External Control

1. Application

This document defines the communications method for control of the NEC 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
```
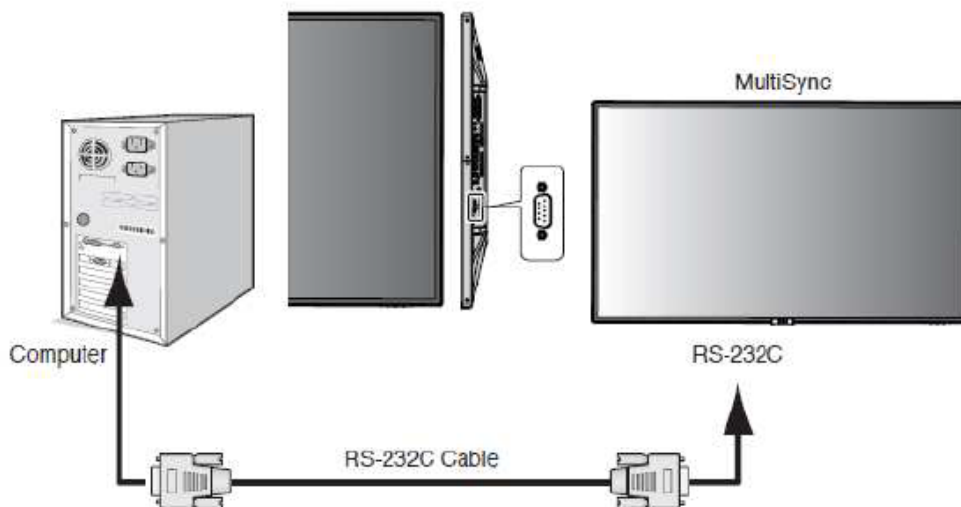

(Please refer "Controlling the LCD monitor via RS-232C Remote control" on User's manual.)

2.2. LAN control

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

NOTE: Use a category 5 or higher LAN cable.
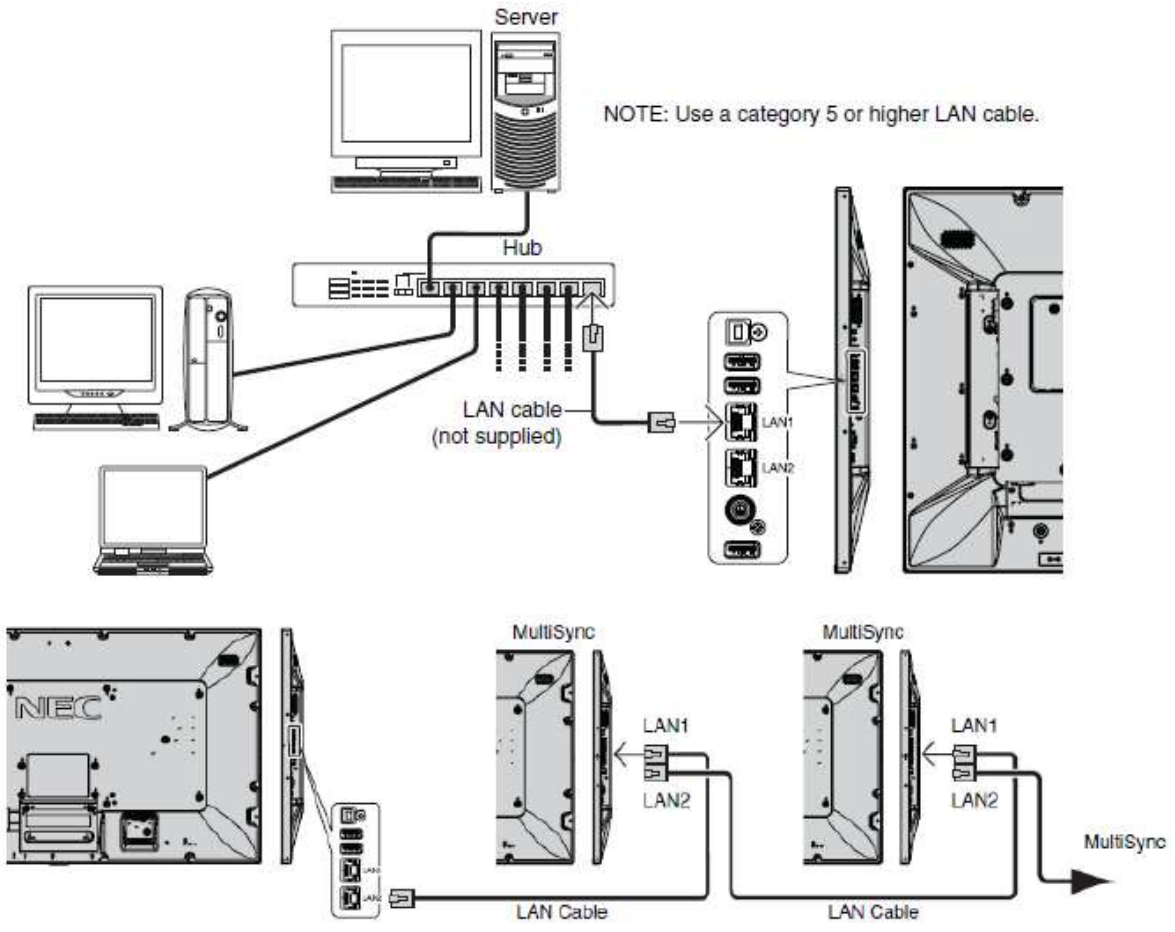
(Please refer "Controlling the LCD monitor via LAN control" on User's manual.)

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
(8) Time-out during a byte  Minimum 100ms
```

