SHARP

External Control

M Series
P Series

PN-M432/PN-M502/PN-M552/PN-M652 /PN-P436/PN-P506/PN-P556/PN-P656 /PN-M752/PN-M862/PN-M982/PN-P756

Rev.1.2

External Control

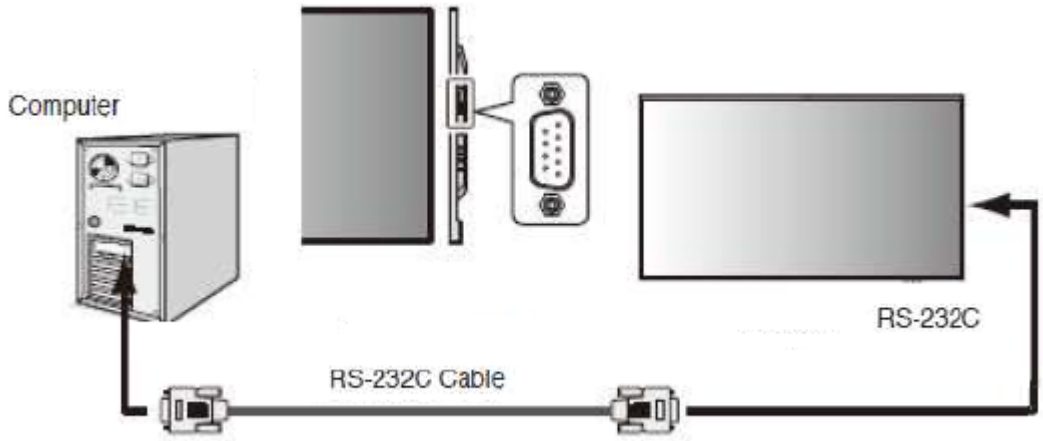
1. Application

This document defines the communications method for control of the SHARP LCD monitor, when using an external controller.

2. Connectors and wiring

2.1. RS-232C Remote control

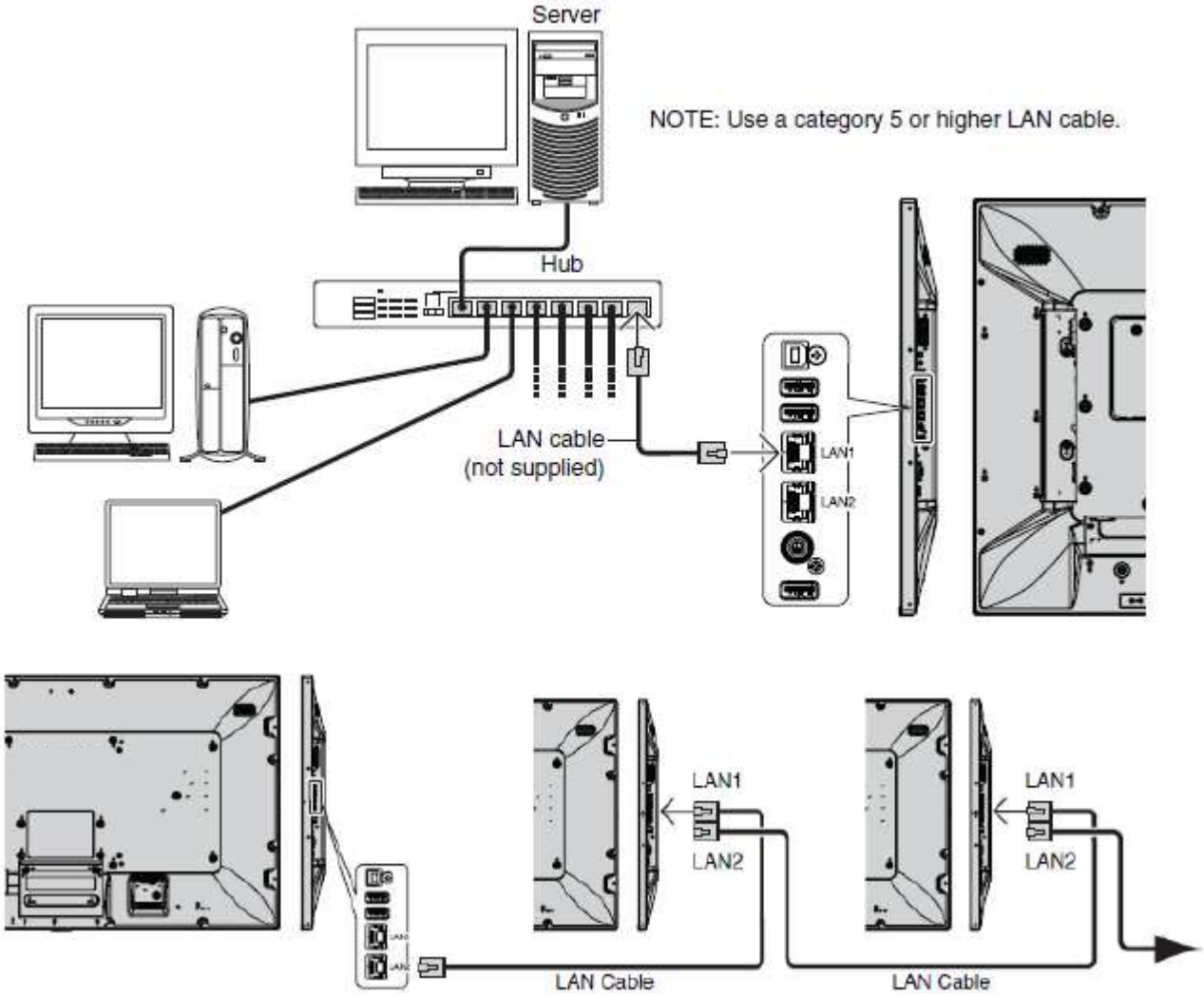
```
(1) Connector               9-pin D-Sub
(2) Cable                   Cross (reversed) cable or null modem cable
```



(Please refer “Controlling the LCD monitor via RS-232C Remote control” on User’s manual.)

2.2. LAN control

```
(1) Connector                RJ-45 10/100 BASE-T
(2) Cable                    Category 5 or higher LAN cable
```



(Please refer “Controlling the LCD monitor via LAN control” on User’s manual.)

3. Communication Parameter

3.1. RS-232C Remote control

```
(1) Communication system    Asynchronous
(2) Interface               RS-232C
(3) Baud rate               9600bps
(4) Data length             8bits
(5) Parity                  None
(6) Stop bit                1 bit
(7) Communication code      ASCII
```

3.1.1. Communication timing

```
The controller should wait for a reply packet before the next command is sent.
(Note)
When the following commands are sent, a controller should wait for specified period after
receiving the reply command before sending the next command.
    · Power On, Power Off: 15 seconds
    · Input, PIP Input, Auto Setup, Factory Reset: 10 seconds
```

3.2. LAN control

```
(1) Communication system    TCP/IP (Internet protocol suite)
(2) Interface               Ethernet (CSMA/CD)
(3) Communication layer     Transport layer (TCP)
                            * Using the payload of TCP segment.
(4) IP address              (Default) DHCP:On
                            * If you need to change,
                              Please refer “Network settings” on User’s manual.
(5) Port No.                7142 (Fixed)
```

【Note】

```
The monitor will disconnect the connection if no packet data is received for 15 minutes.
And the controller (PC) has to re-connect to control the monitor again, after 15 minutes or
more.
```

3.2.1. Communication timing

```
The controller should wait for a reply packet before the next command is sent.
(Note)
When the following commands are sent, a controller should wait for specified period after
receiving the reply command before sending the next command.
    · Power On, Power Off: 15 seconds
    · Input, PIP Input, Auto Setup, Factory Reset: 10 seconds
```

4. Communication Format

There are two types of external control commands: VCP and CTL.
The command consists of four parts: Header, Message, Check code, and Delimiter.
The contents of Message vary depending on the type of command.

Header	Message	Check Code	Delimiter

Follow the instructions below for more information on each.
Messages and other common components of the VCP command are described in this chapter.

■ Detailed description of message for VCP command

- See the part 4.2. Message block format

■ Detailed description of message for CTL command

- See the part 7. CTL commands

4.1. Header block format (fixed length)

| **Header** | Message | Check Code | Delimiter |

4.1.1. Header format

SOH	Reserved '0'	Destination	Source	Message Type	Message Length
1st	2nd	3rd	4th	5th	6th-7th

```
1st) SOH: Start of Header
    ASCII SOH (01h)

2nd) Reserved: Reserved for future extensions.
    On this monitor, it must be ASCII '0'(30h).

3rd) Destination: Destination equipment ID. (Receiver)
    Specify a commands receiver’s address.
    This value must match the “MONITOR ID” or “GROUP ID” set in the OSD.
    On the reply, the monitor sets '0' (30h), always.

4th) Source: Source equipment ID. (Sender)
    Specify a sender address.
    The controller must be '0' (30h).
    On the reply, the monitor sets the own MONITOR ID in here.

5th) Message Type: (Case sensitive.)
    Refer to section 4.2 “Message block format” for more details.
    ASCII 'A' (41h): Command.
    ASCII 'B' (42h): Command reply.
    ASCII 'C' (43h): Get current parameter from a monitor.
    ASCII 'D' (44h): "Get parameter" reply.
    ASCII 'E' (45h): Set parameter.
    ASCII 'F' (46h): "Set parameter" reply.

6th -7th) Message Length:
    Specify the length of the message (that follows the header) from STX to ETX.
    This length includes STX and ETX.
    The byte data must be encoded to ASCII characters.
  Ex.)
    The byte data 3Ah must be encoded to ASCII characters '3' and 'A' (33h and 41h).
    The byte data 0Bh must be encoded to ASCII characters '0' and 'B' (30h and 42h).
```

“MONITOR ID”, “GROUP ID” to “Destination Address” conversion table is as follows,

Monitor ID	Destination Address	Monitor ID	Destination Address	Monitor ID	Destination Address	Monitor ID	Destination Address
1	41h('A')	26	5Ah('Z')	51	73h	76	8ch
2	42h('B')	27	5Bh	52	74h	77	8Dh
3	43h('C')	28	5Ch	53	75h	78	8Eh
4	44h('D')	29	5Dh	54	76h	79	8Fh
5	45h('E')	30	5Eh	55	77h	80	90h
6	46h('F')	31	5Fh	56	78h	81	91h
7	47h('G')	32	60h	57	79h	82	92h
8	48h('H')	33	61h	58	7Ah	83	93h
9	49h('I')	34	62h	59	7Bh	84	94h
10	4Ah('J')	35	63h	60	7Ch	85	95h
11	4Bh('K')	36	64h	61	7Dh	86	96h
12	4Ch('L')	37	65h	62	7Eh	87	97h
13	4Dh('M')	38	66h	63	7Fh	88	98h
14	4Eh('N')	39	67h	64	80h	89	99h
15	4Fh('O')	40	68h	65	81h	90	9Ah
16	50h('P')	41	69h	66	82h	91	9Bh
17	51h('Q')	42	6Ah	67	83h	92	9Ch
18	52h('R')	43	6Bh	68	84h	93	9Dh
19	53h('S')	44	6Ch	69	85h	94	9Eh
20	54h('T')	45	6Dh	70	86h	95	9Fh
21	55h('U')	46	6Eh	71	87h	96	A0h
22	56h('V')	47	6Fh	72	88h	97	A1h
23	57h('W')	48	70h	73	89h	98	A2h
24	58h('X')	49	71h	74	8Ah	99	A3h
25	59h('Y')	50	72h	75	8Bh	100	A4h
ALL	2Ah('*')						

Group ID	Destination Address	Group ID	Destination Address	Group ID	Destination Address	Group ID	Destination Address
A	31h('1')	D	34h('4')	G	37h('7')	J	3Ah(':')
B	32h('2')	E	35h('5')	H	38h('8')		
C	33h('3')	F	36h('6')	I	39h('9')		

Ex.) If you want to control a monitor that has the "ID No." as '1', specify a destination address 'A'(41h).
If you want to control all of the monitors which are connected by a daisy chain, specify a destination address ' ∗ '(2Ah).

4.2. Message block format

| Header | **Message** | Check Code | Delimiter |

“Message block format” is allied to the “Message Type” in the “Header”.

Refer to the section 4.1 “Header block format” for more detail.

4.2.1. Get current parameter

The controller sends this message when you want to get the status of the monitor. For the status that you want to get, specify the “OP code page” and “OP code”, refer to chapter 8.
“Message format” of the “Get current parameter” is as follows.

4.2.1.1. Get current parameter format

STX	OP Code Page		OP Code		ETX
	Hi	Lo	Hi	Lo	

Refer to section 5.1 “Get current parameter from a monitor.” for more details.

4.2.2. Get Parameter reply

The monitor will reply with the status of the requested item specified by the controller in the “Get parameter message”.
“Message format” of the “Get parameter reply” is as follows.

4.2.2.1. Get Parameter reply format

STX	Result		OP Code Page		OP code		Type		Max value			Current Value			ETX
	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	MSB	...	LSB	MSB	...	LSB	

Refer to section 5.2 “Get parameter reply” for more details.

4.2.3. Set parameter

The controller sends this message to change a setting of the monitor.
Message format of the “Set parameter” is as follows.

4.2.3.1. Set parameter format

STX	OP Code Page		OP code		Set value			ETX
	Hi	Lo	Hi	Lo	MSB	...	LSB	

Refer to section 5.3 “Set parameter” for more details.

4.2.4. Set Parameter reply

The monitor replies with this message for a confirmation of the “Set parameter message”. Message format of the “Set parameter reply” is as follows.

4.2.4.1. Set parameter reply format

STX	Result		OP Code Page		OP code		Type		Max value			Requested Setting Value			ETX
	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	MSB	...	LSB	MSB	...	LSB	

Refer to section 5.4 “Set parameter reply” for more details.

4.2.5. Command

“Command message” format depends on each command.
Usually, this “command message” is used for some non-slider controls and some special operations,
such as “Save current settings”, “Get timing report”, “Power control”, “Schedule”, etc.
Refer to section 5.5 “Commands message” for more details.

4.2.6. Command reply

The monitor replies to a query from the controller. “Command reply message” format depends on each command. Refer to section 5.5 “Commands message” for more details.

4.3. Check code

| Header | Message | **Check code** | Delimiter |

4.3.1. Formatted and calculate.

Use the figure below to learn how check code is formatted and calculated.
First, place the check code format after ETX in the command.
Therefore, place the Check code at the position of 'D9' in the figure below.

Header						Message					
SOH	Resv.	Dest	Src	Type	Length	STX	Data	-	-	ETX	Check code
D0	D1	D2	D3	D4	D5	D6	D7	-	-	D8	D9

Next, as an example of calculating Check code, sum the values listed above each column from 'D1' to 'D16' in the figure below.
Therefore, we calculate the total value from '30' (30h) to '03' (03h) in the figure below.
As a result of the calculation, the check code of the command in the figure below is '77'(77h), so set it to Check code.

※ Check code may be described as Block Check Code (BCC) in the command details described below.

Header							Message									Check code (BCC)	Delimiter
SOH	Resv.	Dest	Src	Type	Length		STX	OP Code Page		OP Code		Set Value			ETX		
01h	30h	41h	30h	45h	30h	41h	02h	30h	30h	31h	30h	30h	30h	36h	34h	03h	77h	0Dh
D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18

```
Check code (BCC) D17 = D1 xor D2 xor D3 xor … xor D14 xor D15 xor D16
                     = 30h xor 41h xor 30h xor 45h xor 30h xor 41h xor 02h xor 30h xor
                       30h xor 31h xor 30h xor 30h xor 30h xor 36h xor 34h xor 03h
                     = 77h
```

4.4. Delimiter

| Header | Message | Check code | **Delimiter** |

Delimiter does not have the formats and calculations described so far.
Specify 'CR'(0Dh) in ASCII for the Command Delimiter.

5. Message type

5.1. Get current Parameter from a monitor

5.1.1. Get current parameter format

STX	OP Code Page		OP Code		ETX
	Hi	Lo	Hi	Lo	
1st	2nd - 3rd		4th - 5th		6th

Send this message when you want to get the status of a monitor.

For the status that you want to get, specify the “OP code page” the “OP code”, refer to chapter 8.

```
* 1st byte) STX: Start of Message
    ASCII STX (02h)

* 2nd-3rd bytes) OP code page: Operation code page.
    Specify the “OP code page” for the control which you want to get the status.
    Refer to chapter 8 for each item.
    OP code page data must be encoded to ASCII characters.
  Ex.)
    The byte data 02h must be encoded to ASCII characters '0' and '2' (30h and 32h).
    OP code page 02h -> OP code page (Hi) = ASCII '0' (30h)
                        OP code page (Lo) = ASCII '2' (32h)
    Refer to chapter 8.

* 4th-5th bytes) OP code: Operation code
    Refer to “VcpTable” for each item.
    OP code data must be encoded to ASCII characters.
  Ex.)
    The byte data 3Ah must be encoded to ASCII characters '3' and 'A' (33h and 41h).
    OP code 3Ah -> OP code (Hi) = ASCII '3' (33h)
                   OP code (Lo) = ASCII 'A' (41h)
    Refer to chapter 8.

* 6th byte) ETX: End of Message
    ASCII ETX (03h)
```

5.2. “Get parameter” reply

5.2.1. Get parameter reply format

STX	Result		OP Code Page		OP code		Type		Max value			Current Value			ETX
	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	MSB	...	LSB	MSB	...	LSB	
1st	2nd-3rd		4th-5th		6th-7th		8th-9th		10th- 13th			14th - 17th			18th

The monitor replies with a current value and the status of the requested item (operation code).

```
* 1st byte) STX: Start of Message
    ASCII STX (02h)

* 2nd-3rd bytes) Result:Result code.
    These bytes indicate a result of the requested commands as follows.
    00h: No Error.
    01h: Unsupported operation with this monitor or unsupported operation under current
condition.
    This result code from the monitor is encoded to ASCII characters.
  Ex.)
    The byte data 01h is encoded to ASCII character '0' and '1' (30h and 31h).

* 4th-5th bytes) OP code page: Operation code page.
    These bytes indicate a replying item's OP code page.
    This returned value from the monitor is encoded to ASCII characters.
  Ex.)
    The byte data 02h is encoded to ASCII character '0' and '2' (30h and 32h).
    Refer to the “VcpTable”.

* 6th-7th bytes) OP code: Operation code
    These bytes indicate a replying item's OP code.
    This returned value from the monitor is encoded to ASCII characters.
    Refer to the “VcpTable”.
  Ex.)
    The byte data 1Ah is encoded to ASCII character '1' and 'A' (31h and 41h).

* 8th-9th bytes) Type: Operation type code
    00h: Set parameter
    01h: Momentary
    Like the Auto Setup function which automatically changes the parameter.
    This returned value from the monitor is encoded to ASCII characters.
  Ex.)
    The byte data 01h is encoded to ASCII character '0' and '1' (30h and 31h).

* 10th-13th bytes) Max. value: Maximum value which monitor can accept. (16bits)
    This returned value from the monitor is encoded to ASCII characters.
  Ex.)
    '0','1','2' and '3' means 0123h (291)

* 14th-17th bytes) Current Value: (16bits)
    This returned value from the monitor is encoded to ASCII characters.
  Ex.)
    '0','1','2' and '3' means 0123h (291)

* 18th byte) ETX: End of Message
    ASCII ETX (03h)
```

5.3. Set parameter

5.3.1. Set parameter format

STX	OP Code Page		OP code		Set value				ETX
	Hi	Lo	Hi	Lo	MSB			LSB	
1st	2nd-3rd		4th-5th		6th-9th				10th

Send this message to change monitor's adjustment and so on.

