap and authentication trap are installed.

Section 3
ID Talk

ID Talk is set as described below. ID Talk is a protocol for operating the function of this unit via a network.

1. Default Setting

Item	Description
Transport	TCP
Port number	53484 (Factory setting)
TCP connection time-out	30 seconds (Factory setting)

2. Setting Items

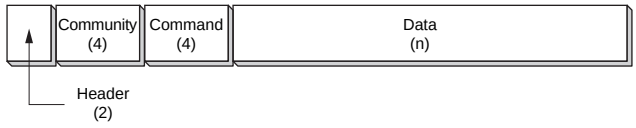
The items that can be set to ID Talk are shown in the table below.

Item	Description
Start ID Talk Service	Select the check box when using ID Talk. Clear the check box when using no ID Talk. (default setting: OFF)
Port No.	Changes the port number. A port number have to change port number 53484 cannot be used because it has been already used for another purpose.
Timeout	Specify the timeout time of connection. Connection is automatically disconnected when communication is not done for the specified time.
IP address of client (Host Address)	Executes only the request from the specified IP address. ID Talk does not have the security function such as user authentication. During installation, safety can be improved by setting this item. Multiple host addresses can be set.
Community	Changes the community of a header. Four (upper-or-lower case) alphanumeric characters can be set. (default setting: SONY)

Set the items described above properly on the SETUP → ID Talk page of the Web page when using ID Talk.

3. Packet Structure

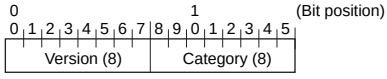
The packet structure of ID Talk is described below.



Packet structure

3-1. Header

The header is constituted by two bytes consisting of a version (8 bits) and category (8 bits).



Header structure

Version

Indicates the version number of an ID Talk protocol.
This version is fixed to 02h (version 2).

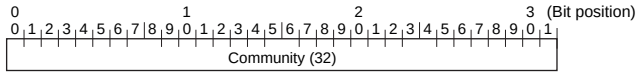
Category

Contains the category number of display equipment to be controlled. A category number is confirmed on the display equipment side. A request is ignored when a different category number is contained.

Code	Category
10h	Information Display

3-2. Community

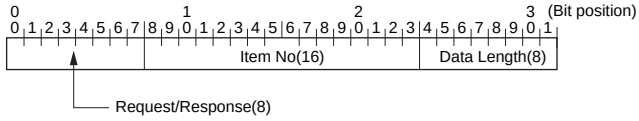
A request is executed when community coincides with the community set in display equipment. Community consists of four (upper- or lower-case) alphanumeric characters. “SONY” is a factory-setting value. The set character can be changed on the Web page.



Community packet

3-3. Command

The format of a request packet and response packet is described below.



Command packet

3-4. Request

The format when sending a request from a host to display equipment is described below.

Community

This is the same alphanumeric character as the community set in display equipment that sends a request.

Request

This is a request for display equipment.

Item No.

This is the item number to be treated for request.

Data Length

This is the length of data incident to a request. The maximum length is 128 bytes. The length of data is “0” when no data exists.

Data

This is data incident to a request.

3-5. Response

The format when display equipment returns a response to the request from a host is described below.

Community

This contains the same alphanumeric character as a request. For a short header and short community, this is embedded with 00h.

Response

This contains the result of a request.

Item No.

This is the item number to be treated for response.

Data Length

This is the length of data incident to a response. The maximum length is 128 bytes. The length of data is “0” when no data exists.

Data

This is data incident to a response.

4. Requests and Responses

Requests and responses are described below.

4-1. Requests

Requests are only a GET request that gets the display information or state and a SET request that changes the setting of display equipment.

Request	Contents
SET (00h)	Writes data in the register of display equipment.
GET (01h)	Gets the installation information, equipment state, or setting values.

SET command:

Communication with the main microcomputer of display equipment can be done via a network by using the protocol dedicated to FWD-S42H1/S47H1 as well as an ID Talk protocol. Use a SET command in this case. (Also, use a SET command when receiving information from the display equipment.)

4-2. Responses

A response returns the result of execution to the request from a host.

Response	Contents
NG (00h)	Indicates that a request is invalid or could not be executed.
OK (01h)	Indicates that a request could be executed normally.

4-3. SET request

The SET request sets a new value to the specified item. A request and its response are described in details below.

Request

Request	Item No.	Data Length	Data
00h	Item No.	n	Set Data(n byte)

SET request

Response

OK(01h)	Item No.	n	Get Data(n byte)

Response to SET request

4-4. GET request

The GET request gets the value of the specified item. A request and its response are described in details below.