3.1.1. Communication timing

```
The controller should wait for a packet interval before next command is sent.
The packet interval needs to be longer than 600msec for the LCD monitor.
```

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) 192.168.0.10
                            * 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.
```

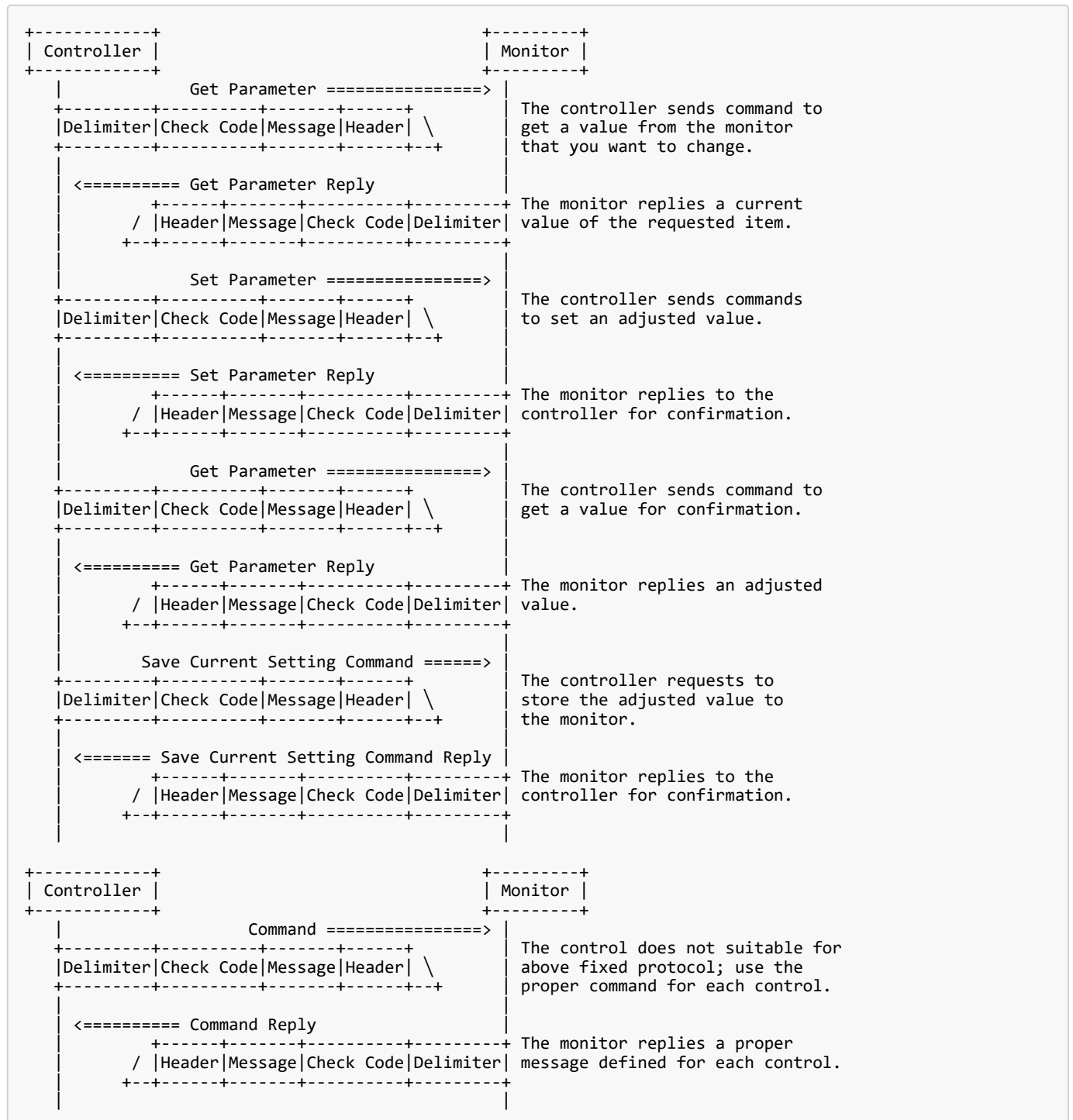### 3.2.1. Communication timing