The controller requests a monitor to change value.

```
* 1st byte) STX: Start of Message
    ASCII STX (02h)

* 2nd-3rd bytes) OP code page: Operation code page
    This OP code page data must be encoded to ASCII characters.
    Ex.) The byte data 02h must be encoded to ASCII '0' and '2' (30h and 32h).
    Refer to the “VcpTable”.

* 4th-5th bytes) OP code: Operation code
    This OP code data must be encoded to ASCII characters.
    Ex.) OP code 1Ah -> OP code (Hi) = ASCII '1' (31h)
                        OP code (Lo) = ASCII 'A' (41h)
    Refer to the “VcpTable”.

* 6th-9th bytes) Set value: (16bit)
    This data must be encoded to ASCII characters.
    Ex.) 0123h -> 1st(MSB) = ASCII '0' (30h)
                  2nd  = ASCII '1' (31h)
                  3rd  = ASCII '2' (32h)
                  4th(LSB)  = ASCII '3' (33h)

* 10th byte) ETX: End of Message
    ASCII ETX (03h)
```

5.4. “Set parameter” reply

5.4.1. Set parameter reply format

STX	Result		OP Code Page		OP code		Type		Max value			Requested Setting Value			ETX
	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	MSB	...	LSB	MSB	...	LSB	
1st	2nd-3rd		4th-5th		6th-7th		8th-9th		10th-13th			14th-17th			18th

The Monitor echoes back the parameter and status of the requested operation code.

```
* 1st byte) STX: Start of Message
    ASCII STX (02h)

* 2nd-3rd bytes) Result code
    ASCII '0''0' (30h, 30h): No Error.
    ASCII '0''1' (30h, 31h): Unsupported operation with this monitor or unsupported operation
under current condition.

* 4th-5th bytes) OP code page: Echoes back the Operation code page for confirmation.
    Reply data from the monitor is encoded to ASCII characters.
  Ex.)
    OP code page 02h -> OP code page = ASCII '0' and '2' (30h and 32h)
    Refer to “VcpTable”.

* 6th-7th bytes) OP code: Echoes back the Operation code for confirmation.
    Reply data from the monitor is encoded to ASCII characters.
  Ex.)
    OP code 1Ah -> OP code (Hi) = ASCII '1' (31h)
                   OP code (Lo) = ASCII 'A' (41h)
    Refer to “VcpTable”.

* 8th-9th bytes) Type: Operation type code
    ASCII '0''0' (30h, 30h): Set parameter
    ASCII '0''1' (30h, 31h): Momentary
    Like Auto Setup function, that automatically changes the parameter.

* 10th-13th bytes) Max. value: Maximum value that monitor can accept. (16bits)
    Reply data from the monitor is encoded to ASCII characters.
  Ex.) '0''1''2''3' means 0123h (291)

* 14th-17th bytes) Requested setting Value: Echoes back the parameter for confirmation. (16bits)
    Reply data from the monitor is encoded to ASCII characters.
  Ex.) '0''1''2''3' means 0123h (291)

* 18th byte) ETX: End of Message
    ASCII ETX (03h)
```

5.5. Commands

"Command message format" depends on each command.

5.5.1. Save Current Settings

The controller requests for the monitor to store the adjusted value.

5.5.1.1. Format

STX	Command Code		ETX
	'0'	'C'	

Send "OC"(30h, 43h) as Save current settings command.
Complete "Save Current setting" command packet as follows.

```
ASCII : 01h-30h-41h-30h-41h-30h-34h-02h-30h-43h-03h-CHK-0Dh
        SOH-'0'-'A'-'0'-'A'-'0'-'4'-STX-'0'-'C'-ETX-CHK-CR
The monitor replies the packet for confirmation as follows.
        SOH-'0'-'0'-'A'-'B'-'0'-'6'-STX-'0'-'0'-'0'-'C'-ETX-CHK- CR
```

5.5.2. Get Timing Report and Timing reply

The controller requests the monitor to report the displayed image timing.

STX	Command Code		ETX
	'0'	'7'	

Send "07"(30h, 37h) as Get Timing Report command.
Complete "Get Timing Report" command packet as follows.

```
ASCII : 01h-30h-41h-30h-41h-30h-34h-02h-30h-37h-03h-CHK-0Dh
        SOH-'0'-'A'-'0'-'A'-'0'-'4'-STX-'0'-'7'-ETX-CHK-CR
```

The monitor replies status as the following format.

STX	Command		SS		H Freq.				V Freq.				ETX
	'4'	'E'	Hi	Lo	MSB			LSB	MSB			LSB	

```
* SS: Timing status byte
      Bit 7 = 1 : Sync Frequency is out of range.
      Bit 6 = 1 : Unstable count
      Bit 5-2     Reserved (Don't care)
      Bit 1       1:Positive Horizontal sync polarity.
                  0:Negative Horizontal sync polarity.
      Bit 0       1:Positive Vertical sync polarity.
      0:Negative Vertical sync polarity.

* H Freq: Horizontal Frequency in unit 0.01kHz
* V Freq: Vertical Frequency in unit 0.01Hz
  Ex.) When H Freq is '1''2''A''9' (31h, 32h, 41h, 39h), it means 47.77kHz.
```

5.5.3. NULL Message

5.5.3.1. Format

STX	Command Code		ETX
	'B'	'E'	

The NULL message returned from the monitor is used in the following cases.

```
* A timeout error has occurred. (The default timeout is 10sec.)
* The monitor receives an unsupported message type.
* The monitor detects a packet BCC (Block Check Code) error.
* To tell the controller that the monitor does not have any answer to give to the host
  (not ready or not expected)
* Following operations need a certain time for to execute,
  so the monitor will return this message when another message is received during execution.
    - Power ON, Power OFF, Auto Setup, Input, PIP Input, Auto Setup and Factory reset.
* Complete "NULL Message" command packet as follows.
    01h-30h-30h-41h-42h-30h-34h-02h-42h-45h-03h-CHK-0Dh
    SOH-'0'-'0'-'A'-'B'-'0'-'4'-STX-'B'-'E'-ETX-CHK-CR
```

6. Typical procedure example

The following is a sample of procedures to control the monitor, these are examples of "Get parameter", "Set parameter" and "Save current settings".

6.1. How to change the “Backlight” setting.

6.1.1. Step 1. The controller requests the Monitor to reply with the current backlight setting and capability to support this operation. (Get parameter)

Header	Message	Check code	Delimiter
SOH-'0'-Monitor ID -'0'-'C'-'0'-'6'	STX-'0'-'0'-'1'-'0'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header.
'0' (30h) : Reserved.
Monitor ID: Specify the Monitor ID from which you want to get a value.
              Ex.) If Monitor ID is '1', specify 'A'.
'0' (30h) : Message sender is the controller.
'C' (43h) : Message type is "Get parameter command".
'0'-'6' (30h, 36h) : Message length is 6 bytes.
```

Message

```
'0'-'0'(30h, 30h) : Operation code page number is 0.
'1'-'0'(31h, 30h) : Operation code is 10h (in the OP code page 0).
ETX (03h)         : End of Message
```

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

6.1.2. Step 2. The monitor replies with current Backlight setting and capability to support this operation.

Header	Message	Check code	Delimiter
SOH-'0'-'0'-Monitor ID -'D'-'1'-'2'	STX-'0'-'0'-'0'-'0'-'1'-'0'-'0-''0' -'0'-'0'-'6'-'4'-'0'-'0'-'3'-'2'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header
'0' (30h) : Reserved
'0' (30h) : Message receiver is the controller.
Monitor ID: Indicate a replying Monitor ID.
             Ex.) When this byte is set to 'A', the replying Monitor ID is '1'.
'D' (44h) : Message Type is "Get parameter reply".
'1'-'2' (31h, 32h) : Message length is 18 bytes.
```

Message

```
'0'-'0'(30h, 30h) : Result code.  No error.
'0'-'0'(30h, 30h) : Operation code page number is 0.
'1'-'0'(31h, 30h) : Operation code is 10h (in the page 0).
'0'-'0'(30h, 30h) : This operation is "Set parameter" type.
'0'-'0'-'6'-'4'(30h, 30h, 36h, 34h)
                  : Backlight max value is 100(0064h).
'0'-'0'-'3'-'2'(30h, 30h, 33h, 32h)
                  : Current Backlight setting is 50(0032h) .
ETX (03h)         : End of Message
```

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

6.1.3. Step 3. The controller request the monitor to change the Backlight setting

Header	Message	Check code	Delimiter
SOH-'0'-Monitor ID -'0'-'E'-'0'-'A'	STX-'0'-'0'-'1'-'0' -'0'-'0'-'5'-'0'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header
'0' (30h) : Reserved
Monitor ID: Specify the Monitor ID of which you want to change a setting.
              Ex.) If Monitor ID is '1', specify 'A'.
'0' (30h) : Message sender is the controller.
'E' (45h) : Message Type is "Set parameter command".
'0'-'A' (30h, 41h) : Message length is 10 bytes.
```

Message

```
'0'-'0'(30h, 30h) : Operation code page number is 0.
'1'-'0'(31h, 30h) : Operation code is 10h (in the page 0).
'0'-'0'-'5'-'0'(30h, 30h, 35h, 30h)
                  : Set Backlight setting 80(0050h).
ETX (03h)         : End of Message
```

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

6.1.4. Step 4. The monitor replies with a message for confirmation.

Header	Message	Check code	Delimiter
SOH-'0'-'0'-Monitor ID -'F'-'1'-'2'	STX-'0'-'0'-'0'-'0'-'1'-'0'—'0'-'0' -'0'-'0'-'6'-'4'-'0'-'0'-'5'-'0'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header
'0' (30h) : Reserved
'0' (30h) : Message receiver is the controller.
Monitor ID: Indicate a replying Monitor ID.
             Ex.) When this byte is set to 'A', the replying Monitor ID is '1'.
'F' (46h) : Message Type is "Set parameter reply".
'1'-'2' (31h, 32h) : Message length is 18 bytes.
```

Message

```
'0'-'0'(30h, 30h) : Result code.  No error.
'0'-'0'(30h, 30h) : Operation code page number is 0.
'1'-'0'(31h, 30h) : Operation code is 10h (in the page 0).
'0'-'0'(30h, 30h) : This operation is "Set parameter" type.
'0'-'0'-'6'-'4'(30h, 30h, 36h, 34h)
                  : Backlight max value is 100(0064h).
'0'-'0'-'5'-'0'(30h, 30h, 35h, 30h)
                  : Current Backlight setting is 80(0050h) .
ETX (03h)         : End of Message
```

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

Repeat Step 1 and Step 2, if you need to check the Backlight setting. (Recommended)

6.1.5. Step 5. Request the monitor to store the Backlight setting. (Save Current Settings Command)

Header	Message	Check code	Delimiter
SOH-'0'-Monitor ID -'0'-'A'-'0'-'4'	STX-'0'-'C'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header
'0' (30h) : Reserved
Monitor ID: Specify the Monitor ID which you want to store the setting.
              Ex.) If Monitor ID is '1', specify 'A'.
'0' (30h) : Message sender is the controller.
'A' (41h) : Message type is "Command".
'0'-'4' (30h, 34h) : Message length is 4 bytes.
```

Message

```
'0'-'C'(30h, 43h) : Command code is 0Ch as "Save current settings".
ETX (03h)         : End of Message
```

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

6.2. How to read the measurement value of the built-in temperature sensors.

If the display has a built-in temperature sensor, the controller uses these sensors through external control.
You can monitor the internal temperature.
The temperature read procedure is shown below as an example of how to use it.

6.2.1. Step 1. Select a temperature sensor which you want to read.

Header	Message	Check code	Delimiter
SOH-'0'-Monitor ID -'0'-'E'-'0'-'A'	STX-'0'-'2'-'7'-'8' -'0'-'0'-'0'-'1'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header
'0' (30h) : Reserved
Monitor ID: Specify the Monitor ID which you want to get a value.
              Ex.) If Monitor ID is '1', specify 'A'.
'0' (30h) : Message sender is the controller.
'E' (45h) : Message Type is "Set parameter command".
'0'-'A' (30h, 41h) : Message length is 10 bytes
```

Message

```
'0'-'2'(30h, 32h) : Operation code page number is 2.
'7'-'8'(37h, 38h) : Operation code is 78h (in the page 2).
'0'-'0'-'0'-'1'(30h, 30h, 30h, 31h)
                  : Select the temperature sensor #1 (01h).
ETX (03h)         : End of Message
```

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

6.2.2. Step 2. The monitor replies for confirmation.

Header	Message	Check code	Delimiter
SOH-'0'-'0'-Monitor ID -'F'-'1'-'2'	STX-'0'-'0'-'0'-'2'-'7'-'8'-'0'-'0' -'0'-'0'-'0'-'3'-'0'-'0'-'0'-'1'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header
'0' (30h) : Reserved
'0' (30h) : Message receiver is the controller.
Monitor ID: Indicates a replying Monitor ID.
              Ex.) When this byte is set to 'A', the replying Monitor ID is '1'.
'F' (46h) : Message Type is "Set parameter reply".
'1'-'2' (31h, 32h) : Message length is 18 bytes.
```

Message

```
'0'-'0'(30h, 30h) : Result code.  No error.
'0'-'2'(30h, 32h) : Operation code page number is 2.
'7'-'8'(37h, 38h) : Operation code is 78h (in the page 2).
'0'-'0'(30h, 30h) : This operation is "Set parameter" type.
'0'-'0'-'0'-'3'(30h, 30h, 30h, 33h)
                  : Number of temperature sensors are 3 (0003h).
'0'-'0'-'0'-'1'(30h, 30h, 30h, 31h)
                  : temperature sensor is #1.
ETX (03h)         : End of Message
```

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

6.2.3. Step 3. The controller requests the monitor to send the temperature from the selected sensor.

Header	Message	Check code	Delimiter
SOH-'0'-Monitor ID -'0'-'C'-'0'-'6'	STX-'0'-'2'-'7'-'9'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header
'0' (30h) : Reserved
Monitor ID: Specify the Monitor ID which you want to get a value.
              Ex.) If Monitor ID is '1', specify 'A'.
'0' (30h) : Message sender is the controller.
'C' (43h) : Message Type is "Get parameter".
'0'-'6' (30h, 36h) : Message length is 6 bytes.
```

Message

```
'0'-'2'(30h, 32h) : Operation code page number is 2.
'7'-'9'(37h, 39h) : Operation code is 79h (in the OP code page 2).
ETX (03h)         : End of Message
```

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

6.2.4. Step 4. The monitor replies a temperature of selected sensor.

Header	Message	Check code	Delimiter
SOH-'0'-'0'-Monitor ID -'D'-'1'-'2'	STX-'0'-'0'-'0'-'2'-'7'-'9'-'0'-'0' -'F'-'F'-'F'-'F'-'0'-'0'-'3'-'2'-ETX	BCC	CR

Header

```
SOH (01h) : Start of Header
'0' (30h) : Reserved
'0' (30h) : Message receiver is the controller.
Monitor ID: Indicate a replying Monitor ID.
             Ex.) When this byte is set to 'A', the replying Monitor ID is '1'.
'D' (44h) : Message Type is "Get parameter reply".
'1'-'2' (31h, 32h) : Message length is 18 bytes.
```

Message

```
'0'-'0'(30h, 30h) : Result code.  No error.
'0'-'2'(30h, 32h) : Operation code page number is 2.
'7'-'9'(37h, 39h) : Operation code is 79h (in the page 2).
'0'-'0'(30h, 30h) : This operation is "Set parameter" type.
'F'-'F'-'F'-'F'(46h, 46h, 46h, 46h)
                  : Maximum value.
'0'-'0'-'3'-'2'(30h, 30h, 33h, 32h)
                  : The temperature is 25 degrees Celsius.
ETX (03h)         : End of Message

Readout value is 2's complement.
```

Temperature [Celsius]	Readout value	
	Binary	Hexadecimal
+125.0	0000 0000 1111 1010	00FAh
+ 25.0	0000 0000 0011 0010	0032h
+ 0.5	0000 0000 0000 0001	0001h
0	0000 0000 0000 0000	0000h
- 0.5	1111 1111 1111 1111	FFFFh
- 25.0	1111 1111 1100 1110	FFCEh
- 55.0	1111 1111 1001 0010	FF92h

Check code

```
BCC       : Block Check Code
            Refer to the section 4.3 “Check code” for a BCC calculation.
```

Delimiter

```
CR (0Dh)  : End of packet
```

7. CTL commands

System Command

CTL-0C. Save Current Settings

【 Function 】

```
This command is used in order to store the adjusted value.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'4'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 34H 02H (D01~02) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~02              Message
                        "0C"(30H 43H) : Save Current Settings
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'6'-STX "Data  " 03H BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 36H 02H (D01~04) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "000C"(30H 30H 30H 43H) : Save Current Settings
```

【 Note 】

CTL-07. Get Timing Report and Timing reply

【 Function 】

```
This command is used in order to report the displayed image timing.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'4'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 34H 02H (D01~02) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~02              Message
                        "07"(30H 37H) : Get Timing Report command.
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'E'-STX "Data                        " 03H BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 45H 02H (D01~02 D03~04 D05~08 D09~12) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------
D01~02              Message
                        "4E"(34H 45H) : Command
D03~04              SS
                        Bit 7 = 1: Sync Frequency is out of range. (or No signal.)
                        Bit 6 = 1: Unstable count
                        Bit 5-2    Reserved (Don't care)
                        Bit 1      1:Positive Horizontal sync polarity.
                                   0:Negative Horizontal sync polarity.
                        Bit 0      1:Positive Vertical sync polarity.
                                   0:Negative Vertical sync polarity.
D05~08              H Freq: Horizontal Frequency in unit 0.01kHz
D09~12              V Freq: Vertical Frequency in unit 0.01Hz
                        Ex.) When H Freq is '1''2''A''9' (31H, 32H, 41H, 39H), it means
47.77kHz.
```