Request

Request	Item No.	Data Length
01h	Item No.	0

GET request

Response

OK(01h)	Item No.	n	Get Data(n byte)

Response to GET request

4-5. ERROR response

An NG message is returned as a response when an error occurs in the contents of a request or the result of execution.

NG(00h)	Item No.	2	Error Code(16)

ERROR response

5. Items

Category	Contents	SET	GET
80**h	Gets the information of this unit	○	○
90**h	Gets the network setting information.	–	○
F100h	FWD-S42H1/S47H1 dedicated protocol	○	–

5-1. 80**h

This item gets the information of the connected display equipment.

Lower byte	Contents	SET	GET
00h	Category Code	–	○
01h	Model Name	–	○
02h	Serial Number	–	○
03h	Installation Place	○	○

0x8000 Category code

1 byte

0x8001 Model name

12 alphanumeric characters

For under 12 alphanumeric characters, the remaining section is set as 00h.

0x8002 Serial number

4 bytes

0x8003 Installation place

24 alphanumeric characters

For under 24 alphanumeric characters, the remaining section is set as 00h.

5-2. 90∗∗h

This item gets the network setting information.

Lower byte	Contents	SET	GET
00h	MAC Address	–	○
01h	IP Address	–	○
02h	Subnet Mask	–	○
03h	Default Gateway	–	○
04h	DHCP	–	○

0x9000 MAC Address

6 bytes

0x9001 IP Address

4 bytes

0x9002 Subnet Mask

4 bytes

0x9003 Default Gateway

4 bytes

0x9004 DHCP

1 byte

DHCP invalid data value: 0

DHCP valid data value: 1

5-3. F100h

FWD-S42H1/S47H1 dedicated protocol packets can be transmitted to the main microcomputer of FWD-S42H1/S47H1 as ID Talk data according to the FWD-S42H1/S47H1 dedicated protocol. The response of protocol is returned as the data of ID Talk response packets.

Refer to “Section 1 RS-232C” for details on the FWD-S42H1/S47H1 dedicated protocol.

6. Error Codes

An error code list and its details are shown in the table below.

Category	Error	Error code
Item Error (01∗∗h)	Invalid Item	01h
	Invalid Item Request	02h
	Invalid Length	03h
	Invalid Data	04h
	Short Data	11h
	Not Applicable Item	80h
Community Error (02∗∗h)	Different Community	01h
Request Error (10∗∗h)	Invalid Version	01h
	Invalid Category	02h
	Invalid Request	03h
	Short Header	11h
	Short Community	12h
	Short Command	13h
Network Error (20∗∗h)	Timeout	01h
Comm Error (F0∗∗h)	Timeout	01h
	Check Sum Error	10h
	Framing Error	20h
	Parity Error	30h
	Over Run Error	40h
	Other Comm Error	50h
	Unknown Response	F0h
NVRAM Error (F1∗∗h)	Read Error	10h
	Write Error	20h

6-1. Item errors

An item error occurs when the Item No. or Data of a request is invalid. The conditions under which each error occurs are described below.

Invalid Item

When Item No. that is not supported is specified

Invalid Item Request

When Item No. is supported, but Request that is not supported is requested

Invalid Length

When the Data Length of the specified Item No. is too long

Invalid Data

When the Data of the specified Item No. differs in the setting range

Short Data

When the length of data differs from the value specified using Data Length

Not Applicable Item

When an item that is not valid at present is specified

6-2. Community error

This error occurs when community differs.

6-3. Request errors

These errors occur when a header or command is invalid. The conditions under which each error occurs are described below.

Invalid Version
When the version of a header is other than 2
Invalid Category
When a category differs
Invalid Request
When a request that is not supported is specified
Short Header
When the received data is 1 byte
Short Community
When the received data is 2 to 5 bytes
Short Command
When the received data is 6 to 9 bytes

6-4. Network error

This error occurs in TCP/IP. The conditions under which an error occurs are described below.

Timeout
When communication was interrupted halfway

6-5. Comm error

This is an error that occurs during communication with the main control microcomputer of display equipment.

Timeout
When the received data is not sent after data transmission
Check Sum Error
When a check sum error occurs in the main control microcomputer
Framing Error
When a framing error occurs
Parity Error
When a parity error occurs
Over Run Error
When an overrun error occurs
Other Comm Error
When other errors occur
Unknown Response
When data that cannot be processed is received

6-6. NVRAM error

Read Error
When the read operation from NVRAM fails
Write Error
When the write operation to NVRAM fails