```
The controller should wait for a packet interval before next command is sent.
The packet interval needs to be longer than 600msec for the LCD monitor.
```

4. Communication Format

| Header | Message | Check Code | Delimiter |

The command packet consists of four parts, Header, Message, Check code and Delimiter.

Sequence of a typical procedure to control a monitor is as follows,

```
+------------+                              +---------+
| Controller |                              | Monitor |
+------------+                              +---------+
    |               Get Parameter ===============> |
    +---------+----------+-------+------+           | The controller sends command to
    |Delimiter|Check Code|Message|Header| \         | get a value from the monitor
    +---------+----------+-------+------+--+         | that you want to change.
    |                                              |
    |  <========== Get Parameter Reply             |
    |         +------+-------+----------+---------+ The monitor replies a current
    |       / |Header|Message|Check Code|Delimiter| value of the requested item.
    |       +--+------+-------+----------+---------+
    |                                              |
    |               Set Parameter ===============> |
    +---------+----------+-------+------+           | The controller sends commands
    |Delimiter|Check Code|Message|Header| \         | to set an adjusted value.
    +---------+----------+-------+------+--+         |
    |                                              |
    |  <========== Set Parameter Reply             |
    |         +------+-------+----------+---------+ The monitor replies to the
    |       / |Header|Message|Check Code|Delimiter| controller for confirmation.
    |       +--+------+-------+----------+---------+
    |                                              |
    |               Get Parameter ===============> |
    +---------+----------+-------+------+           | The controller sends command to
    |Delimiter|Check Code|Message|Header| \         | get a value for confirmation.
    +---------+----------+-------+------+--+         |
    |                                              |
    |  <========== Get Parameter Reply             |
    |         +------+-------+----------+---------+ The monitor replies an adjusted
    |       / |Header|Message|Check Code|Delimiter| value.
    |       +--+------+-------+----------+---------+
    |                                              |
    |     Save Current Setting Command ======> |
    +---------+----------+-------+------+           | The controller requests to
    |Delimiter|Check Code|Message|Header| \         | store the adjusted value to
    +---------+----------+-------+------+--+         | the monitor.
    |                                              |
    |  <======= Save Current Setting Command Reply |
    |         +------+-------+----------+---------+ The monitor replies to the
    |       / |Header|Message|Check Code|Delimiter| controller for confirmation.
    |       +--+------+-------+----------+---------+
    |                                              |