【 Note 】

Power control procedure

CTL-01D6. Power status read

【 Function 】

```
This command is used in order to read a current power status.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'6'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "01D6"(30H,31H,44H,36H) : Get power status command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'2'-STX "Data                                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 32H 02H (D01~02 D03~04 D05~06 D07~08 D09~12 D13~16) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~02              Reserved data
                        "02"(30H,32H)
D03~04              Result code
                        "00"(30H,30H) : No Error
                        "01"(30H,31H) : Unsupported
D05~06              Display power mode code
                        "D6"(44H,36H) :
D07~08              Parameter type
                        "00"(30H,30H): Set parameter
D09~12              Max
                        "0004"(30H,30H,30H,34H) : Power mode is 4 types.
D13~16              Current power mode
                        "0001"(30H,30H,30H,31H) : ON
                        "0002"(30H,30H,30H,32H) : Stand-by (power save)
                        "0003"(30H,30H,30H,33H) : Reserved
                        "0004"(30H,30H,30H,34H) : OFF (same as IR power off)
```

【 Note 】

CTL-C203-D6. Power control

【 Function 】

```
This command is used in order to control monitor power.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'C'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 43H 02H (D01~06) (D07~10) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~06              Message
                        "C203D6"(43H 32H 30H 33H 44H 36H) : power control command
D07~10              Power mode
                        "0001"(30H 30H 30H 31H) : ON
                        "0002"(30H 30H 30H 32H) : Do not set
                        "0003"(30H 30H 30H 33H) : Do not set
                        "0004"(30H 30H 30H 34H) : OFF (same as IR power off)
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'E'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 45H 02H (D01~02) (D03~08) (D09~12) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~02              Result code
                        "00"(30H 30H) : No Error
D03~08              Message
                        "C203D6"(43H 32H 30H 33H 44H 36H) : power control reply command
D09~12              Power mode
                        "0001"(30H 30H 30H 31H) : ON
                        "0002"(30H 30H 30H 32H) : Do not set
                        "0003"(30H 30H 30H 33H) : Do not set
                        "0004"(30H 30H 30H 34H) : OFF (same as IR power off)
```

【 Note 】

Date & Time read and write

CTL-C211. Date & Time Read

【 Function 】

```
This command is used in order to read the setting of Date & Time.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'6'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C211"(43H 32H 31H 31H) : Date & time read request command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'4'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 34H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C311"(43H 33H 31H 31H) : Date & time read reply command
D05~06              Year (offset 2000)
                        "18"(31H 38H) : 2024(18H=24) ~
                        "25"(32H 35H) : 2037(25H=37)
D07~08              Month
                        "01"(30H 31H) : 1 ~
                        "0C"(30H 43H) : 12
D09~10              Day
                        "01"(30H 31H) : 1 ~
                        "1F"(31H 46H) : 31
D11~12              weekdays
                        "00"(30H 30H) : Sunday
                        "01"(30H 31H) : Monday
                        "02"(30H 32H) : Tuesday
                        "03"(30H 33H) : Wednesday
                        "04"(30H 34H) : Thursday
                        "05"(30H 35H) : Friday
                        "06"(30H 36H) : Saturday
D13~14              Hours
                        "00"(30H 30H) : 0 ~
                        "17"(31H 37H) : 23
D15~16              Minutes
                        "00"(30H 30H) : 0 ~
                        "3B"(33H 42H) : 59
D17~18              Reserved
                        "00"(30H 30H)
```

【 Note 】

CTL-C212. Date & Time Write

【 Function 】

```
This command is used in order to write the setting of the Date & Time.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'1'-'4'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 34H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C212"(43H 32H 31H 32H) : Date & time read write command
D05~06              Year (offset 2000)
                        "18"(31H 38H) : 2024(18H=24) ~
                        "25"(32H 35H) : 2037(25H=37)
D07~08              Month
                        "01"(30H 31H) : 1 ~
                        "0C"(30H 43H) : 12
D09~10              Day
                        "01"(30H 31H) : 1 ~
                        "1F"(31H 46H) : 31
D11~12              weekdays
                        "00"(30H 30H) : Sunday
                        "01"(30H 31H) : Monday
                        "02"(30H 32H) : Tuesday
                        "03"(30H 33H) : Wednesday
                        "04"(30H 34H) : Thursday
                        "05"(30H 35H) : Friday
                        "06"(30H 36H) : Saturday
D13~14              Hours
                        "00"(30H 30H) : 0 ~
                        "17"(31H 37H) : 23
D15~16              Minutes
                        "00"(30H 30H) : 0 ~
                        "3B"(33H 42H) : 59
D17~18              Reserved
                        "00"(30H 30H)
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'6'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 36H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) (D19~20) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C312"(43H 33H 31H 32H) : Date & Time write reply command
D05~06              Result code
                        "00"(30H 30H)[00H] : No Error
                        "01"(30H 31H)[01H] : Error
D07~08              Year (offset 2000)
                        "18"(31H 38H) : 2024(18H=24) ~
                        "25"(32H 35H) : 2037(25H=37)
```

```
D09~10              Month
                        "01"(30H 31H) : 1 ～
                        "0C"(30H 43H) : 12
D11~12              Day
                        "01"(30H 31H) : 1 ～
                        "1F"(31H 46H) : 31
D13~14              weekdays
                        "00"(30H 30H) : Sunday
                        "01"(30H 31H) : Monday
                        "02"(30H 32H) : Tuesday
                        "03"(30H 33H) : Wednesday
                        "04"(30H 34H) : Thursday
                        "05"(30H 35H) : Friday
                        "06"(30H 36H) : Saturday
D15~16              Hours
                        "00"(30H 30H) : 0 ～
                        "17"(31H 37H) : 23
D17~18              Minutes
                        "00"(30H 30H) : 0 ～
                        "3B"(33H 42H) : 59
D19~20              Reserved
                        "00"(30H 30H)
```

【 Note 】

CTL-C230. Time Zone Read

【 Function 】

```
This command is used in order to read the setting of Time Zone.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'6'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C230"(43H 32H 33H 30H) : Time Zone read request command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C330"(43H 33H 33H 30H) : Time Zone read reply command
D05~06              Time Zone
                        "00"(30H 30H) : UTC -12:00
                        "01"(30H 31H) : UTC -11:30
                        "02"(30H 32H) : UTC -11:00
                        "03"(30H 33H) : UTC -10:30
                        "04"(30H 34H) : UTC -10:00
                        "05"(30H 35H) : UTC -09:30
                        "06"(30H 36H) : UTC -09:00
                        "07"(30H 37H) : UTC -08:30
                        "08"(30H 38H) : UTC -08:00
                        "09"(30H 39H) : UTC -07:30
                        "0A"(30H 41H) : UTC -07:00
                        "0B"(30H 42H) : UTC -06:30
                        "0C"(30H 43H) : UTC -06:00
                        "0D"(30H 44H) : UTC -05:30
                        "0E"(30H 45H) : UTC -05:00
                        "0F"(30H 46H) : UTC -04:30
                        "10"(31H 30H) : UTC -04:00
                        "11"(31H 31H) : UTC -03:30
                        "12"(31H 32H) : UTC -03:00
                        "13"(31H 33H) : UTC -02:30
                        "14"(31H 34H) : UTC -02:00
                        "15"(31H 35H) : UTC -01:30
                        "16"(31H 36H) : UTC -01:00
                        "17"(31H 37H) : UTC -00:30
                        "18"(31H 38H) : UTC +00:00
                        "19"(31H 39H) : UTC +00:30
                        "1A"(31H 41H) : UTC +01:00
                        "1B"(31H 42H) : UTC +01:30
                        "1C"(31H 43H) : UTC +02:00
                        "1D"(31H 44H) : UTC +02:30
                        "1E"(31H 45H) : UTC +03:00
                        "1F"(31H 46H) : UTC +03:30
                        "20"(32H 30H) : UTC +04:00
                        "21"(32H 31H) : UTC +04:30
```

```
                        "22"(32H 32H) : UTC +05:00
                        "23"(32H 33H) : UTC +05:30
                        "24"(32H 34H) : UTC +06:00
                        "25"(32H 35H) : UTC +06:30
                        "26"(32H 36H) : UTC +07:00
                        "27"(32H 37H) : UTC +07:30
                        "28"(32H 38H) : UTC +08:00
                        "29"(32H 39H) : UTC +08:30
                        "2A"(32H 41H) : UTC +09:00
                        "2B"(32H 42H) : UTC +09:30
                        "2C"(32H 43H) : UTC +10:00
                        "2D"(32H 44H) : UTC +10:30
                        "2E"(32H 45H) : UTC +11:00
                        "2F"(32H 46H) : UTC +11:30
                        "30"(33H 30H) : UTC +12:00
```

【 Note 】

CTL-C231. Time Zone Write

【 Function 】

```
This command is used in order to write the setting of the Time Zone.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C231"(43H 32H 33H 31H) : Time Zone write command
D05~06              Time Zone
                        "00"(30H 30H) : UTC -12:00
                        "01"(30H 31H) : UTC -11:30
                        "02"(30H 32H) : UTC -11:00
                        "03"(30H 33H) : UTC -10:30
                        "04"(30H 34H) : UTC -10:00
                        "05"(30H 35H) : UTC -09:30
                        "06"(30H 36H) : UTC -09:00
                        "07"(30H 37H) : UTC -08:30
                        "08"(30H 38H) : UTC -08:00
                        "09"(30H 39H) : UTC -07:30
                        "0A"(30H 41H) : UTC -07:00
                        "0B"(30H 42H) : UTC -06:30
                        "0C"(30H 43H) : UTC -06:00
                        "0D"(30H 44H) : UTC -05:30
                        "0E"(30H 45H) : UTC -05:00
                        "0F"(30H 46H) : UTC -04:30
                        "10"(31H 30H) : UTC -04:00
                        "11"(31H 31H) : UTC -03:30
                        "12"(31H 32H) : UTC -03:00
                        "13"(31H 33H) : UTC -02:30
                        "14"(31H 34H) : UTC -02:00
                        "15"(31H 35H) : UTC -01:30
                        "16"(31H 36H) : UTC -01:00
                        "17"(31H 37H) : UTC -00:30
                        "18"(31H 38H) : UTC +00:00
                        "19"(31H 39H) : UTC +00:30
                        "1A"(31H 41H) : UTC +01:00
                        "1B"(31H 42H) : UTC +01:30
                        "1C"(31H 43H) : UTC +02:00
                        "1D"(31H 44H) : UTC +02:30
                        "1E"(31H 45H) : UTC +03:00
                        "1F"(31H 46H) : UTC +03:30
                        "20"(32H 30H) : UTC +04:00
                        "21"(32H 31H) : UTC +04:30
                        "22"(32H 32H) : UTC +05:00
                        "23"(32H 33H) : UTC +05:30
                        "24"(32H 34H) : UTC +06:00
                        "25"(32H 35H) : UTC +06:30
                        "26"(32H 36H) : UTC +07:00
                        "27"(32H 37H) : UTC +07:30
                        "28"(32H 38H) : UTC +08:00
                        "29"(32H 39H) : UTC +08:30
                        "2A"(32H 41H) : UTC +09:00
                        "2B"(32H 42H) : UTC +09:30
                        "2C"(32H 43H) : UTC +10:00
                        "2D"(32H 44H) : UTC +10:30
```

```
                        "2E"(32H 45H) : UTC +11:00
                        "2F"(32H 46H) : UTC +11:30
                        "30"(33H 30H) : UTC +12:00
```

【ACK】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C331"(43H 33H 33H 31H) : Time Zone write reply command
D05~06              Result code
                        "00"(30H 30H)[00H] : No Error
                        "01"(30H 31H)[01H] : Error
D07~08              Time Zone
                        "00"(30H 30H) : UTC -12:00
                        "01"(30H 31H) : UTC -11:30
                        "02"(30H 32H) : UTC -11:00
                        "03"(30H 33H) : UTC -10:30
                        "04"(30H 34H) : UTC -10:00
                        "05"(30H 35H) : UTC -09:30
                        "06"(30H 36H) : UTC -09:00
                        "07"(30H 37H) : UTC -08:30
                        "08"(30H 38H) : UTC -08:00
                        "09"(30H 39H) : UTC -07:30
                        "0A"(30H 41H) : UTC -07:00
                        "0B"(30H 42H) : UTC -06:30
                        "0C"(30H 43H) : UTC -06:00
                        "0D"(30H 44H) : UTC -05:30
                        "0E"(30H 45H) : UTC -05:00
                        "0F"(30H 46H) : UTC -04:30
                        "10"(31H 30H) : UTC -04:00
                        "11"(31H 31H) : UTC -03:30
                        "12"(31H 32H) : UTC -03:00
                        "13"(31H 33H) : UTC -02:30
                        "14"(31H 34H) : UTC -02:00
                        "15"(31H 35H) : UTC -01:30
                        "16"(31H 36H) : UTC -01:00
                        "17"(31H 37H) : UTC -00:30
                        "18"(31H 38H) : UTC +00:00
                        "19"(31H 39H) : UTC +00:30
                        "1A"(31H 41H) : UTC +01:00
                        "1B"(31H 42H) : UTC +01:30
                        "1C"(31H 43H) : UTC +02:00
                        "1D"(31H 44H) : UTC +02:30
                        "1E"(31H 45H) : UTC +03:00
                        "1F"(31H 46H) : UTC +03:30
                        "20"(32H 30H) : UTC +04:00
                        "21"(32H 31H) : UTC +04:30
                        "22"(32H 32H) : UTC +05:00
                        "23"(32H 33H) : UTC +05:30
                        "24"(32H 34H) : UTC +06:00
                        "25"(32H 35H) : UTC +06:30
                        "26"(32H 36H) : UTC +07:00
                        "27"(32H 37H) : UTC +07:30
                        "28"(32H 38H) : UTC +08:00
                        "29"(32H 39H) : UTC +08:30
                        "2A"(32H 41H) : UTC +09:00
                        "2B"(32H 42H) : UTC +09:30
                        "2C"(32H 43H) : UTC +10:00
                        "2D"(32H 44H) : UTC +10:30
                        "2E"(32H 45H) : UTC +11:00
                        "2F"(32H 46H) : UTC +11:30
                        "30"(33H 30H) : UTC +12:00
```

【 Note 】

Time server read and write

CTL-C21A. Time Server Read

【 Function 】

```
This command is used in order to read the setting of Time Server.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'6'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C21A"(43H 32H 31H 41H) : Time server read request command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'4'-'8'-STX "Data                     " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 34H 38H 02H (D01~04) (D05~06) (D07~70) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C31A"(43H 33H 31H 41H) : Time server read reply command
D05~06              Time Server
                        "00"(30H 30H) : Off
                        "01"(30H 31H) : On
D07~74              Time Server Name
                        Max length of actual Time Server Name 32 characters.
```

【 Note 】

CTL-C21B. Time Server Write

【 Function 】

```
This command is used in order to write the setting of the Time Server.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'4'-'8'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 34H 38H 02H (D01~04) (D05~06) (D07~70) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C21B"(43H 32H 31H 42H) : Time server write command
D05~06              Time Server
                        "00"(30H 30H) : Off
                        "01"(30H 31H) : On
D07~74              Time Server Name
                        Max length of actual Time Server Name 32 characters.
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C31B"(43H 33H 31H 42H) : Time Server write reply command
D05~06              Result code
                        "00"(30H 30H)[00H] : No Error
                        "01"(30H 31H)[01H] : Error
```

【 Note 】

Schedule read and write

CTL-C23D. Schedule Read

【 Function 】

```
This command is used in order to read the setting of the Schedule.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C23D"(43H 32H 33H 44H) : Schedule read request command
D05~06              Program No.
                        "00"(30H 30H) : Program No.1 ～
                        "0D"(30H 44H) : Program No.14
                        The data must be ASCII characters strings.
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'2'-'4'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 32H 34H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) (D19~20) (D21~22) (D23~24) (D25~26) (D27~28) (D29~30) (D31~32) (D33~34) 03H
BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C33D"(43H 33H 33H 44H) : Schedule read reply command
D05~06              Program No.
                        "00"(30H 30H) : Program No.1 ～
                        "0D"(30H 44H) : Program No.14
D07~08              Schedule event
                        "01"(30H 31H) : Power ON
                        "02"(30H 32H) : Power OFF
                        "03"(30H 33H) : Reserved
                        "03"(30H 33H) : Reserved
D09~10              Time (hour)
                        "00"(30H 30H) : 0 ～
                        "17"(31H 37H) : 23
                        "18"(31H 38H) : None
D11~12              Time (minute)
                        "00"(30H 30H) : 0 ～
                        "3B"(33H 42H) : 59
                        "3C"(33H 43H) : None
D13~14              Input terminal
                        "00"(30H 30H) : No mean (works on last memory)
                        "0D"(30H 44H) : OPTION
                        "0F"(30H 46H) : DisplayPort1
                        "11"(31H 31H) : HDMI1
                        "12"(31H 32H) : HDMI2
                        "88"(38H 38H) : COMPUTE MODULE
                        "89"(38H 39H) : USB-C
```

```
D15~16              Week setting(※1)
                        bit 0 : Monday
                        bit 1 : Tuesday
                        bit 2 : Wednesday
                        bit 3 : Thursday
                        bit 4 : Friday
                        bit 5 : Saturday
                        bit 6 : Sunday
D17~18              Schedule type(※2)
                        bit 1 : 0=once/1=Every week
                        bit 2 : 0=Disable/1=Enable
                        bit 6 : 0=once/1=Date
D19~20              Picture mode
                        In this monitor, always ignore this setting.
D21~22              Year
                        "18"(31H 38H) : 2024(18H=24) ～
                        "25"(32H 35H) : 2037(25H=37) or
                        "26"(32H 36H) : None
                        If TYPE = date, this parameter is needed.
D23~24              Month
                        "01"(30H 31H) : JAN ～
                        "0C"(30H 43H) : DEC or
                        "0D"(30H 44H) : None
                        If TYPE = date, this parameter is needed.
D25~26              Day
                        "01"(30H 31H) : 1 ～
                        "1F"(31H 46H) : 31 or
                        "20"(32H 30H) : None
                        If TYPE = date, this parameter is needed.
D27~28              Order
                        In this monitor, always ignore this setting.
D29~30              Extension1
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
D31~32              Extension2
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
D33~34              Extension3
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
```

【 Note 】

```
(※1)Bit Pattern
  30H 31H("01") : Monday
  30H 32H("02") : Tuesday
  30H 33H("03") : Monday, Tuesday
  30H 34H("04") : Wednesday
  30H 35H("05") : Monday, Wednesday
  30H 36H("06") : Tuesday, Wednesday
  30H 37H("07") : Monday, Tuesday, Wednesday
  30H 38H("08") : Thursday
  30H 39H("09") : Monday, Thursday
  30H 41H("0A") : Tuesday, Thursday
  30H 42H("0B") : Monday, Tuesday, Thursday
  30H 43H("0C") : Wednesday, Thursday
  30H 44H("0D") : Monday, Wednesday, Thursday
  30H 45H("0E") : Tuesday, Wednesday, Thursday
  30H 46H("0F") : Monday, Tuesday, Wednesday, Thursday
  31H 30H("10") : Friday
  31H 31H("11") : Monday, Friday
  31H 32H("12") : Tuesday, Friday
  31H 33H("13") : Monday, Tuesday, Friday
  31H 34H("14") : Wednesday, Friday
  31H 35H("15") : Monday, Wednesday, Friday
  31H 36H("16") : Tuesday, Wednesday, Friday
  31H 37H("17") : Monday, Tuesday, Wednesday, Friday
  31H 38H("18") : Thursday, Friday
  31H 39H("19") : Monday, Thursday, Friday
```

```
31H 41H("1A") : Tuesday, Thursday, Friday
31H 42H("1B") : Monday, Tuesday, Thursday, Friday
31H 43H("1C") : Wednesday, Thursday, Friday
31H 44H("1D") : Monday, Wednesday, Thursday, Friday
31H 45H("1E") : Tuesday, Wednesday, Thursday, Friday
31H 46H("1F") : Monday, Tuesday, Wednesday, Thursday, Friday
32H 30H("20") : Saturday
32H 31H("21") : Monday, Saturday
32H 32H("22") : Tuesday, Saturday
32H 33H("23") : Monday, Tuesday, Saturday
32H 34H("24") : Wednesday, Saturday
32H 35H("25") : Monday, Wednesday, Saturday
32H 36H("26") : Tuesday, Wednesday, Saturday
32H 37H("27") : Monday, Tuesday, Wednesday, Saturday
32H 38H("28") : Thursday, Saturday
32H 39H("29") : Monday, Thursday, Saturday
32H 41H("2A") : Tuesday, Thursday, Saturday
32H 42H("2B") : Monday, Tuesday, Thursday, Saturday
32H 43H("2C") : Wednesday, Thursday, Saturday
32H 44H("2D") : Monday, Wednesday, Thursday, Saturday
32H 45H("2E") : Tuesday, Wednesday, Thursday, Saturday
32H 46H("2F") : Monday, Tuesday, Wednesday, Thursday, Saturday
33H 30H("30") : Friday, Saturday
33H 31H("31") : Monday, Friday, Saturday
33H 32H("32") : Tuesday, Friday, Saturday
33H 33H("33") : Monday, Tuesday, Friday, Saturday
33H 34H("34") : Wednesday, Friday, Saturday
33H 35H("35") : Monday, Wednesday, Friday, Saturday
33H 36H("36") : Tuesday, Wednesday, Friday, Saturday
33H 37H("37") : Monday, Tuesday, Wednesday, Friday, Saturday
33H 38H("38") : Thursday, Friday, Saturday
33H 39H("39") : Monday, Thursday, Friday, Saturday
33H 41H("3A") : Tuesday, Thursday, Friday, Saturday
33H 42H("3B") : Monday, Tuesday, Thursday, Friday, Saturday
33H 43H("3C") : Wednesday, Thursday, Friday, Saturday
33H 44H("3D") : Monday, Wednesday, Thursday, Friday, Saturday
33H 45H("3E") : Tuesday, Wednesday, Thursday, Friday, Saturday
33H 46H("3F") : Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
34H 30H("40") : Sunday
34H 31H("41") : Monday, Sunday
34H 32H("42") : Tuesday, Sunday
34H 33H("43") : Monday, Tuesday, Sunday
34H 34H("44") : Wednesday, Sunday
34H 35H("45") : Monday, Wednesday, Sunday
34H 36H("46") : Tuesday, Wednesday, Sunday
34H 37H("47") : Monday, Tuesday, Wednesday, Sunday
34H 38H("48") : Thursday, Sunday
34H 39H("49") : Monday, Thursday, Sunday
34H 41H("4A") : Tuesday, Thursday, Sunday
34H 42H("4B") : Monday, Tuesday, Thursday, Sunday
34H 43H("4C") : Wednesday, Thursday, Sunday
34H 44H("4D") : Monday, Wednesday, Thursday, Sunday
34H 45H("4E") : Tuesday, Wednesday, Thursday, Sunday
34H 46H("4F") : Monday, Tuesday, Wednesday, Thursday, Sunday
35H 30H("50") : Friday, Sunday
35H 31H("51") : Monday, Friday, Sunday
35H 32H("52") : Tuesday, Friday, Sunday
35H 33H("53") : Monday, Tuesday, Friday, Sunday
35H 34H("54") : Wednesday, Friday, Sunday
35H 35H("55") : Monday, Wednesday, Friday, Sunday
35H 36H("56") : Tuesday, Wednesday, Friday, Sunday
35H 37H("57") : Monday, Tuesday, Wednesday, Friday, Sunday
35H 38H("58") : Thursday, Friday, Sunday
35H 39H("59") : Monday, Thursday, Friday, Sunday
35H 41H("5A") : Tuesday, Thursday, Friday, Sunday
35H 42H("5B") : Monday, Tuesday, Thursday, Friday, Sunday
35H 43H("5C") : Wednesday, Thursday, Friday, Sunday
35H 44H("5D") : Monday, Wednesday, Thursday, Friday, Sunday
```

```
  35H 45H("5E") : Tuesday, Wednesday, Thursday, Friday, Sunday
  35H 4FH("5F") : Monday, Tuesday, Wednesday, Thursday, Friday, Sunday
  36H 30H("60") : Saturday, Sunday
  36H 31H("61") : Monday, Saturday, Sunday
  36H 32H("62") : Tuesday, Saturday, Sunday
  36H 33H("63") : Monday, Tuesday, Saturday, Sunday
  36H 34H("64") : Wednesday, Saturday, Sunday
  36H 35H("65") : Monday, Wednesday, Saturday, Sunday
  36H 36H("66") : Tuesday, Wednesday, Saturday, Sunday
  36H 37H("67") : Monday, Tuesday, Wednesday, Saturday, Sunday
  36H 38H("68") : Thursday, Saturday, Sunday
  36H 39H("69") : Monday, Thursday, Saturday, Sunday
  36H 41H("6A") : Tuesday, Thursday, Saturday, Sunday
  36H 42H("6B") : Monday, Tuesday, Thursday, Saturday, Sunday
  36H 43H("6C") : Wednesday, Thursday, Saturday, Sunday
  36H 44H("6D") : Monday, Wednesday, Thursday, Saturday, Sunday
  36H 45H("6E") : Tuesday, Wednesday, Thursday, Saturday, Sunday
  36H 46H("6F") : Monday, Tuesday, Wednesday, Thursday, Saturday, Sunday
  37H 30H("70") : Friday, Saturday, Sunday
  37H 31H("71") : Monday, Friday, Saturday, Sunday
  37H 32H("72") : Tuesday, Friday, Saturday, Sunday
  37H 33H("73") : Monday, Tuesday, Friday, Saturday, Sunday
  37H 34H("74") : Wednesday, Friday, Saturday, Sunday
  37H 35H("75") : Monday, Wednesday, Friday, Saturday, Sunday
  37H 36H("76") : Tuesday, Wednesday, Friday, Saturday, Sunday
  37H 37H("77") : Monday, Tuesday, Wednesday, Friday, Saturday, Sunday
  37H 38H("78") : Thursday, Friday, Saturday, Sunday
  37H 39H("79") : Monday, Thursday, Friday, Saturday, Sunday
  37H 41H("7A") : Tuesday, Thursday, Friday, Saturday, Sunday
  37H 42H("7B") : Monday, Tuesday, Thursday, Friday, Saturday, Sunday
  37H 43H("7C") : Wednesday, Thursday, Friday, Saturday, Sunday
  37H 44H("7D") : Monday, Wednesday, Thursday, Friday, Saturday, Sunday
  37H 45H("7E") : Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday
  37H 46H("7F") : Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday
(※2)Bit Pattern
  30H 32H("02") : Every week、Disable
  30H 36H("06") : Every week、Enable
  34H 30H("40") : Date、Disable
  34H 34H("44") : Date、Enable
```

CTL-C23E. Schedule Write

【 Function 】

```
This command is used in order to write the setting of the Schedule.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'2'-'4'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 32H 34H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) (D19~20) (D21~22) (D23~24) (D25~26) (D27~28) (D29~30) (D31~32) (D33~34) 03H
BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C23E"(43H 32H 33H 45H) : Schedule write request command
D05~06              Program No.
                        "00"(30H 30H) : Program No.1 ～
                        "0D"(30H 44H) : Program No.14
D07~08              Schedule event
                        "01"(30H 31H) : Power ON
                        "02"(30H 32H) : Power OFF
                        "03"(30H 33H) : Reserved
D09~10              Time (hour)
                        "00"(30H 30H) : 0 ～
                        "17"(31H 37H) : 23
                        "18"(31H 38H) : None
D11~12              Time (minute)
                        "00"(30H 30H) : 0 ～
                        "3B"(33H 42H) : 59
                        "3C"(33H 43H) : None
D13~14              Input terminal
                        "00"(30H 30H) : No mean (works on last memory)
                        "0D"(30H 44H) : OPTION
                        "0F"(30H 46H) : DisplayPort1
                        "11"(31H 31H) : HDMI1
                        "12"(31H 32H) : HDMI2
                        "88"(38H 38H) : COMPUTE MODULE
                        "89"(38H 39H) : USB-C
D15~16              Week setting(※1)
                        bit 0 : Monday
                        bit 1 : Tuesday
                        bit 2 : Wednesday
                        bit 3 : Thursday
                        bit 4 : Friday
                        bit 5 : Saturday
                        bit 6 : Sunday
D17~18              Schedule type(※2)
                        bit 0 : Not support
                        bit 1 : 0=once/1=Every week
                        bit 2 : 0=Disable/1=Enable
                        bit 3 : Not support
                        bit 4 : Not support
                        bit 5 : Not support
                        bit 6 : 0=once/1=Date
D19~20              Picture mode
                        In this monitor, always ignore this setting.
D21~22              Year
                        "18"(31H 38H) : 2024(18H=24) ～
                        "25"(32H 35H) : 2037(25H=37) or
```

```
                        "26"(32H 36H) : None
                        If TYPE = date, this parameter is needed.
D23~24              Month
                        "00"(30H 30H) : None
                        "01"(30H 31H) : JAN ～
                        "0C"(30H 43H) : DEC or
                        "0D"(30H 44H) : None
                        If TYPE = date, this parameter is needed.
D25~26              Day
                        "00"(30H 30H) : None
                        "01"(30H 31H) : 1 ～
                        "1F"(31H 46H) : 31 or
                        "20"(32H 30H) :                             If TYPE = date, this
parameter is needed.
D27~28              Order
                        Not supported in this monitor.
D29~30              Extension1
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
D31~32              Extension2
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
D33~34              Extension3
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
```

【ACK】

```
[DAT]SOH-'0'-'0'-ID-'B'-'2'-'6'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 32H 36H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) (D19~20) (D21~22) (D23~24) (D25~26) (D27~28) (D29~30) (D31~32) (D33~34)
(D35~36) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C33E"(43H 33H 33H 45H) : Schedule write reply command
D05~06              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D07~08              Program No.
                        "00"(30H 30H) : Program No.1 ～
                        "0D"(30H 44H) : Program No.14
D09~10              Schedule Type
                        "01"(30H 31H) : Power ON
                        "02"(30H 32H) : Power OFF
                        "03"(30H 33H) : Reserved
D11~12              Time (hour)
                        "00"(30H 30H) : 0 ～
                        "17"(31H 37H) : 23
                        "18"(31H 38H) : None
D13~14              Time (minute)
                        "00"(30H 30H) : 0 ～
                        "3B"(33H 42H) : 59
                        "3C"(33H 43H) : None
D15~16              Input terminal
                        "00"(30H 30H) : No mean (works on last memory)
                        "01"(30H 31H) : Not support
                        "02"(30H 32H) : Not support
                        "03"(30H 33H) : Not support
                        "04"(30H 34H) : Not support
                        "05"(30H 35H) : Not support
                        "06"(30H 36H) : Not support
                        "07"(30H 37H) : Not support
                        "08"(30H 38H) : Not support
                        "0A"(30H 41H) : Not support
                        "0B"(30H 42H) : Not support
                        "0C"(30H 43H) : Not support
```

```
                        "0D"(30H 44H) : OPTION
                        "0E"(30H 45H) : Not support
                        "0F"(30H 46H) : DisplayPort1
                        "10"(31H 30H) : Not support
                        "11"(31H 31H) : HDMI1
                        "12"(31H 32H) : HDMI2
                        "80"(38H 30H) : Not support
                        "82"(38H 32H) : Not support
                        "83"(38H 33H) : Not support
                        "84"(38H 34H) : Not support
                        "85"(38H 34H) : Not support
                        "86"(38H 34H) : Not support
                        "87"(38H 37H) : Not support
                        "88"(38H 38H) : COMPUTE MODULE
                        "89"(38H 39H) : USB-C
                        "C0"(43H 00H) : Not support
                        "C1"(43H 01H) : Not support
                        "C2"(43H 02H) : Not support
                        "C3"(43H 03H) : Not support
                        "C4"(43H 04H) : Not support
                        "C5"(43H 05H) : Not support
                        "C6"(43H 06H) : Not support
D17~18              Week setting(※1)
                        bit 0 : Monday
                        bit 1 : Tuesday
                        bit 2 : Wednesday
                        bit 3 : Thursday
                        bit 4 : Friday
                        bit 5 : Saturday
                        bit 6 : Sunday
D19~20              Schedule type(※2)
                        bit 0 : Not support
                        bit 1 : 0=once/1=Every week
                        bit 2 : 0=Disable/1=Enable
                        bit 3 : Not support
                        bit 4 : Not support
                        bit 5 : Not support
                        bit 6 : 0=once/1=Date
D21~22              Picture mode
                        In this monitor, always ignore this setting.
D23~24              Year
                        "18"(31H 38H) : 2024(18H=24) ～
                        "25"(32H 35H) : 2037(25H=37) or
                        "26"(32H 36H) : None
D25~26              Month
                        "00"(30H 30H) : None
                        "01"(30H 31H) : JAN ～
                        "0C"(30H 43H) : DEC or
                        "0D"(30H 44H) : None
D27~28              Day
                        "00"(30H 30H) : None
                        "01"(30H 31H) : 1 ～
                        "1F"(31H 46H) : 31 or
                        "20"(32H 30H) : None
D29~30              Order
                        In this monitor, always ignore this setting.
D31~32              Extension1
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
D33~34              Extension2
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
D35~36              Extension3
                        "00"(30H 30H)      : (On this monitor, it is always ‘00’)
```

【 Note 】

Self diagnosis

CTL-B1. Self-diagnosis status read

【 Function 】

```
This command is used in order to read the Self-diagnosis status.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'4'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 34H 02H (D01~02) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~02              Message
                        "B1"(42H 31H) : Self-diagnosis command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'N'-'N'-STX "Data           " 03H BCC 0DH
[HEX]01H 30H 30H ID 42H LEN LEN 02H (D01~02) (D03~XX) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~02              Message
                        "A1"(41H 31H) : Application Test Report reply command
D03~XX              Result of self-tests(XX Max=34)
                        "00"(30H 30H) : Normal
                        "70"(37H 30H) : Main-power +3.3V abnormality
                        "71"(37H 31H) : Main-power +5V abnormality
                        "78"(37H 38H) : Audio-power/Converter-power +24V abnormality
                        "7A"(37H 41H) : USB-C OVP abnormality
                        "7B"(37H 42H) : USB-C OCP abnormality
                        "80"(38H 30H) : Cooling fan-1 abnormality
                        "81"(38H 31H) : Cooling fan-2 abnormality
                        "82"(38H 32H) : Cooling fan-3 abnormality
                        "90"(39H 30H) : LED Backlight abnormality (CON ERR1)*short open
detection
                        "A0"(41H 30H) : Temperature abnormality shutdown
                        "A1"(41H 31H) : Temperature abnormality half brightness
                        "B0"(42H 30H) : NO SIGNAL
                        "D0"(44H 30H) : Error log buffer reduction
                        "D1"(44H 31H) : RTC abnormality
                        "E4"(45H 34H) : CPLD abnormality
                        "ED"(45H 44H) : L2SW abnormality
                        "EE"(45H 45H) : FAN CTL abnormality
                        "EF"(45H 46H) : AUDIO AMP abnormality
```

【 Note 】

Serial No. & Model Name Read

CTL-C216. Serial No. Read

【 Function 】

```
This command is used in order to read a serial number.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'6'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C216"(43H 32H 31H 36H) : Serial No. command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'- N - N -STX "Data           " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H LEN LEN 02H (D01~04) (D05~XX) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C316"(43H 33H 31H 36H) : Serial No. reply command
D05~XX              Serial Number(XX Max=30)
                        * The byte data 20H is encoded as ASCII characters '2' and '0' (32H and
30H).
                          Ex.) For example when receiving Serial Number data
                               33H 31H 33H 32H 33H 33H 33H 34H
                               Step1: Serial Number data is encoded as character string.
                                      Example:
                                      33H 31H 33H 32H 33H 33H 33H 34H
                                   -> '3','1','3','2','3','3','3','4'
                               Step2: Decode pairs of ASCII characters to hexadecimal values.
                                      Example:
                                      '3','1','3','2','3','3','3','4'
                                   ->   31H  ,  32H  ,  33H  ,  34H
                               Step3: Byte data represents the ASCII string data.
                                      Example:
                                      31H 32H 33H 34H
                                   -> "1234"
                               Result: Serial Number is "1234".
                               Note: No null termination character is sent.
```

【 Note 】

CTL-C217. Model Name Read

【 Function 】

```
This command is used in order to read the Model Name.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'6'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C217"(43H 32H 31H 37H) : Model Name command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'- N - N -STX "Data           " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H LEN LEN 02H (D01~04) (D05~XX) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C317"(43H 33H 31H 37H) : Model Name reply Command
D05~XX              Model name(XX Max=36)
                        * The byte data 20H is encoded as
                          ASCII characters '2' and '0' (32H and 30H).
                          Ex.) For example when receiving Model Name data
                               35H 30H 33H 34H 33H 30H 33H 33H
                               Step1: Model Name data is encoded character string.
                                      Example:
                                      35H 30H 33H 34H 33H 30H 33H 33H
                                   -> '5','0','3','4','3','0','3','3'
                               Step2: Decode pairs of ASCII characters to hexadecimal values.
                                      Example:
                                      '5','0','3','4','3','0','3','3'
                                   ->   50H  ,  34H  ,  30H  ,  33H
                               Step3: Byte data represents the ASCII string data.
                                      Example:
                                      50H 34H 30H 33H
                                   -> "P403"
                               Result: Model Name is "P403".
                               Note: No null termination character is sent.
```

【 Note 】

Security Lock

CTL-C21D. Security Lock Control

【 Function 】

```
This command sets the condition of security lock function to "LOCK" or "UNLOCK".