+------------+                              +---------+
| Controller |                              | Monitor |
+------------+                              +---------+
    |               Command ===============> |
    +---------+----------+-------+------+           | The control does not suitable for
    |Delimiter|Check Code|Message|Header| \         | above fixed protocol; use the
    +---------+----------+-------+------+--+         | proper command for each control.
    |                                              |
    |  <========== Command Reply                   |
    |         +------+-------+----------+---------+ The monitor replies a proper
    |       / |Header|Message|Check Code|Delimiter| message defined for each control.
    |       +--+------+-------+----------+---------+
    |                                              |
```

4.1. Header block format (fixed length)

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

4.1.1. NEC Command

```
+-----+--------------+-------------+--------+-------------+---------------+
| 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 teh "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 ddress	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(' joy
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 "VcpTable".
"Message format" of the "Get current parameter" is as follows,
```

4.2.1.1. NEC Command

```
+-----+----------------+----------------+-----------+-----------+-----+
| STX | OP code page Hi | OP code page Lo | OP code Hi | OP code Lo | ETX |
+-----+----------------+----------------+-----------+-----------+-----+
```

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. NEC Command

```
+-----+---------+-------+---------+---------+-------------+-------------+-----+
|     |         |OP code|         |         |             |             |     |
| STX | Result  | 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. NEC Command

```
+-----+-------------+---------+--------------+-----+
| 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. NEC Command

```
+---+-------+--------+---------+-------+------------+---------------+---+
|   |       |OP code |         |       |            | Requested     |  |
|STX| Result| Page   | OP code | Type  | Max value  | 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.
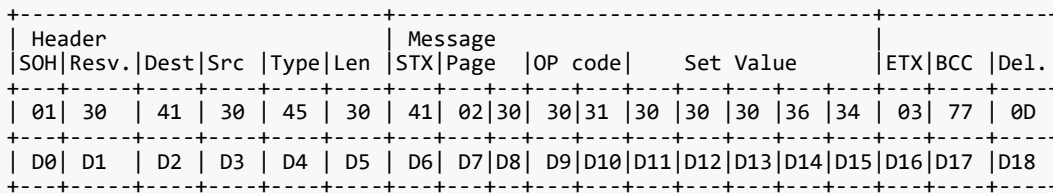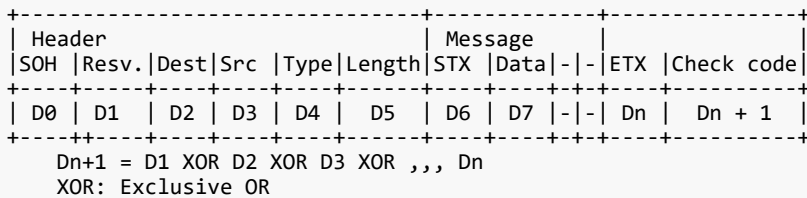
4.2.6. Command reply