If security pass codes 1st to 4th are matched with monitor resisted pass codes, then this
command is executed, and reply no error status and a new condition.
If codes aren't matched with them then setting isn't changed, and reply error status and a
current condition.
If the monitor receives this command while waiting for Pass codes inputs, then it only checks
Pass cords (and releases image muting if Pass codes are OK) and doesn't apply "Enable /Disable"
parameter.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'1'-'0'-STX "Data                                        " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 30H 02H (D01~04) (D05~06) (D07~08) (D09~12) (D13~14) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C21D"(43H 32H 31H 44H) : Security Lock Control command
D05~06              Enable /Disable
                        "00"(30H 30H) : Disable
                        "01"(30H 31H) : START-UP LOCK (Enable)
                        "02"(30H 32H) : CONTROL LOCK
                        "03"(30H 33H) : BOTH LOCK
D07~08              Security Pass code 1
                        "00"(30H 30H) : 0 ～
                        "09"(30H 39H) : 9
D09~10              Security Pass code 2
                        "00"(30H 30H) : 0 ～
                        "09"(30H 39H) : 9
D11~12              Security Pass code 3
                        "00"(30H 30H) : 0 ～
                        "09"(30H 39H) : 9
D13~14              Security Pass code 4
                        "00"(30H 30H) : 0 ～
                        "09"(30H 39H) : 9
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C31D"(43H 33H 31H 44H) : Security Lock Control reply command
D05~06              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D07~08              Enable /Disable (Current condition)
                        "00"(30H 30H) : Disable
                        "01"(30H 31H) : START-UP LOCK (Enable)
```

```
                          "02"(30H 32H) : CONTROL LOCK
                          "03"(30H 33H) : BOTH LOCK
```

【 Note 】

MAC Address Read Request & Reply

CTL-C220. MAC Address Read Request

【 Function 】

```
This command is used in order to read the MAC Address.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 30H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C220"(43H 32H 32H 40H) : MAC Address Read Request command
D05~06              Select device
                        "00"(30H 30H) :fixed
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'- N - N -STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H LEN LEN 02H (D01~04) (D05~06) (D07~XX) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "C320"(43H 33H 32H 30H) : MAC Address Read Request reply command
D05~06              Select device
                        "00"(30H 30H) :fixed
D07~XX              MAC Address(Max=12)
```

【 Note 】

Daylight Saving Command

CTL-CA01-00. Daylight Saving Read Request

【 Function 】

```
This command is used in order to read Daylight Saving Setting.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA01"(43H 41H 30H 31H) : Daylight Saving Command
D05~06              Index
                        "00"(30H 30H) : Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'2'-'0'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 32H 30H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) (D19~20) (D21~22) (D23~24) (D25~26) (D27~28) (D29~30) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB01"(43H 42H 30H 31H) : Daylight Saving reply command
D05~06              Index
                        "00"(30H 30H) : Read
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              BEGIN MONTH
                        "01"(30H 31H) : JANUARY ~
                        "12"(31H 32H) : DECEMBER
D11~12              BEGIN DAY1
                        "01"(30H 31H) : FIRST
                        "02"(30H 32H) : SECOND
                        "03"(30H 33H) : THIRD
                        "04"(30H 34H) : FOUR
                        "05"(30H 35H) : LAST
D13~14              BEGIN DAY2 (Day of the week)
                        "01"(30H 31H) : SUNDAY
                        "02"(30H 32H) : MONDAY
                        "03"(30H 33H) : TUESDAY
                        "04"(30H 34H) : WEDNESDAY
                        "05"(30H 35H) : THURSDAY
                        "06"(30H 36H) : FRIDAY
                        "07"(30H 37H) : SATURDAY
D15~16              BEGIN TIME1 (Hour)
                        "00"(30H 30H) ~
                        "23"(32H 33H)
D17~18              BEGIN TIME2 (Minute)
                        "00"(30H 30H) ~
```

```
                        "59"(35H 39H)
D19~20              END MONTH
                        "01"(30H 31H) : JANUARY ～
                        "12"(31H 32H) : DECEMBER
D21~22              END DAY1
                        "01"(30H 31H) : FIRST
                        "02"(30H 32H) : SECOND
                        "03"(30H 33H) : THIRD
                        "04"(30H 34H) : FOUR
                        "05"(30H 35H) : LAST
D23~24              END DAY2 (Day of the week)
                        "01"(30H 31H) : SUNDAY
                        "02"(30H 32H) : MONDAY
                        "03"(30H 33H) : TUESDAY
                        "04"(30H 34H) : WEDNESDAY
                        "05"(30H 35H) : THURSDAY
                        "06"(30H 36H) : FRIDAY
                        "07"(30H 37H) : SATURDAY
D25~26              END TIME1 (Hour)
                        "00"(30H 30H) ～
                        "23"(32H 33H)
D27~28              END TIME2 (Minute)
                        "00"(30H 30H) ～
                        "59"(35H 39H)
D29~30              TIME DIFFERENCE
                        "00"(30H 30H) : +01:00
                        "01"(30H 31H) : +00:30
                        "02"(30H 32H) : -00:30
                        "03"(30H 33H) : -01:00
```

【 Note 】

CTL-CA01-01. Daylight Saving Write Request

【 Function 】

```
This command is used in order to write Daylight Saving Setting.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'1'-'E'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 45H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) (D19~20) (D21~22) (D23~24) (D25~26) (D27~28) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA01"(43H 41H 30H 31H) : Daylight Saving Setting Command
D05~06              Index
                        "01"(30H 31H) : Write
D07~08              BEGIN MONTH
                        "01"(30H 31H) : JANUARY ~
                        "12"(31H 32H) : DECEMBER
D09~10              BEGIN DAY1
                        "01"(30H 31H) : FIRST
                        "02"(30H 32H) : SECOND
                        "03"(30H 33H) : THIRD
                        "04"(30H 34H) : FOUR
                        "05"(30H 35H) : LAST
D11~12              BEGIN DAY2 (Day of the week)
                        "01"(30H 31H) : SUNDAY
                        "02"(30H 32H) : MONDAY
                        "03"(30H 33H) : TUESDAY
                        "04"(30H 34H) : WEDNESDAY
                        "05"(30H 35H) : THURSDAY
                        "06"(30H 36H) : FRIDAY
                        "07"(30H 37H) : SATURDAY
D13~14              BEGIN TIME1 (Hour)
                        "00"(30H 30H) ~
                        "23"(32H 33H)
D15~16              BEGIN TIME2 (Minute)
                        "00"(30H 30H) ~
                        "59"(35H 39H)
D17~18              END MONTH
                        "01"(30H 31H) : JANUARY ~
                        "12"(31H 32H) : DECEMBER
D19~20              END DAY1
                        "01"(30H 31H) : FIRST
                        "02"(30H 32H) : SECOND
                        "03"(30H 33H) : THIRD
                        "04"(30H 34H) : FOUR
                        "05"(30H 35H) : LAST
D21~22              END DAY2 (Day of the week)
                        "01"(30H 31H) : SUNDAY
                        "02"(30H 32H) : MONDAY
                        "03"(30H 33H) : TUESDAY
                        "04"(30H 34H) : WEDNESDAY
                        "05"(30H 35H) : THURSDAY
                        "06"(30H 36H) : FRIDAY
                        "07"(30H 37H) : SATURDAY
D23~24              END TIME1 (Hour)
                        "00"(30H 30H) ~
                        "23"(32H 33H)
```

```
D25~26              END TIME2 (Minute)
                        "00"(30H 30H) ～
                        "59"(35H 39H)
D27~28              TIME DIFFERENCE
                        "00"(30H 30H) : +01:00
                        "01"(30H 31H) : +00:30
                        "02"(30H 32H) : -00:30
                        "03"(30H 33H) : -01:00
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB01"(43H 42H 30H 31H) : Daylight Saving Setting reply command
D05~06              Index
                        "01"(30H 31H) : Write
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA01-02. Daylight Saving ON/OFF Read

【 Function 】

```
This command is used in order to read Daylight Saving ON/OFF Setting.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA01"(43H 41H 30H 31H) : Daylight Saving Command
D05~06              Index
                        "02"(30H 32H) : ON/OFF Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'C'-STX "Data                              " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 43H 02H (D01~04) (D05~06) (D07~08) (D09~10) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB01"(43H 42H 30H 31H) : Daylight Saving reply command
D05~06              Index
                        "02"(30H 32H) : ON/OFF Read
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              Daylight Saving Value
                        "00"(30H 30H) : OFF
                        "01"(30H 31H) : ON
```

【 Note 】

CTL-CA01-03. Daylight Saving ON/OFF Write

【 Function 】

```
This command is used in order to write Daylight Saving ON/OFF Setting.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA01"(43H 41H 30H 31H) : Daylight Saving Setting Command
D05~06              Index
                        "03"(30H 33H) : ON/OFF Write
D07~08              Daylight Saving Value
                        "00"(30H 30H) : OFF
                        "01"(30H 31H) : ON
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB01"(43H 42H 30H 31H) : Daylight Saving Setting reply command
D05~06              Index
                        "03"(30H 33H) : ON/OFF Write
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

Firmware Version Command

CTL-CA02. Firmware Version Read Request

【 Function 】

```
This command is used in order to read Firmware Version.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA02"(43H 41H 30H 32H) : Firmware Version Read Command
D05~06              Firmware Type
                        "00"(30H 30H) : F/W Revision
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'2'-STX "Data                                " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 32H 02H (D01~04) (D05~06) (D07~08) (D09~16) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB02"(43H 42H 30H 31H) : Firmware Version Read reply command
D05~06              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D07~08              Firmware Type
                        "00"(30H 30H) : Firmware revision
D09~16              Firmware Version String
                        D09      : R
                        D10      : Major Version
                                        "0"(30H) ~ "9"(39H)
                        D11      : Period
                                        2EH (fixed)
                        D12      : Minor (Basic) Version1
                                        "0"(30H) ~ "9"(39H)
                        D13      : Minor (Basic) Version2
                                        "0"(30H) ~ "9"(39H)
                        D14      : Minor (Basic) Version3
                                        "0"(30H) ~ "9"(39H)
                        D15      : Branch Version1
                                        "A"(41H) ~ "Z"(5AH)
                        D16      : Branch Version2
                                        "A"(41H) ~ "Z"(5AH)
```

【 Note 】

```
The version information section is an ASCII character string.
```

Input Name

CTL-CA04-00. Input Name Read Request

【 Function 】

```
This command is used in order to read Input Name.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA04"(43H 41H 30H 34H) : Input Name Command
D05~06              Index
                        "00"(30H 30H) : Input Name Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'- N - N -STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H LEN LEN 02H (D01~04) (D05~06) (D07~XX) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB04"(43H 42H 30H 34H) : Input Name reply command
D05~06              Index
                        "00"(30H 30H) : Input Name Read
D07~XX              Input Name
                        XX = Max 34
                        Max length of actual Input Name 14 characters
                        Ex.)The byte data 20H is encoded as ASCII characters '2' and '0' (32H
and 30H).
                            For example when receiving Data(n) of 35H 36H 34H 37H 34H 31H
                            Step1: Input Name data is encoded as character code.
                                   Example:
                                   35H 36H 34H 37H 34H 31H -> '5'-'6'-'4'-'7'-'4'-'1'
                            Step2: Decode pairs of ASCII characters to hexadecimal values.
                                   Example:
                                   '5'-'6'-'4'-'7'-'4'-'1' -> 56H 47H 41H
                            Step3: Byte data represents the ASCII string data.
                                   Example:
                                   56H 47H 41H -> “VGA”
                            Result: Input Name is “VGA”.
                            Note: No null termination character is sent.
```

【 Note 】

CTL-CA04-01. Input Name Write Request

【 Function 】

```
This command is used in order to write Input Name.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'- N - N -STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H LEN LEN 02H (D01~04) (D05~06) (D07~XX) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA04"(43H 41H 30H 34H) : Input Name command
D05~06              Index
                        "01"(30H 31H) : Input Name Write
D07~XX              Input Name
                        XX = Max 34
                        Max length of actual Input Name 14 characters
                        Ex.)The byte data 20H is encoded as ASCII characters '2' and '0' (32H
and 30H).
                            In the case of Input Name "VGA"
                            Step1: Input Name data is handled as character code.
                                   Example:
                                   "VGA" -> 56H 47H 41H (ASCII)
                            Step2: The hexadecimal value of each original character is encoded
as two ASCII
                                   characters representing the value.
                                   Example:
                                   56H 47H 41H -> '5'-'6'-'4'-'7'-'4'-'1'
                            Result: The following data is assigned to Data(n).
                                   35H 36H 34H 37H 34H 31H
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB04"(43H 42H 30H 34H) : Input Name reply command
D05~06              Index
                        "01"(30H 31H) : Input Name Write
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA04-02. Input Name Reset Request

【 Function 】

```
This command is used in order to reset Input Name.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA04"(43H 41H 30H 34H) : Input Name command
D05~06              Index
                        "02"(30H 32H) : Input Name Reset
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                   " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB04"(43H 42H 30H 34H) : Input Name reply command
D05~06              Index
                        "02"(30H 32H) : Input Name Reset
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

Proof of Play

CTL-CA15-00. Set Proof of Play Operation Mode

【 Function 】

```
This command is used in order to set operation mode of "Proof of Play".
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA15"(43H 41H 31H 35H) : Proof of Play command
D05~06              Index
                        "00"(30H 30H) : Set Proof of Play Operation mode command
D07~08              Mode of Proof of Play.
                        "00"(30H 30H) : Stop
                        "01"(30H 31H) : Start
                        "02"(30H 32H) : Clear Log data
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB15"(43H 42H 31H 35H) : Proof of Play reply command
D05~06              Index
                        "00"(30H 30H) : Set Proof of Play Operation Mode command
D07~08              Status
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
                        "02"(30H 32H) : Already Start/Stop/Clear
```

【 Note 】

CTL-CA15-01. Get Proof of Play Current

【 Function 】

```
This command is used in order to get current log data of "Proof of Play".

Note：Proof of Play information cannot be read from the display when it is in either DC Off or
PMS states.
      The display must be fully powered on to read Proof Of Play information.
      Also the display does not continue to create any new logs while it is in DC Off or PMS
states.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA15"(43H 41H 31H 35H) : Proof of Play command
D05~06              Index
                        "01"(30H 31H) : Get Current log of Proof of Play command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'3'-'4'-STX "Data                                          " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 33H 34H 02H (D01~04) (D05~06) (D07~08) (D09~12) (D13~50) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB15"(43H 42H 31H 35H) : Proof of Play reply command
D05~06              Index
                        "01"(30H 31H) : Get Current log of Proof of Play command
D07~08              Status
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              Current log data Number (High byte)(Low byte)
                        "0001"(30H 30H 30H 31H) : 1 ～
                        "FFFF"(46H 46H 46H 46H) : 65535
D13~50              Data of Proof of Play
```

【 Note 】

```
Log Data of Proof of Play : D13~50
D13~14: Check INPUT PITURE
  Same as VCP-00-60. Input Source Select reply parameter.
  Refer to VCP-00-60. Input Source Select
D15~22 : Check Input Signal
  "00000000"(30H 30H 30H 30H 30H 30H 30H 30H):No signal
  "FFFFFFFF"(46H 46H 46H 46H 46H 46H 46H 46H):Invalid signal
  "********"(**H **H **H **H **H **H **H **H):Input signal
  Ex ) 1920 x 1080
       "07800438" : 1920(0768H) x 1080(0438H)
D23~24 : Check INPUT AUDIO
  Same as VCP-02-2E. Select Sound Input reply parameter.
  Refer to VCP-02-2E. Select Sound Input
```

```
D25~26 : Check with or without  Audio
  "00"(30H 30H) : Audio in
  "01"(30H 31H) : No Audio in
  "02"(30H 32H) : N/A
D27~28 : Check status (Picture)
  "00"(30H 30H) : Normal Picture
  "01"(30H 31H) : No Picture
D29~30 : Check status (Audio)
  "00"(30H 30H) : Normal Audio
  "01"(30H 31H) : No Audio
D31~34 : Year
  "****"(**H **H **H **H) : 0～65535(0000h～FFFFH)
  Ex ) 2014
       "07DE" : 2014(07DEH)
D35~36 : month
  "01"(30H 31H) : January
  "02"(30H 32H) : February
   |
  "0B"(30H 42H) : November
  "0C"(30H 43H) : December
D37~38 : day
  "**"(**H **H) : 1～31(01H～1FH)
D39~40 : hour
  "**"(**H **H) : 0～23(00H～17H)
D41~42 : min
  "**"(**H **H) : 0～59(00H～3BH)
D43~44 : sec
  "**"(**H **H) : 0～59(00H～3BH)
D45~46 : Extension parameter
  "00"(30H 30H) : Normal Proof of Play event
  "01"(30H 31H) : Proof of Play event is “last power on time” *1)
  "02"(30H 32H) : Power On
  "03"(30H 33H) : Power Off
  "04"(30H 34H) – "0F"(30H 46H) : Reserved
  "10"(31H 30H) : MEDIA PLAYER is stop
  "11"(31H 31H) : MEDIA PLAYER is start
  "12"(31H 32H) : MEDIA PLAYER is pause
  "13"(31H 33H) : MEDIA PLAYER error occur
  "14"(31H 34H) – "1F"(31H 46H) : Reserved
  "20"(32H 30H) : Contents Copy from USB
  "21"(32H 31H) : Contents Copy form network folder
  "22"(32H 32H) – "2F"(32H 46H) : Reserved
  "30"(33H 30H) : Contents Copy Success
  "31"(33H 31H) : Contents Copy Error (No media)
  "32"(33H 32H) : Contents Copy Error (Connect error)
  "33"(33H 33H) : Contents Copy Error (Out of disk space)
  "34"(33H 34H) : Contents Copy Error (Read/Write error)
  "35"(32H 35H) – 3Fh(33H 46H) : Reserved
  "40"(34H 30H) : Human detected (Human sensor Status) *2)
  "41"(34H 31H) : Human detect cleared (Human Sensor Status) *2)
  "42"(34H 32H) – "4F"(34H 46H) : Reserved
  *1: Save the time in EEPROM every 15 minutes a period of Power ON.
      Moreover after Power ON, the first log is "Data16=01h".
  *2: Save the Human Sensor status every 30 seconds.
D47~50 : Reserve(future use : always "0000")
```

CTL-CA15-02. Get Proof of Play Status

【 Function 】

```
This command is used in order to get status of "Proof of Play".
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA15"(43H 41H 31H 35H) : Proof of Play command
D05~06              Index
                        "02"(30H 32H) : Get Proof of Play Status command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'4'-STX "Data                                                  " ETX
BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 34H 02H (D01~04) (D05~06) (D07~08) (D09~12) (D13~16) (D17~18) 03H
BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB15"(43H 42H 31H 35H) : Proof of Play reply command
D05~06              Index
                        "02"(30H 32H) : Get Proof of Play Status command
D07~08              Error status
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Memory full (some date has been lost)
                        "02"(30H 32H) : other error (other error has priority ver 01H error)
D09~12              Total Number-High byte-Low byte (How many log data items are currently
used.)
                       "0001"(30H 30H 30H 31H) : 1 ～
                        "FFFF"(46H 46H 46H 46H) : 65535
D13~16              Maximum Number-High byte-Low byte (Maximum possible number of log data
items)
                        "0001"(30H 30H 30H 31H) : 1 ～
                        "FFFF"(46H 46H 46H 46H) : 65535
D17~18              Current Proof of Play status.
                        "00"(30H 30H) : Stop
                        "01"(30H 31H) : Start
```

【 Note 】

CTL-CA15-03. Get Proof of Play Number to Number

【 Function 】

```
This command is used in order to get Number to Number Log Data of "Proof of Play ".
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'1'-'0'-STX "Data                                " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 30H 02H (D01~04) (D05~06) (D07~10) (D11~14) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA15"(43H 41H 31H 35H) : Proof of Play command
D05~06              Index
                        "03"(30H 33H) : Get Proof of Play Number to Number log command
D07~10              Block Number of Start (High byte)(Low byte):BNS(H)(L)
D11~14              Block Number of Stop (High byte)(Low byte) :BNE(H)
                        Max of Total Number of “Proof of Play Log Data” is 100.
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'3'-'4'-STX "Data                                          " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 33H 34H 02H (D01~04) (D05~06) (D07~08) (D09~12) (D13~50) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB15"(43H 42H 31H 35H) : Proof of Play reply command
D05~06              Index
                        "03"(30H 33H) : Get Proof of Play Number to Number log command
D07~08              Status
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~12              log number being returned (High byte)(Low byte)
D13~50              Log Data of Proof of Play of STOP
                       Refer to CTL-CA15-01. Get Proof of Play Current
```

【 Note 】

```
A reply returns 19 data in order from specified Number to specified Number.
  Ex) Number to Number：1 to 6

  +----+                          +---------+
  | PC |                          | Monitor |
  +----+                          +---------+
     | Request Number to Number (1 - 6) | [SOH–STX-BNS-BNE-ETX-BCC-CR]
     | ================================> |
     |                                  |
     | Reply Log Data 19byte (Number 1) | SOH–STX-#1-"Data"-ETX-BCC-CR]
     | <================================ |
     |                                  |
     | Reply Log Data 19byte (Number 2) | SOH–STX-#2-"Data"-ETX-BCC-CR]
     | <================================ |
     |                                  |
     | Reply Log Data 19byte (Number 3) | SOH–STX-#3-"Data"-ETX-BCC-CR]
     | <================================ |
```

```
      |                                  |
      | Reply Log Data 19byte (Number 4) | SOH–STX-#4-"Data"-ETX-BCC-CR]
      | <=============================== |
      |                                  |
      | Reply Log Data 19byte (Number 5) | SOH–STX-#5-"Data"-ETX-BCC-CR]
      | <=============================== |
      |                                  |
      | Reply Log Data 19byte (Number 6) | SOH–STX-#6-"Data"-ETX-BCC-CR]
      | <=============================== |

Even if Mode of Proof of Play is Start, memory function is not performed on DC OFF/PMS.
But this time, Log data can get by “Get Proof of Play Number to Number”.
```

Power Save Mode Command

CTL-CA0B-00. Power Save Mode Read Request

【 Function 】

```
This command is used in order to read Power Save Mode.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0B"(43H 41H 30H 42H) : Power Save Mode command
D05~06              Index
                        "00"(30H 30H) : Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0B"(43H 42H 30H 42H) : Power Save Mode reply command
D05~06              Index
                        "00"(30H 30H) : Read
D07~08              POWER SAVE MODE
                        "00"(30H 30H) : AUTO POWER SAVE
                        "02"(30H 32H) : DISABLE
```

【 Note 】

CTL-CA0B-01. Power Save Mode Write Request

【 Function 】

```
This command is used in order to write Power Save Mode.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA0B"(43H 41H 30H 42H) : Power Save Mode command
D05~06              Index
                        "01"(30H 31H) : Write
D07~08              POWER SAVE MODE
                        "00"(30H 30H) : AUTO POWER SAVE
                        "02"(30H 32H) : DISABLE
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB0B"(43H 42H 30H 42H) : Power Save Mode reply command
D05~06              Index
                        "01"(30H 31H){01H] : Write
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA0B-02. Auto Power Save Time Read Request

【 Function 】

```
This command is used in order to read Auto Power Save Time.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0B"(43H 41H 30H 42H) : Power Save Mode command
D05~06              Index
                        "02"(30H 32H) : Auto Power Save Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0B"(43H 42H 30H 42H) : Power Save Mode reply command
D05~06              Index
                        "02"(30H 32H) : Auto Power Save Time Read
D07~08              AUTO POWER SAVE TIME (sec.)
                        "01"(30H 31H) : 1(5sec) -
                        "78"(37H 38H) : 120(600sec)
```

【 Note 】

CTL-CA0B-03. Auto Power Save Time Write Request

【 Function 】

```
This command is used in order to write Auto Power Save Time.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA0B"(43H 41H 30H 42H) : Power Save Mode command
D05~06              Index
                        "03"(30H 33H) : Auto Power Save Time Write
D07~08              AUTO POWER SAVE TIME (sec.)
                        "01"(30H 31H) : 1(5sec) -
                        "78"(37H 38H) : 120(600sec)
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB0B"(43H 42H 30H 42H) : Power Save Mode reply command
D05~06              Index
                        "03"(30H 33H) : Auto Power Save Time Write
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA0C-02. PD Security Enable Read

【 Function 】

```
This command is used in order to read security setting.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0C"(43H 41H 30H 43H) : Security password command
D05~06              Index
                        "02"(30H 32H) : Enable Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0C"(43H 42H 30H 43H) : Get Security Enable Disable reply
D05~06              Index
                        "02"(30H 32H) : Enable Read
D07~08              Status
                        "00"(30H 30H) : Disable
                        "01"(30H 31H) : START-UP LOCK(Enable)
                        "02"(30H 32H) : CONTROL LOCK
                        "03"(30H 33H) : BOTH LOCK
```

【 Note 】

Shipment Flag Command

CTL-CA0D-00. Shipment Flag Read Request

【 Function 】

```
This command is used in order to read Shipment Flag.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0D"(43H 41H 30H 44H) : Shipment Flag command
D05~06              Index
                        "00"(30H 30H) : Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'C'-STX "Data                                " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 43H 02H (D01~04) (D05~06) (D07~08) (D09~10) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0D"(43H 42H 30H 44H) : Shipment Flag reply command
D05~06              Index
                        "00"(30H 30H) : Read
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              Shipment Flag
                        "00"(30H 30H) : W model (World Wide)
                        "01"(30H 31H) : A model (USA)
                        "02"(30H 32H) : B model (Europe)
                        "03"(30H 33H) : C model (China)
                        "04"(30H 34H) : J model (Japan)
                        "05"(30H 35H) : T model (Taiwan)
                        "06"(30H 36H) : I model (India)
```

【 Note 】

Schedule Expansion Command

CTL-CA0E-00. Schedule Enable Read Request

【 Function 】

```
This command is used in order to read schedule enable.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0E"(43H 41H 30H 45H) : Schedule Enable Read Request command
D05~06              Index
                        "00"(30H 30H) : Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'C'-STX "Data                              " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 43H 02H (D01~04) (D05~06) (D07~08) (D09~10) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0E"(43H 42H 30H 45H) : Schedule Enable Read reply command
D05~06              Index
                        "00"(30H 30H) : Read
D07~08              EN1: Enable/Disable Flag (Bit assign)
                        0: Disable
                        1: Enable
                        Bit 0 - Bit 7: Schedule 1 - 8
D09~10              EN2: Enable/Disable Flag (Bit assign)
                        0: Disable
                        1: Enable
                        Bit 0 - Bit 7: Schedule 9 - 16
```

【 Note 】

Terminal List Command

CTL-CA0F-00. Get Terminal List

【 Function 】

```
This command is used in order to read Terminal List.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0F"(43H 41H 30H 46H) : Get Terminal List command
D05~06              Index
                        "00"(30H 30H) : Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'- N - N -STX "Data                                          " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H LEN LEN 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~XX) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0F"(43H 42H 30H 46H) : Get Terminal List reply command
D05~06              Index
                        "00"(30H 30H) : Read
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H){01H] : Error
D09~10              Number of Terminal
                        "01"(30H 31H) ～
                        "1D"(31H 44H)
D11~XX              TERMINAL List
                        "0D"(30H 44H) : Option
                        "0F"(30H 46H) : DisplayPort
                        "11"(31H 31H) : HDMI1
                        "12"(31H 32H) : HDMI2
                        "88"(38H 38H) : COMPUTE MODULE
                        "89"(38H 39H) : USB-C
```

【 Note 】

F/W Revision Read/Write

CTL-C03F. F/W Revision Read Request

【 Function 】

```
This command is used in order to read the firmware revision.
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'6'-STX "Data  " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C03F"(43H 30H 33H 46H) : F/W Revision Read command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'6'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 36H 02H (D01~04) (D05~20) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "C13F"(43H 31H 33H 46H) : F/W Revision Read reply command
D05~20              F/W Revision
```

【 Note 】

Auto Tile Matrix

CTL-CA03-01. Auto Tile Matrix Execution Request

【 Function 】

```
Auto Tile Matrix Execution Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'1'-'4'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 34H 02H (D01~04) (D05~06) (D07~18) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA03"(43H 41H 30H 33H) : Auto Tile Matrix
D05~06              Index
                        "01"(30H 31H) : Execution
D07~08              Horizontal Monitors
                        "01"(30H 31H) ~ "10"(31H 30H)
D09~10              Vertical Monitors
                        "01"(30H 31H) ~ "10"(31H 30H)
D11~12              Pattern ID
                        "01"(30H 31H)
D13~14              Input Select
                        "0D"(30H 44H) : OPTION
                        "0F"(30H 46H) : DisplayPort
                        "11"(31H 31H) : HDMI1
                        "12"(31H 32H) : HDMI2
                        "88"(38H 38H) : COMPUTE MODULE
                        "89"(38H 39H) : USB-C
D15~16              Tile Matrix Mem
                        "00"(30H 30H) : COMMON
                        "01"(30H 31H) : INPUT
D17~18              DisplayPort Mode
                        "00"(30H 30H) : No mean
                        Set when the current terminal of Master PD is other than DisplayPort
                        "01"(30H 31H) : 1.1a
                        "02"(30H 32H) : 1.2
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB03"(43H 42H 30H 33H) : Auto Tile Matrix reply
D05~06              Index
                        "01"(30H 31H) : Execution
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA03-02. Auto Tile Matrix Complete Notify

【 Function 】

```
Auto Tile Matrix Complete Notify
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA03"(43H 41H 30H 33H) : Auto Tile Matrix command
D05~06              Index
                        "02"(30H 32H) : Notify
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB03"(43H 42H 30H 33H) : Auto Tile Matrix reply
D05~06              Index
                        "02"(30H 32H) : Notify
D07~08              Result code
                        "00"(30H 30H) : No Error
```

【 Note 】

CTL-CA03-03. Auto Tile Matrix Reset Request

【 Function 】

```
Auto Tile Matrix Reset Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA03"(43H 41H 30H 33H) : Auto Tile Matrix command
D05~06              Index
                        "03"(30H 33H) : Off
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB03"(43H 42H 30H 33H) : Auto Tile Matrix reply command
D05~06              Index
                        "03"(30H 33H) : Off
D07~08              Result code
                        "00"(30H 30H) : No Error
```

【 Note 】

CTL-CA03-04. Auto Tile Matrix Monitors Read Request

【 Function 】

```
Auto Tile Matrix Monitors Read Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA03"(43H 41H 30H 33H) : Auto Tile Matrix command
D05~06              Index
                        "04"(30H 34H) : Monitors Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'E'-STX "Data                                          " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 45H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB03"(43H 42H 30H 33H) : Auto Tile Matrix reply command
D05~06              Index
                        "04"(30H 34H) : Monitors Read
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              H Monitors
                        "00"(30H 30H) ~ "0A"(30H 41H)
D11~12              V Monitors
                        "00"(30H 30H) ~ "0A"(30H 41H)
```

【 Note 】

CTL-CA03-05. Auto Tile Matrix Monitors Write Request

【 Function 】

```
Auto Tile Matrix Monitors Write Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'C'-STX "Data                              " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 43H 02H (D01~04) (D05~06) (D07~08) (D09~10) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA03"(43H 41H 30H 33H) : Auto Tile Matrix command
D05~06              Index
                        "05"(30H 35H) : Monitors Write
D07~08              H Monitors
                        "00"(30H 30H) ~ "0A"(30H 41H)
D09~10              V Monitors
                        "00"(30H 30H) ~ "0A"(30H 41H)
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB03"(43H 42H 30H 33H) : Auto Tile Matrix reply command
D05~06              Index
                        "05"(30H 35H) : Monitors Write
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

Lock Settings

CTL-CA32. Lock Settings Read Request

【 Function 】

```
Lock Settings Read Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'6'-STX "Data   " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 36H 02H (D01~04)  03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA32"(43H 41H 33H 32H) : Lock Settings Read Request command
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'4'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 34H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB32"(43H 42H 33H 32H) : Lock Settings Read Request reply command
D05~06              Select
                        "00"(30H 30H) : Key
                        "01"(30H 31H) : IR
                        "02"(30H 32H) : Key & IR
D07~08              Mode
                        "00"(30H 30H) : UNLOCK
                        "01"(30H 31H) : CUSTOM LOCK
                        "02"(30H 32H) : ALL LOCK
D09~10              Power
                        "00"(30H 30H) : UNLOCK
                        "01"(30H 31H) : LOCK
D11~12              Volume
                        "00"(30H 30H) : UNLOCK
                        "01"(30H 31H) : LOCK
D13~14              Min Vol
                        "00"(30H 30H) ~ "64"(36H 34H) : Min Vol 0~00
D15~16              Max Vol
                        "00"(30H 30H) ~ "64"(36H 34H) : Max Vol 0~00
D17~18              Input
                        "00"(30H 30H) : UNLOCK
                        "01"(30H 31H) : LOCK
```

【 Note 】

CTL-CA33. Lock Settings Write Request

【 Function 】

```
Lock Settings Write Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'1'-'4'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 34H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA33"(43H 41H 33H 33H) : Lock Settings Write Request command
D05~06              Select
                        "00"(30H 30H) : Key
                        "01"(30H 31H) : IR
                        "02"(30H 32H) : Key & IR
D07~08              Mode
                        "00"(30H 30H) : UNLOCK
                        "01"(30H 31H) : CUSTOM LOCK
                        "02"(30H 32H) : ALL LOCK
D09~10              Power
                        "00"(30H 30H) : UNLOCK
                        "01"(30H 31H) : LOCK
D11~12              Volume
                        "00"(30H 30H) : UNLOCK
                        "01"(30H 31H) : LOCK
D13~14              Min Vol
                        "00"(30H 30H) ~ "64"(36H 34H) : Min Vol 0~00
D15~16              Max Vol
                        "00"(30H 30H) ~ "64"(36H 34H) : Max Vol 0~00
D17~18              Input
                        "00"(30H 30H) : UNLOCK
                        "01"(30H 31H) : LOCK
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB33"(43H 42H 33H 33H) : Lock Settings Write Request reply command
D05~06              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

```
D09~D18 are no meaning if Mode(D07~D08) is not CUSTOM LOCK(0x01)
D13~D16 are no meaning if Volume(D11~D12) is not LOCK(0x01)
```

Frame Lock

CTL-CA34-00. Frame Lock Read Request

【 Function 】

```
Frame Lock Read Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA34"(43H 41H 33H 34H) : Frame Lock Command
D05~06              Index
                        "00"(30H 30H) : Frame Lock Read Request
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'C'-STX "Data                              " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 43H 02H (D01~04) (D05~06) (D07~08) (D09~10) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB34"(43H 42H 33H 34H) : Frame Lock reply command
D05~06              Index
                        "00"(30H 30H) : Frame Lock Read Request
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              Frame Lock
                        "00"(30H 30H) : OFF
                        "01"(30H 31H) : ON
                        "02"(30H 32H) : AUTO
```

【 Note 】

CTL-CA34-01. Frame Lock Write Request

【 Function 】

```
Frame Lock Write Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA34"(43H 41H 33H 34H) : Frame Lock command
D05~06              Index
                        "01"(30H 31H) : Frame Lock Write Request
D07~08              Frame Lock
                        "00"(30H 30H) : OFF
                        "01"(30H 31H) : ON
                        "02"(30H 31H) : AUTO
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'C'-STX "Data                              " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 43H 02H (D01~04) (D05~06) (D07~08) (D09~10) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB34"(43H 42H 33H 34H) : Frame Lock reply command
D05~06              Index
                        "01"(30H 31H) : Frame Lock Write Request
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              Frame Lock
                        "00"(30H 30H) : OFF
                        "01"(30H 31H) : ON
                        "02"(30H 32H) : AUTO
```

【 Note 】

Auto ID Extended Function

CTL-CA0A-05. Auto ID Extended Function Execute

【 Function 】

```
Auto ID Extended Function Execute
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0A"(43H 41H 30H 41H) : Auto ID command
D05~06              Index
                        "05"(30H 35H) : Auto ID Extended Function Execute
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0A"(43H 42H 30H 41H) : Auto ID reply command
D05~06              Index
                        "05"(30H 35H) : Auto ID Extended Function Execute
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA0A-06. Auto ID Extended Function Apply Request

【 Function 】

```
Auto ID Extended Function Apply Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA0A"(43H 41H 30H 41H) : Auto ID command
D05~06              Index
                        "06"(30H 36H) : Auto ID Extended Function Apply Request
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB0A"(43H 42H 30H 41H) : Auto ID reply command
D05~06              Index
                        "06"(30H 36H) : Auto ID Extended Function Apply Request
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA0A-07. Auto ID Extended Function Status Request

【 Function 】

```
Auto ID Extended Function Status Request
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0A"(43H 41H 30H 41H) : Auto ID command
D05~06              Index
                        "07"(30H 37H) : Auto ID Extended Function Status Request
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'E'-STX "Data                                          " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 45H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0A"(43H 42H 30H 41H) : Auto ID reply command
D05~06              Index
                        "07"(30H 37H) : Auto ID Extended Function Status Request
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              Progress Status
                        "00"(30H 30H) : No Action
                        "01"(30H 31H) : Under PD Searching
                        "02"(30H 32H) : Search Complete
                        "03"(30H 33H) : Under IP Setting
                        "04"(30H 34H) : IP Setting Complete
D11~12              Detected Monitors
                        "00"(30H 30H) ～ "64"(36H 34H)
```

【 Note 】

CTL-CA0A-08. Auto ID Extended Function Reset

【 Function 】

```
Auto ID Extended Function Reset
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0A"(43H 41H 30H 41H) : Auto ID command
D05~06              Index
                        "08"(30H 38H) : Auto ID Extended Function Reset
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                   " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0A"(43H 42H 30H 41H) : Auto ID reply command
D05~06              Index
                        "08"(30H 38H) : Auto ID Extended Function Reset
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA0A-0B. Auto ID Extended Function Reset Item Set

【 Function 】