> 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. NEC Command

Check code is the Block Check Code (BCC) between the Header and the End of Message except SOH.

```
+-------------------------------+------------+---------------+
| Header                        | Message    |               |
|SOH |Resv.|Dest|Src |Type|Length|STX |Data|-|-|ETX |Check code|
+----+-----+----+----+----+------+----+----+-+-+----+---------+
| D0 | D1  | D2 | D3 | D4 | D5   | D6 | D7 |-|-| Dn |  Dn + 1  |
+----++----+----+----+----+------+----+----+-+-+----+---------+
    Dn+1 = D1 XOR D2 XOR D3 XOR ,,, Dn
    XOR: Exclusive OR


+-----------------------------+------------------------------------+-------------+
| Header                      | Message                            |             |
|SOH|Resv.|Dest|Src |Type|Len |STX|Page  |OP code|   Set Value     |ETX|BCC |Del.|
+---+-----+----+----+----+----+---+----+--+---+---+---+----+---+---+---+----+----+
| 01| 30  | 41 | 30 | 45 | 30 | 41| 02|30| 30|31 |30 |30  |30 |36 |34 | 03| 77 | 0D |
+---+-----+----+----+----+----+---+----+--+---+---+---+----+---+---+---+----+----+
| D0| D1  | D2 | D3 | D4 | D5 | D6| D7|D8| D9|D10|D11|D12|D13|D14|D15|D16|D17 |D18 |
+---+-----+----+----+----+----+---+----+--+---+---+---+----+---+---+---+----+----+
Following is an example of a Check code (BCC) calculation.

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** |

4.4.1. NEC Command

Packet delimiter code; ASCII CR(0Dh).

5. Message type

5.1. Get current Parameter from a monitor

5.1.1. NEC Command

```
+-----+--------------+---------+-----+
| STX | OP code page | OP code | ETX |
+-----+-------+------+----+----+-----+
|     |  Hi   |  Lo  | Hi | Lo |     |
+-----+-------+------+----+----+-----+
```

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"VcpTable".

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

* OP code page: Operation code page.
    Specify the "OP code page" for the control which you want to get the status.
    Refer to "VcpTable" 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 "VcpTable".

* 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 "VcpTable".

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

5.2. "Get parameter" reply

5.2.1. NEC Command

```
+---+-------+--------+---------+-------+------------+---------------+---+
|   |       |OP Code |         |       |            |               |   |
|STX| Result| Page   | OP code | Type  |  Max value | Current Value |ETX|
+---+---+---+----+---+----+----+---+---+----+-+----+-----+-+-------+---+
|   |Hi | Lo|  Hi|Lo | Hi | Lo | Hi|Lo | MSB| | |LSB | MSB| | | LSB |   |
+---+---+---+----+---+----+----+---+---+----+-+----+-----+-+-------+---+
```

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

```
* STX: Start of Message
    ASCII STX (02h)
* 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).
* 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".
* 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).
* 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).
* 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)
* Current Value: (16bits)
    This returned value from the monitor is encoded to ASCII characters.
  Ex.)
    '0','1','2' and '3' means 0123h (291)
* ETX: End of Message
    ASCII ETX (03h)
```

5.3. Set parameter

5.3.1. NEC Command

```
+-----+--------------+---------+---------------+-----+
| STX | OP code page | OP code |   Set Value   | ETX |
+-----+------+-------+----+----+-----+-+-+-----+-----+
|     |  Hi  |  Lo   | Hi | Lo | MSB | | | LSB |     |
+-----+------+-------+----+----+-----+-+-+-----+-----+
```

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

The controller requests a monitor to change value.

```
* STX: Start of Message
    ASCII STX (02h)
* 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".
* 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".
* 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)
* ETX: End of Message
    ASCII ETX (03h)
```

5.4. "Set parameter" reply

5.4.1. NEC Command

```
+---+-------+--------+---------+-------+------------+---------------+---+
|   |       |OP code |         |       |            | Requested     |   |
|STX| Result| Page   | OP code | Type  | Max value  | Setting Value |ETX|
+---+---+---+----+---+----+----+---+---+----+-+----+----+-+-+------+---+
|   |Hi | Lo|  Hi|Lo| Hi | Lo | Hi|Lo| MSB| | |LSB | MSB| | | LSB  |   |
+---+---+---+----+---+----+----+---+---+----+-+----+----+-+-+------+---+
```

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

```
* STX: Start of Message
    ASCII STX (02h)
* 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.
* 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".
* 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".
* 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.
* 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)
* 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)
* 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. NEC Command

```
+-----+--------------+-----+
| 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.

5.5.2.1. NEC Command

```
+-----+-------------+-----+
| 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;

```
NEC Command
+-----+---------+---------+--------------+--------------+-----+
| 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. NEC Command

```
+-----+--------------+-----+
| 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 "Brightness" setting.