```
Auto ID Extended Function Reset Item Set
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CA0A"(43H 41H 30H 41H) : Auto ID command
D05~06              Index
                        "0B"(30H 42H) : Auto ID Extended Function Reset Item Set
D07~08              Function Type
                        "00"(30H 30H) : MONITOR ID
                        "01"(30H 31H) : IP ADDRESS
                        "02"(30H 32H) : MONITOR ID and IP ADDRESS
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
-------------------------------------------------------------------------
D01~04              Message
                        "CB0A"(43H 42H 30H 41H) : Auto ID reply command
D05~06              Index
                        "0B"(30H 42H) : Auto ID Extended Function Reset Item Set
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA0A-0C. Auto ID Extended Function Reset Item Get

【 Function 】

```
Auto ID Extended Function Reset Item Get
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0A"(43H 41H 30H 41H) : Auto ID command
D05~06              Index
                        "0C"(30H 43H) : Auto ID Extended Function Reset Item Get
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'C'-STX "Data                              " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 43H 02H (D01~04) (D05~06) (D07~08) (D09~10) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0A"(43H 42H 30H 41H) : Auto ID reply command
D05~06              Index
                        "0C"(30H 43H) : Auto ID Extended Function Reset Item Get
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              Function Type
                        "00"(30H 30H) : MONITOR ID
                        "01"(30H 31H) : IP ADDRESS
                        "02"(30H 32H) : MONITOR ID and IP ADDRESS
```

【 Note 】

CTL-CA0A-0E. Auto ID Extended Function Item Set

【 Function 】

```
Auto ID Extended Function Item Set
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'1'-'4'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 34H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0A"(43H 41H 30H 41H) : Auto ID command
D05~06              Index
                        "0E"(30H 45H) : Auto ID Extended Function Item Set
D07~08              Function Type
                        "00"(30H 30H) : MONITOR ID
                        "01"(30H 31H) : IP ADDRESS
                        "02"(30H 32H) : MONITOR ID and IP ADDRESS
D09~10              IP ADDRESS 1
                        "00"(30H 30H) : ～ "FF"(46H 46H)
D11~12              IP ADDRESS 2
                        "00"(30H 30H) : ～ "FF"(46H 46H)
D13~14              IP ADDRESS 3
                        "00"(30H 30H) : ～ "FF"(46H 46H)
D15~16              IP ADDRESS 4
                        "01"(30H 31H)
D17~18              BASE NUMBER
                        "01"(30H 31H) : ～ "63"(36H 33H)
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'0'-'A'-STX "Data                    " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 30H 41H 02H (D01~04) (D05~06) (D07~08) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0A"(43H 42H 30H 41H) : Auto ID reply command
D05~06              Index
                        "0E"(30H 45H) : Auto ID Extended Function Item Set
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

CTL-CA0A-0F. Auto ID Extended Function Item Get

【 Function 】

```
Auto ID Extended Function Item Get
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~04) (D05~06) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CA0A"(43H 41H 30H 41H) : Auto ID command
D05~06              Index
                        "0F"(30H 46H) : Auto ID Extended Function Item Get
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'6'-STX "Data
" ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 36H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14)
(D15~16) (D17~18) (D19~20) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04              Message
                        "CB0A"(43H 42H 30H 41H) : Auto ID reply command
D05~06              Index
                        "0F"(30H 46H) : Auto ID Extended Function Item Get
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
D09~10              Function Type
                        "00"(30H 30H) : MONITOR ID
                        "01"(30H 31H) : IP ADDRESS
                        "02"(30H 32H) : MONITOR ID and IP ADDRESS
D11~12              IP ADDRESS 1
                        "00"(30H 30H) : ～ "FF"(46H 46H)
D13~14              IP ADDRESS 2
                        "00"(30H 30H) : ～ "FF"(46H 46H)
D15~16              IP ADDRESS 3
                        "00"(30H 30H) : ～ "FF"(46H 46H)
D17~18              IP ADDRESS 4
                        "01"(30H 31H)
D19~20              BASE NUMBER
                        "01"(30H 31H) : ～ "63"(36H 33H)
```

【 Note 】

8. OSD menu and contrast table for each command

A table of settings that exist in the OSD menu of the monitor versus each command.
Some commands that do not exist in the OSD menu are listed in the "Other" section of the comparison table.

【VCP command format】

```
VCP - "OP code page" - "OP code"

Ex.) VCP-00-60
     OP code page: 00
     OP code: 60
```

<table>
<tr><th colspan="4">OSD</th><th>Command</th><th>Parameter</th></tr>
<tr><td rowspan="38">INPUT</td><td rowspan="6">INPUT SELECT</td><td colspan="2">DisplayPort</td><td rowspan="6">VCP-00-60</td><td rowspan="6">000DH : OPTION
000FH : DisplayPort
0011H : HDMI1
0012H : HDMI2
0088H : COMPUTE MODULE
0089H : USB-C</td></tr>
<tr><td colspan="2">USB-C</td></tr>
<tr><td colspan="2">HDMI1</td></tr>
<tr><td colspan="2">HDMI2</td></tr>
<tr><td colspan="2">COMPUTE MODULE</td></tr>
<tr><td colspan="2">OPTION</td></tr>
<tr><td rowspan="32">INPUT SETTINGS</td><td colspan="2">INPUT NAME</td><td>CTL-CA04-00
CTL-CA04-01</td><td>Refer to section 7</td></tr>
<tr><td colspan="2">NAME RESET</td><td>CTL-CA04-02</td><td>Refer to section 7</td></tr>
<tr><td colspan="2">AUTO INPUT CHANGE</td><td>VCP-02-40</td><td>0000H : FIRST DETECT
0001H : LAST DETECT
0002H : NONE
0004H : CUSTOM DETECT</td></tr>
<tr><td rowspan="3">PRIORITY</td><td>1</td><td>VCP-10-2E</td><td>000DH : OPTION
000FH : DisplayPort
0010H : HDMI1
0012H : HDMI2
0088H : COMPUTE MODULE
0089H : USB-C</td></tr>
<tr><td>2</td><td>VCP-10-2F</td><td>000DH : OPTION
000FH : DisplayPort
0010H : HDMI1
0012H : HDMI2
0088H : COMPUTE MODULE
0089H : USB-C</td></tr>
<tr><td>3</td><td>VCP-10-30</td><td>000DH : OPTION</td></tr>
</table>

					000FH : DisplayPort 0010H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE 0089H : USB-C
		INPUT SIGNAL INFORMATION	CURRENT INPUT	VCP-00-60	000DH : OPTION 000FH : DisplayPort 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE 0089H : USB-C
			RESOLUTION	N/A	---
			FREQUENCY	CTL-07	Refer to section 7
			COLOR FORMAT	N/A	---
			HDR EOTF	N/A	---
			COLOR DEPTH (SIGNAL/DISPLAY)	N/A	---
			HDCP	N/A	---
			VIDEO RANGE	N/A	---
			VIDEO ID CODE	N/A	---
			OVERSCAN	N/A	---
		ADVANCED	* Please refer to "INPUT-ADVANCED"	N/A	---
	INPUT-ADVANCED	DisplayPort	DisplayPort VERSION	VCP-10-F2	0001H : 1.1a 0002H : 1.2 0003H : 1.4
				VCP-11-67	0001H : SST 0002H : MST
			HDCP VERSION	VCP-11-D2	0001H : HDCP1.4 0002H : HDCP2.2
			HDR	VCP-11-FD	0001H : DISABLE 0002H : ENABLE
		HDMI	HDMI MODE	VCP-11-68	0001H : Mode1(1.4) 0002H : Mode2(2.0)
			HDCP VERSION	VCP-11-D2	0001H : HDCP1.4 0002H : HDCP2.2
			HDR	VCP-11-FD	0001H : DISABLE 0002H : ENABLE

	SIGNAL FORMAT	OVERSCAN	VCP-02-E3	0001H : OFF 0002H : ON 0003H : Auto
		VIDEO RANGE	VCP-10-40	0001H : LIMITED 0002H : FULL 0003H : AUTO
		COLORIMETRY	VCP-11-A3	0001H : AUTO 0002H : RGB 0003H : YCbCr(BT.601) 0004H : YCbCr(BT.709) 0005H : YCbCr(BT.2020)
	CEC	CEC	VCP-11-76	0001H : OFF 0002H : MODE1(ON) 0003H : MODE2
		POWER CONTROL LINK	VCP-11-77	0001H : DISABLE 0002H : ENABLE
		AUDIO RECEIVER	VCP-11-78	0001H : DISABLE 0002H : ENABLE
	BACKGROUND COLOR		VCP-02-DF	0000H - 0064H (Black) - (White)
	RESET		VCP-02-CB	0013H : Input
PICTURE	PICTURE MODE		VCP-02-1A	0003H : HIGHBRIGHT 0008H : CUSTOM1 001CH : RETAIL 001DH : CONFERENCING 001EH : TRANSPORTATION 001FH : NATIVE
	BACKLIGHT		VCP-00-10	0000H - 0064H (Dark) - (Bright)
	Carbon Footprint Display	Message	N/A	---
		CARBON FOOTPRINT	N/A	---
	VIDEO BLACK LEVEL		VCP-00-92	0000H - 0064H (To Dark) - (To Bright)
	GAMMA	GAMMA	VCP-02-68	0001H : NATIVE 0004H : 2.2 0005H : DICOM SIM. 0006H : PROGRAMABLE1 0007H : S GAMMA 0008H : 2.4 0009H : Custom

				000BH : sRGB 000CH : L STAR 000DH : PROGRAMMABLE2 000EH : PROGRAMMABLE3 000FH : Bt1886 0010H : HDR-Hybrid Log 0011H : HDR-ST2084(PQ)
		AUTO HDR SELECT	VCP-11-B2	0001H : ON 0002H : OFF
	COLOR			
		COLOR	VCP-02-1F VCP-00-8A	VCP-02-1F 0000H - 0064H (Pale) - (To Deep) VCP-00-8A 0000H - 0064H (Pale) - (To Deep)
		COLOR TEMPERATURE	COLOR TEMP	VCP-00-0C VCP-00-54 VCP-00-14	VCP-00-0C 0 – (max value: 0001h-FFFFh) 0: Get -> 2600K - 3000K Set -> 3000K > 0: Shall be used as multiplier of the color temperature increment (VCP-00-0B) and result added to base value 3000K. VCP-00-54 0000H - 004AH (2600K) - (10000K) step : 100K VCP-00-14 0002H : Display native (NATIVE) 0009H : 10000K 000BH : User1(CUSTOM)
			R GAIN	VCP-00-16	0000H - 0064H (Dark) - (Bright)
			G GAIN	VCP-00-18	0000H - 0064H (Dark) - (Bright)
			B GAIN	VCP-00-1A	0000H - 0064H (Dark) - (Bright)
		COLOR CONTROL	R	VCP-00-9B	0000H - 00C8H (To Magenta) - (To Yellow)
			Y	VCP-00-9C	0000H - 00C8H

					(To Red) - (To Green)
			G	VCP-00-9D	0000H - 00C8H (To Yellow) - (To Cyan)
			C	VCP-00-9E	0000H - 00C8H (To Green) - (To Blue)
			B	VCP-00-9F	0000H - 00C8H (To Cyan) - (To Magenta)
			M	VCP-00-A0	0000H - 00C8H (To Blue) - (To Red)
	CONTRAST			VCP-00-12	0000H - 0064H (Low) - (High)
PICTURE MODE (SVE = ON)	PICTURE MODE	PICTURE MODE		VCP-10-50	0001H : PROGRAMMABLE1 0002H : PROGRAMMABLE2 0003H : PROGRAMMABLE3 0004H : PROGRAMMABLE4 0005H : PROGRAMMABLE5
		PRESET		VCP-10-51	0001H : sRGB 0002H : AdobeRGB SIM 0003H : DCI SIM 0004H : REC-Bt709 0006H : FULL 0007H : DICOM SIM 0008H : PROGRAMMABLE1 000DH : eciRGB v2 SIM 0013H : LOW BLUE 0014H : Bt2100(HLG) 0015H : Bt2100(PQ) 0016H : Signage 0017H : TV Studio
		LUMINANCE		VCP-02-B3	0014H - 03E8H (20) - (1000)
		BLACK		VCP-10-54	0000H - 0032H
		GAMMA		VCP-02-68	0001H : NATIVE 0004H : 2.2 0005H : DICOM SIM. 0006H : PROGRAMABLE1 0007H : S GAMMA 0008H : 2.4 0009H : Custom 000BH : sRGB 000CH : L STAR

				000DH : PROGRAMMABLE2 000EH : PROGRAMMABLE3 000FH : Bt1886 0010H : HDR-Hybrid Log 0011H : HDR-ST2084(PQ)
	CUSTOM VALUE		VCP-02-E8	0000H - 015EH(1Step = 10dec) (MIN) - (MAX)
	SYSTEM GAMMA		VCP-11-B8	0000H : Auto 0005H - 0014H (0.5) - (2.0)
	PEAK LUMI.		VCP-11-B9	0000H : Auto 0001H - 0064H (100cd/m2) - (10000cd/m2)
	WHITE		VCP-00-0B VCP-00-0C VCP-00-14	VCP-00-0B 0000H : Invalid 0001H - 1388H : minimum increment 1389H - : Invalid VCP-00-0C 0 – (max value: 0001h-FFFFh) 0: Get -> 2600K - 3000K Set -> 3000K > 0: Shall be used as multiplier of the color temperature increment (VCP-00-0B) and result added to base value 3000K. VCP-00-14 0002H : Display native (NATIVE) 0009H : 10000K 000BH : User1(CUSTOM)
	WHITE	x	VCP-10-52	00FAH - 01E0H
		y	VCP-10-53	00FAH - 01AEH
	RED	x	VCP-10-55	0226H - 0320H
		y	VCP-10-56	00C8H - 0190H
	GREEN	x	VCP-10-57	0064H - 015EH
		y	VCP-10-58	01F4H - 0384H
	BLUE	x	VCP-10-59	0000H - 00FAH
		y	VCP-10-5A	0000H - 0096H

EMULATION	COLOR VISION EMU.		VCP-10-5B	0001H : OFF 0002H : P 0003H : D 0004H : T 0005H : GRAY
6 AXIS COLOR TRIM	RED	HUE	VCP-00-9B	0000H - 00C8H (To Magenta) - (To Yellow)
		SAT.	VCP-02-12	0000H - 00C8H (Low) - (High)
		OFFSET	VCP-02-F1	0000H - 00C8H (Dark) - (Light)
	YELLOW	HUE	VCP-00-9C	0000H - 00C8H (To Red) - (To Green)
		SAT.	VCP-02-13	0000H - 00C8H (Low) - (High)
		OFFSET	VCP-02-F2	0000H - 00C8H (Dark) - (Light)
	GREEN	HUE	VCP-00-9D	0000H - 00C8H (To Yellow) - (To Cyan)
		SAT.	VCP-02-14	0000H - 00C8H (Low) - (High)
		OFFSET	VCP-02-F3	0000H - 00C8H (Dark) - (Light)
	CYAN	HUE	VCP-00-9E	0000H - 00C8H (To Green) - (To Blue)
		SAT.	VCP-02-15	0000H - 00C8H (Low) - (High)
		OFFSET	VCP-02-F4	0000H - 00C8H (Dark) - (Light)
	BLUE	HUE	VCP-00-9F	0000H - 00C8H (To Cyan) - (To Magenta)
		SAT.	VCP-02-16	0000H - 00C8H (Low) - (High)
		OFFSET	VCP-02-F5	0000H - 00C8H (Dark) - (Light)
	MAGENTA	HUE	VCP-00-A0	0000H - 00C8H (To Blue) - (To Red)
		SAT.	VCP-02-17	0000H - 00C8H

					(Low) - (High)
			OFFSET	VCP-02-F6	0000H - 00C8H (Dark) - (Light)
	UNIFORMITY	UNIFORMITY		VCP-02-EE	0000H : OFF 0001H : 1 0002H : 2 0003H : 3 0004H : 4 0005H : 5
PICTURE MODE (COMMON)	BACKLIGHT DIMMING			VCP-11-4E	0001H : OFF 0002H : ON
	SPECTRAVIEW ENGINE	SPECTRAVIEW ENGINE		VCP-11-47	0001H : OFF 0002H : ON
		NUMBER OF PICT. MODES		VCP-11-B0	0001H - 0005H
		METAMERISM		VCP-10-5C	0001H : OFF 0002H : ON
	REFERENCE SENSOR INFORMATION			N/A	---
	FACTORY CALIBRATION			N/A	---
	ADVANCED	* Please refer to "PICTURE-ADVANCED"		N/A	---
PICTURE-ADVANCED	UHD UPSCALING			VCP-11-09	0001H : OFF 0002H : LOW 0003H : MIDDLE 0004H : HIGH
	SHARPNESS			VCP-00-87 VCP-00-8C	VCP-00-87 0000H - 000AH (Dull) - (Sharp) VCP-00-8C 0000H - 000AH (Dull) - (Sharp)
	ASPECT	ASPECT SETTINGS		VCP-02-70	0001H : NORMAL 0002H : FULL 0003H : WIDE 0004H : ZOOM 0007H : OFF(1:1)
		ZOOM	ZOOM	VCP-02-6F VCP-11-2C	VCP-02-6F 0000H : No mean 0001H - 00C9H (100%) - (300%)

					VCP-11-2C 0384H - 0BB8H (0.900) - (3.000) Other : No mean *The range of values depends on the model.
			H ZOOM	VCP-02-6C VCP-11-2D	VCP-02-6C 0000H : No mean 0001H - 00C9H (100%) - (300%) VCP-11-2D 0384H - 0BB8H (0.900) - (3.000) Other : No mean *The range of values depends on the model.
			V ZOOM	VCP-02-6D VCP-11-2E	VCP-02-6D 0000H : No mean 0001H - 00C9H (100%) - (300%) VCP-11-2E 0384H - 0BB8H (0.900) - (3.000) Other : No mean *The range of values depends on the model.
			H POS	VCP-02-CC	0000H - 00C8H (Left Side) - (Right Side)
			V POS	VCP-02-CD	0000H - 00C8H (Down Side) - (Up Side)
	ADAPTIVE CONTRAST			VCP-02-8D	0001H : OFF 0002H : LOW 0004H : HIGH
	UNIFORMITY			VCP-02-C2	0001H : OFF 0002H : ON（Refresh operation when ON is specified）
	AUTO DIMMING	AUTO BRIGHTNESS		VCP-02-2D	0000H : OFF 0001H : MODE1 0002H : MODE2

			AMBIENT LIGHT SENSING	MODE	VCP-10-C8	0001H : OFF 0002H : ON
				IN BRIGHT	N/A	---
				ILLUMINANCE	VCP-11-F6	0000H - 0064H (Step 5)
				BACKLIGHT	VCP-10-34	0000H - 0064H
				IN DARK	N/A	---
				ILLUMINANCE	VCP-11-F5	0000H - 0064H (Step 5)
				BACKLIGHT	VCP-10-33	0000H - 0064H
				STATUS	N/A	---
				ILLUMINANCE	VCP-02-B4	0000H - FFFFH
				BACKLIGHT	VCP-11-FC	0000H - FFFFH
			HUMAN SENSING	HUMAN SENSING	VCP-10-75	0001H : DISABLE 0002H : AUTO OFF 0004H : CUSTOM
				BACKLIGHT	VCP-10-DD VCP-10-C6	VCP-10-DD 0001H : Off 0002H : On VCP-10-C6 0000H - 0064H (Dark) - (Light)
				CURRENT	N/A	---
				VOLUME	VCP-10-DE VCP-10-C7	VCP-10-DE 0001H : Off 0002H : On VCP-10-C7 0000H - 0064H (Whisper) - (Loud)
				CURRENT	N/A	---
				INPUT SELECT	VCP-10-DF VCP-10-D0	VCP-10-DF 0001H : Off 0002H : On VCP-10-D0 000DH : OPTION 000FH : DisplayPort 0010H : HDMI1 0012H : HDMI2

					0088H : COMPUTE MODULE 0089H : USB-C
				CURRENT	N/A	---
				WAITING TIME	VCP-10-78	0000H - 0258H (Short) - (Long)
		AUTO TILE MATRIX	H MONITORS		CTL-CA03-04 CTL-CA03-05	Refer to section 7
			V MONITORS		CTL-CA03-04 CTL-CA03-05	Refer to section 7
			PRESS [SET] TO ACTIVE		N/A	---
		TILE MATRIX	TILE MATRIX		VCP-02-D3	0001H : Disable(off) 0002H : Enable(on)
			H MONITORS		VCP-02-D0	0001H - 000AH : Number of H-Division
			V MONITORS		VCP-02-D1	0001H - 000AH : Number of V-Division
			POSITION		VCP-02-D2	0000H : No mean 0001H - 0064H (Upper Left) - (Lower Right)
			TILE COMP	TILE COMP	VCP-02-D5	0001H : OFF 0002H : ON
				H SIZE	VCP-11-96	0000H - 00C8H (-100) - (100)
				V SIZE	VCP-11-97	0000H - 00C8H (-100) - (100)
				H ADJUSTMENT	VCP-11-98	0000H - 00C8H (-100) - (100)
				V ADJUSTMENT	VCP-11-99	0000H - 00C8H (-100) - (100)
			TILE CUT	TILE CUT	VCP-11-C0	0001H : OFF 0002H : ON
				H ADJUSTMENT	VCP-11-C1	0000H - 03C0H
				V ADJUSTMENT	VCP-11-C2	0000H - 021CH
		IMAGE FLIP			VCP-02-D7	0001H : NONE 0002H : H FLIP

				0003H : V FLIP 0004H : 180 Rotate
MULTI PICTURE	MULTI PICTURE MODE	MULTI PICTURE MODE	VCP-11-EB	0001H : Off 0002H : 2PIP 0003H : 2PBP
		PICTURE1	VCP-11-0E	000DH : OPTION 000FH : DisplayPort 0010H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE 0089H : USB-C
		PICTURE2	VCP-11-0F	000DH : OPTION 000FH : DisplayPort 0010H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE 0089H : USB-C
	AUDIO		VCP-10-80	0014H : DisplayPort 0016H : HDMI1 0017H : HDMI2 0018H : OPTION 001AH : COMPUTE MODULE 001CH : USB-C
	ACTIVE PICTURE		VCP-11-0B	0001H : PICTURE1 0002H : PICTURE2
	ACTIVE FRAME		VCP-11-0D	0001H : OFF 0002H : ON
	PICTURE SIZE		VCP-10-B9 VCP-02-71	VCP-10-B9 0000H - 0050H (Small) - (Large) VCP-02-71 0001H : Small 0002H : Middle 0003H : Large
	PICTURE POSITION	X	VCP-02-74	0000H - 0064H (To Left) - (To Right)
		Y	VCP-02-75	0000H - 0064H (To Top) - (To Bottom)
ROTATE	ROTATE ALL		VCP-11-16	0001H : OFF 0004H : ON

			PICTURE1	VCP-11-12	0001H : OFF 0004H : ON
			PICTURE2	VCP-11-13	0001H : OFF 0004H : ON
		RESET		VCP-02-CB	0002H : Picture
AUDIO		AUDIO MODE		VCP-11-D8	0001H : RETAIL 0002H : CONFERENCING 0003H : HIGHBRIGHT 0004H : TRANSPORTATION 0005H : CUSTOM 0007H : NATIVE
		VOLUME		VCP-00-62	0000H - 0064H (Whisper) - (Loud)
		BALANCE	STEREO/MONO	VCP-00-94	0001H : Monaural(Both display audio channels use the left audio channel.) 0002H : Stereo(Incoming left and right audio channels feed separate display output audio channel.)
			BALANCE	VCP-00-93	0000H - 0032H (To Left) - (To Right)
			SURROUND	VCP-02-34	0001H : OFF 0002H : ON
		EQUALIZER	TREBLE	VCP-00-8F	0000H - 0064H (De-emphasized) - (Emphasized)
			BASS	VCP-00-91	0000H - 0064H (De-emphasized) - (Emphasized)
		ADVANCED	* Please refer to "AUDIO-ADVANCED"	N/A	---
	AUDIO-ADVANCED	LINE OUT		VCP-10-81	0001H : FIXED 0002H : VARIABLE
		AUDIO INPUT		VCP-02-2E	0004H : HDMI1 0006H : Option 0007H : DisplayPort 000AH : HDMI2 000EH : COMPUTE MODULE 000FH : USB-C

		INTERNAL SPEAKER		VCP-11-BB	0001H : OFF 0002H : ON
		RESET		VCP-02-CB	0004H : Audio
SCHEDULE	SCHEDULE SETTINGS	SETTINGS		CTL-C23D CTL-C23E	Refer to section 7
		POWER			
		TIME			
		INPUT			
		DATE	YEAR		
			MONTH		
			DAY		
		EVERY WEEK			
	OFF TIMER			VCP-02-2B	0000H - 0018H (off) - (24hour)
	RESET			VCP-02-CB	0005H : Schedule
SLOT (OPTION)	POWER CONTROL	POWER BUTTON		VCP-11-DB	0001H : Execute
		FORCE SHUTDOWN		VCP-10-C3	0001H : Execute
		RESET		VCP-11-DC	0001H : Execute
		Connection Status		N/A	---
		Power Status		N/A	---
		Module		N/A	---
		Type		N/A	---
		Interface Version		N/A	---
		Form Factor Size		N/A	---
		Max Power		N/A	---
	POWER SETTING	AUTO SHUTDOWN		VCP-11-DE	0001H : DISABLE 0002H : ENABLE
SLOT (COMPUTE MODULE)	POWER CONTROL	POWER BUTTON		VCP-11-E0	0001H : Execute
		RESET		VCP-11-E1	0001H : Execute
		Connection Status		N/A	---
		Power Status		N/A	---
		Module		N/A	---
		Type		N/A	---

	POWER SETTING	AUTO SHUTDOWN		VCP-11-B7	0001H : DISABLE 0002H : ENABLE
	ADVANCED SETTING	SHUTDOWN SIGNAL		VCP-11-81	0001H : DISABLE 0002H : ENABLE
		IR SIGNAL		VCP-11-7F	0001H : DISABLE 0002H : ENABLE
		MONITOR CONTROL		VCP-11-80	0001H : DISABLE 0002H : ENABLE
		WDT	WDT	VCP-11-9B VCP-11-9E	VCP-11-9B 0001H : DISABLE 0002H : ENABLE VCP-11-9E 0000H : No mean (Set) 0001H : Reset WDT (Set) 0002H : Stop (Set) 0000H : WDT is disabled (Get) 0001H : WDT is running (Get) 0002H : WDT is stopped (Get)
			START UP TIME	VCP-11-9C	0001H - 001EH (10) - (300)
			PERIOD TIME	VCP-11-9D	0001H - 001EH (10) - (300)
	SLOT POWER			VCP-10-41	0001H : OFF 0002H : ON 0003H : AUTO
	RESET			VCP-02-CB	000FH : Slot
NETWORK	NETWORK INFORMATION	IP SETTING		N/A	...
		IP ADDRESS		N/A	...
		SUBNET MASK		N/A	...
		DEFAULT GATEWAY		N/A	...
		DNS		N/A	...
		DNS PRIMARY		N/A	...
		DNS SECONDARY		N/A	...
		MAC ADDRESS		CTL-C220	Refer to section 7
		EXECUTE		N/A	...
	NETWORK INTERFACE	DISPLAY		VCP-11-CF	0001H : Disable

			0002H : Enable
	COMPUTE MODULE	VCP-11-D1	0001H : Disable 0002H : Enable
NETWORK SERVICE	HTTP SERVER	VCP-11-F0	0001H : OFF 0002H : ON
	HTTPS SERVER	VCP-13-22	0001H : OFF 0002H : ON
	PC CONTROL	VCP-11-F4	0001H : OFF 0002H : ON
	PC CONTROL SECURE	VCP-13-23	0001H : OFF 0002H : ON
	SEARCH	VCP-13-24	0001H : OFF 0002H : ON
	LAN DAISY CHAIN	VCP-13-25	0001H : OFF 0002H : ON
	AMX BEACON	VCP-11-F2	0001H : OFF 0002H : ON
	CRESTRON	VCP-11-F3	0001H : OFF 0002H : ON
	SNMP	VCP-13-26	0001H : OFF 0002H : ON
	ICMP	VCP-13-27	0001H : OFF 0002H : ON
	IP/MAC FILTER	VCP-13-28	0001H : OFF 0002H : ON
	NAVISET SECURE	VCP-13-3A	0001H : OFF 0002H : ON
	APPLY PRESS [SET] TO APPLY	N/A	---
NAVISET SECURE	START PAIRING	N/A	---
	RESET PAIRING DATA	N/A	---
	PAIRING STATUS	N/A	---
	NAVISET SECURE REMOTE STATUS	N/A	---
PING	IP ADDRESS	N/A	---
	EXECUTE	N/A	...
HOSTNAME		N/A	...

	IEEE802.1X			VCP-13-29	0001H : OFF 0002H : ON
	RESET			VCP-02-CB	0010H : Network
PROTECT	POWER SAVE SETTINGS	POWER SAVE		CTL-CA0B-00 CTL-CA0B-01	Refer to section 7
		TIME SETTING		CTL-CA0B-02 CTL-CA0B-03	Refer to section 7
		POWER SAVE MESSAGE		VCP-11-7B	0001H : OFF 0002H : ON
		QUICK START		VCP-11-EA	0001H : DISABLE 0002H : ENABLE
	THERMAL MANAGEMENT	FAN CONTROL		VCP-02-7D	0001H : AUTO(no offset) 0002H : Forced ON
		FAN SPEED		VCP-10-3F	0001H : HIGH 0002H : LOW
		DISPLAY	FAN STATUS	VCP-02-7A VCP-02-7B	VCP-02-7A 0001H : Fan#1 0002H : Fan#2 0003H : Fan#3 0004H : Fan#1+Fan#2 0005H : Fan#1+Fan#2+Fan#3 VCP-02-7B 0000H : OFF 0001H : ON 0002H : Error
			INTERNAL TEMPERATURE (STATUS)	N/A	---
			INTERNAL TEMPERATURE (TEMPERATURE)	VCP-02-78 VCP-02-79	VCP-02-78 0001H : Sensor#1 0002H : Sensor#2 0003H : Sensor#3 VCP-02-79 0000H - FFFFH
		SLOT	FAN STATUS	VCP-02-7A VCP-02-7B	VCP-02-7A 0001H : Fan#1 0002H : Fan#2 0003H : Fan#3

				0004H : Fan#1+Fan#2 0005H : Fan#1+Fan#2+Fan#3 VCP-02-7B 0000H : OFF 0001H : ON 0002H : Error
		INTERNAL TEMPERATURE (STATUS)	N/A	---
		INTERNAL TEMPERATURE (TEMPERATURE)	VCP-02-78 VCP-02-79	VCP-02-78 0001H : Sensor#1 0002H : Sensor#2 0003H : Sensor#3 VCP-02-79 0000H - FFFFH
	SYSTEM FAN REQUIREMENT	OPTION	N/A	---
		COMPUTE MODULE	N/A	---
SCREEN SAVER	GAMMA		VCP-02-DB	0001H : OFF 0002H : ON
	MOTION		VCP-02-DD	0000H - 005AH (0sec(off)) - (900sec)
	INTERVAL		VCP-02-DD	0000H - 005AH (0sec(off)) - (900sec)
	RANGE		VCP-13-3B	0001H - 0004H
POWER ON DELAY	DELAY TIME		VCP-02-D8	0000H : OFF 0001H - 0032H (1sec) - (50sec)
	LINK TO ID		VCP-10-BC	0001H : OFF 0002H : ON
	ID No.		N/A	---
	POWER ON TIME		N/A	---
SECURITY SETTINGS	PASSWORD		CTL-C21D	Refer to section 7
	SECURE MODE	START-UP LOCK	CTL-C21D	Refer to section 7
		CONTROL LOCK	CTL-C21D	Refer to section 7

		CHANGE PASSWORD	N/A	---
		CURRENT PASSWORD	N/A	---
		NEW PASSWORD	N/A	---
		CONFIRM PASSWORD	N/A	---
	LOCK SETTINGS	SELECT	CTL-CA32 CTL-CA33	Refer to section 7
		MODE	CTL-CA32 CTL-CA33	Refer to section 7
		POWER	CTL-CA32 CTL-CA33	Refer to section 7
		VOLUME	CTL-CA32 CTL-CA33	Refer to section 7
		MIN VOL	CTL-CA32 CTL-CA33	Refer to section 7
		MAX VOL	CTL-CA32 CTL-CA33	Refer to section 7
		INPUT	CTL-CA32 CTL-CA33	Refer to section 7
		PRESS [SET] TO EXECUTE	N/A	---
	RESET		VCP-02-CB	0011H : Protect
SYSTEM	MONITOR INFORMATION	MODEL	CTL-C217	Refer to section 7
		SERIAL	CTL-C216	Refer to section 7
		CARBON SAVINGS	VCP-10-10 VCP-10-11 VCP-10-28 VCP-10-29	VCP-10-10 0000H - 03E7H VCP-10-11 0000H - FFFFH VCP-10-28 0000H - 03E7H VCP-10-29 0000H - FFFFH
		CARBON USAGE	VCP-10-2A VCP-10-2B VCP-10-26 VCP-10-27	VCP-10-2A 0000H - 03E7H VCP-10-2B 0000H - FFFFH

				VCP-10-26 0000H - 03E7H VCP-10-27 0000H - FFFFH
	FIRMWARE	REVISION	CTL-C03F	Refer to section 7
	MAC ADDRESS		CTL-C220	Refer to section 7
DATE & TIME	TIME ZONE	UTC	CTL-C211 CTL-C212	Refer to section 7
	INTERNET TIME SERVER	ON/OFF	CTL-C21A CTL-C21B	Refer to section 7
		Address		
	YEAR		CTL-C211 CTL-C212	Refer to section 7
	MONTH			
	DAY			
	CURRENT DATE TIME			
	UPDATE			
DAYLIGHT SAVING	DAYLIGHT SAVING		CTL-CA01-02 CTL-CA01-03	Refer to section 7
	BEGIN	MONTH	CTL-CA01-00 CTL-CA01-01	Refer to section 7
		DAY		
		TIME		
	END	MONTH		
		DAY		
		TIME		
	TIME DIFFERENCE			
EXTERNAL CONTROL	PORT	RS-232C	VCP-13-2A	0001H : OFF 0002H : ON
		USB	VCP-13-2B	0001H : OFF 0002H : ON
	MONITOR ID	ID No.	VCP-02-3E	0001H - 0064H
	GROUP ID		VCP-10-7F	0000H - 03FFH bit 0 : A bit 1 : B bit 2 : C

				bit 3 : D bit 4 : E bit 5 : F bit 6 : G bit 7 : H bit 8 : I bit 9 : J
	AUTO ID/IP SETTING	SETTING ITEM	CTL-CA0A-0E	Refer to section 7
		BASE NUMBER		
		BASE ADDRESS		
		ID/IP SETTING START	CTL-CA0A-05	Refer to section 7
		DETECTED MONITORS	CTL-CA0A-07	Refer to section 7
	AUTO ID/IP RESET	RESET ITEM	CTL-CA0A-0B CTL-CA0A-0C	Refer to section 7
		ID/IP RESET START	CTL-CA0A-08	Refer to section 7
	DETECTED MONITORS		CTL-CA0A-07	Refer to section 7
	COMMAND TRANSFER		VCP-11-4F	0001H : OFF 0002H : ON
LANGUAGE			VCP-00-68	0001H : English 0002H : German 0003H : French 0004H : Spanish 0005H : Japanese 0006H : Italian 0007H : Swedish 0009H : Russian 000EH : Chinese
OSD	OSD POSITION		VCP-02-38 VCP-02-39	VCP-02-38 0000H - 00FFH (To Left) - (To Right) VCP-02-39 0000H - 00FFH (To Bottom) - (To Top)
	INFORMATION OSD		VCP-02-3D	0000H : OFF 0001H : ON
	COMMUNICATION INFO.		VCP-11-17	0001H : OFF

				0002H : ON
	OSD TRANSPARENCY		VCP-02-B8	0001H : Off(Opaque) 0002H : On(Translucent)
	OSD ROTATION		VCP-02-41	0000H : Normal 0001H : Rotated(90°)
	KEY GUIDE		VCP-11-7A	0001H : OFF 0002H : ON
CLONE SETTING	CLONE SETTING		N/A	---
	TARGET INPUT		N/A	---
	INPUT		N/A	---
	PICTURE			
	AUDIO			
	SCHEDULE			
	SLOT			
	NETWORK			
	PROTECT			
	SYSTEM			
	HTTP			
	COPY START PRESS [SET] TO EXECUTE		N/A	---
POWER INDICATOR			VCP-02-BE	0001H : ON 0002H : OFF
MUTE SETTING	AUDIO		VCP-11-E9	0001H : AUDIO
	VIDEO		VCP-11-E9	0002H : VIDEO
	AUDIO & VIDEO		VCP-11-E9	0003H : AUDIO&VIDEO
USB	PC SOURCE		VCP-11-74	0001H : AUTO 0002H : EXTERNAL PC 0003H : OPTION 0004H : COMPUTE MODULE
	USB POWER		VCP-11-75	0001H : ON 0002H : AUTO
	USB-C SETTING		VCP-11-D3	0001H : USB2.0 0002H : USB3.2
	USB-C POWER DELIVERY	POWER SUPPLY	N/A	---

			MAX CURRENT	N/A	---
	UPDATE FIRMWARE(USB)	PRESS [SET] TO EXECUTE		N/A	---
	UPDATE FIRMWARE(NETWORK)	UPDATE METHOD		N/A	---
		UPDATE SCHEDULE		N/A	---
		MANUAL UPDATE		PRESS [SET] TO EXECUTE	---
		LAST UPDATE	DATE	N/A	---
			REVISION	N/A	---
	RESET			VCP-02-CB	0012H : System
	FACTORY RESET			VCP-02-CB	0001H : All(=Factory Reset)

SHARP

Rev.1.2