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

6.1.1.1. NEC Command

```
+-----------------------------+-------------------+------------+-----------+
| Header                      | Message           | Check code | Delimiter |
+-----------------------------+-------------------+------------+-----------+
| SOH-'0'-Monitor ID-'0C'-'06' | STX-'00'-'10'-ETX |    BCC     |    CR     |
+-----------------------------+-------------------+------------+-----------+
```

Message

```
'00'(30h, 30h) : Operation code page number is 0.
'10'(31h, 30h) : Operation code is 10h (in the OP code page 0).
```

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

6.1.2.1. NEC Command

```
+---------------------+---------------------------------------------------+---------+
|     Header          |     Message                                       |    |    |
+---------------------+---------------------------------------------------+----+----+
|SOH-'00'- ID -'D'-'12'|STX-'00'-'00'-'10'-'00'-'00'-'64'-'00'-'32'-ETX| BCC| CR |
+---------------------+---------------------------------------------------+----+----+
```

Message

```
'00'(30h, 30h) : Result code.  No error.
'00'(30h, 30h) : Operation code page number is 0.
'10'(31h, 30h) : Operation code is 10h (in the page 0).
'00'(30h, 30h) : This operation is "Set parameter" type.
'00'-'64'(30h, 30h, 36h, 34h)
               : Brightness max value is 100(0064h).
'00'-'32'(30h, 30h, 33h, 32h)
               : Current Brightness setting is 50(0032h) .
```

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

6.1.3.1. NEC Command

```
+---------------------------+---------------------------+------------+----------+
|          Header           |          Message          | Check code | Delimiter |
+---------------------------+---------------------------+------------+----------+
|SOH-'0'-Monitor ID-'0E'-'0A'| STX-'00'-'10'-'00'-'50'-ETX|    BCC     |    CR    |
+---------------------------+---------------------------+------------+----------+
```

Message

```
'00'(30h, 30h) : Operation code page number is 0.
'10'(31h, 30h) : Operation code is 10h (in the page 0).
'00'-'50'(30h, 30h, 35h, 30h)
            : Set Brightness setting 80(0050h).
```

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

6.1.4.1. NEC Command

```
+--------------------+----------------------------------------------------+-------+
|       Header       |     Message                                        |       |
+--------------------+----------------------------------------------------+----+--+
|SOH-'00'- ID -'F'-'12'|STX-'00'-'00'-'10'—'00'-'00'-'64'-'00'-'50'-ETX|BCC |CR|
+--------------------+----------------------------------------------------+----+--+
```

Message

```
'00'(30h, 30h) : Result code.  No error.
'00'(30h, 30h) : Operation code page number is 0.
'10'(31h, 30h) : Operation code is 10h (in the page 0).
'00'(30h, 30h) : This operation is "Set parameter" type.
'00'-'64'(30h, 30h, 36h, 34h)
            : Brightness max value is 100(0064h).
'00'-'32'(30h, 30h, 35h, 30h)
            : Current Brightness setting is 80(0050h) .
```

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

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

6.1.5.1. NEC Command

```
+-----------------------------+--------------+------------+-----------+
|          Header             |   Message    | Check code | Delimiter |
+-----------------------------+--------------+------------+-----------+
| SOH-'0'-Monitor ID-'0A'-'04' | STX-'0C'-ETX |    BCC     |    CR     |
+-----------------------------+--------------+------------+-----------+
```

Message

```
'0C'(30h, 43h) : Command code is 0Ch as "Save current settings".
```

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

Monitor has three built-in temperature sensors. The controller can monitor inside temperatures by using those sensors with external control. The following shows the procedure for reading the temperatures from the sensors.

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

6.2.1.1. NEC Command

```
+------------------------------+------------------------------+-----+----+
|      Header                  |        Message               |     |    |
+------------------------------+------------------------------+-----+----+
| SOH-'0'-Monitor ID-'0E'-'0A' | STX-'02'-'78'-'00'-'01'-ETX  | BCC | CR |
+------------------------------+------------------------------+-----+----+
```

Message

```
'02'(30h, 32h) : Operation code page number is 2.
'78'(37h, 38h) : Operation code is 78h (in the page 2).
'00'-'01'(30h, 30h, 30h, 31h)
            : Select the temperature sensor #1 (01h).
```

6.2.2. Step 2. The monitor replies for confirmation.

6.2.2.1. NEC Command

```
+----------------------+--------------------------------------------------+----+----+
|        Header        |   Message                                        |    |    |
+----------------------+--------------------------------------------------+----+----+
|SOH-'00'- ID -'F'-'12'|STX-'00'-'02'-'78'-'00'-'00'-'03'-'00'-'01'-ETX| BCC| CR |
+----------------------+--------------------------------------------------+----+----+
```

Message

```
'00'(30h, 30h) : Result code.  No error.
'02'(30h, 32h) : Operation code page number is 2.
'78'(37h, 38h) : Operation code is 78h (in the page 2).
'00'(30h, 30h) : This operation is "Set parameter" type.
'00'-'03'(30h, 30h, 30h, 33h)
            : Number of temperature sensors are 3 (0003h).
'00'-'01'(30h, 30h, 30h, 31h)
            : temperature sensor is #1.
```

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

6.2.3.1. NEC Command

```
+----------------------------+-------------------+------------+-----------+
|          Header            |     Message       | Check code | Delimiter |
+----------------------------+-------------------+------------+-----------+
| SOH-'0'-Monitor ID-'0C'-'06' | STX-'02'-'79'-ETX |    BCC     |    CR     |
+----------------------------+-------------------+------------+-----------+
```

Message

```
'02'(30h, 32h) : Operation code page number is 2.
'79'(37h, 39h) : Operation code is 79h (in the OP code page 2).
```

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

6.2.4.1. NEC Command

```
+----------------------+-------------------------------------------------+----+---+
|        Header        |     Message                                     |    |   |
+----------------------+-------------------------------------------------+----+---+
|SOH-'00'- ID -'D'-'12'|STX-'00'-'02'-'79'-'00'-'FF'-'FF'-'00'-'32'-ETX|BCC |CR |
+----------------------+-------------------------------------------------+----+---+
```

Message

```
'00'(30h, 30h) : Result code.  No error.
'02'(30h, 32h) : Operation code page number is 2.
'79'(37h, 39h) : Operation code is 79h (in the page 2).
'00'(30h, 30h) : This operation is "Set parameter" type.
'FF'-'FF'(46h, 46h, 46h, 46h)
               : Maximum value.
'00'-'32'(30h, 30h, 33h, 32h)
               : The temperature is 25 degrees Celsius.

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     |
+--------------------------+--------------------+--------------+
```

7. How to read the command details

```
CTL-B1. Self-diagnosis status read

【 Function 】

    Self-diagnosis status read

【 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) : [@]<EN>Self-diagnosis command</EN><JP></JP>
```

Description

> [ASC] ASCII Format **"Data "** : **"B1"**
>
> [HEX] ASCII data in Hex format **(D01~02)** : **(42H 31H)**

```
【 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) : Save Current Settings
    D03~XX             Result(XX Max=34)
                          "00"(30H 30H) : Normal
```

Description

> D03~XX "00"(30H 30H) : Normal
>
> > **Ex.) Message Length **
> >
> > [DAT]SOH-'0'-'0'-ID-'B' **-'N'-'N'-** STX "Data String...." ETX BCC 0DH
> > [DAT]SOH-'0'-'0'-ID-'B' **-'0'-'6'-** STX 'A'-'1'-'0'-'0'- 03H BCC 0DH
> >
> > [HEX]01H 30H 30H ID 42H **LEN LEN** 02H (D01~02) (D03~XX) 03H BCC 0DH
> > [HEX]01H 30H 30H ID 42H **30H 36H** 02H (41H 31H 30H 30H) 03H BCC 0DH

- 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.

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 Nosignal.)
                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 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 】

Asset Data read and write

CTL-C00B. Asset Data Read Request

【 Function 】

```
This command is used in order to read Asset Data.
```

【 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
                      "C00B"(43H 30H 30H 42H) : Asset read request command
D05~06            Offset data from the top of Asset data area.
                    At first set 00H: Read data from the top of Asset data area.
D07~08            Read out data length
                    At first set 20H: length is 32bytes.
                    Secondary set 20H: Read out data from the 32bytes offset point in the Asset data
area.
                    Maximum readout length is 32bytes at a time.
```

【 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
                      "C10B"(43H 31H 30H 42H) : Asset read reply command
D05~XX            Asset Data(XX Max=36)
```

【 Note 】

CTL-C00E. Asset Data write

【 Function 】

```
This command is used in order to write Asset Data.
```

【 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
                      "C00E"(43H 30H 30H 45H) : Asset Data writes command
D05~06            Offset address from top of the Asset data.
                       00h : Write data from top of the Asset data area.
D07~XX            Asset data
                       The data must be ASCII characters strings.
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'- N - N -STX "Data                              " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H LEN LEN 02H (D01~02) (D03~06) (D07~08) (D09~XX) 03H BCC 0DH

Data              Contents
--------------------------------------------------------------------
D01~02            Result code
                      "00"(30H 30H) : No Error
D03~06            Message
                      "C00E"(43H 30H 30H 45H) : Asset Data writes command
D07~08            Offset address from top of Asset data.
                       00h : Write data from top of the Asset data area.
D09~XX            Asset Data(XX Max=40)
```

【 Note 】

```
The Reply message is normally "C1", but it is implemented with "C0" to match the old specification.
```

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 2015)
                       "0F"(30H 46H) : 2015(0FH=15) ～
                       "63"(36H 33H) : 2099(63H=99)
D07~08            Month
                       "01"(30H 31H) : 1 ～
                       "0C"(30H 43H) : 12
D09~10            Day
                       "01"(30H 31H) : 1 ～
                       "1F"(30H 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 2015)
                    "0F"(30H 46H) : 2015(0FH=15) ～
                    "63"(36H 33H) : 2099(63H=99)
D07~08          Month
                    "01"(30H 31H) : 1 ～
                    "0C"(30H 43H) : 12
D09~10          Day
                    "01"(30H 31H) : 1 ～
                    "1F"(30H 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 2015)
                    "0F"(30H 46H) : 2015(0FH=15) ～
                    "63"(36H 33H) : 2099(63H=99)
D09~10          Month
                    "01"(30H 31H) : 1 ～
                    "0C"(30H 43H) : 12
D11~12          Day
                    "01"(30H 31H) : 1 ～
                    "1F"(30H 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 】 Menu Tree の TIME ZONE は並びがおかしいはず

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
                        "C331"(43H 33H 33H 31H) : Time Zone read 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 32H 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
```

【 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 Type
                "01"(30H 31H) : On
                "02"(30H 32H) : Off
                "03"(30H 33H) : Reserved
D09~10          Turn on time (hour)
                "00"(30H 30H) : 0 ～
                "17"(31H 37H) : 23
                "18"(31H 38H) : ---
D11~12          Turn on time (minute)
                "00"(30H 30H) : 0 ～
                "3B"(33H 42H) : 59
                "3C"(33H 43H) : ---
D13~14          Timer input
                "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
                "87"(38H 37H) : MP
                "88"(38H 38H) : COMPUTE MODULE
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          Option(※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 ignroe this setting.
D21~22          Year
                "00"(30H 30H) : 2015 ～
```

```
                         "63"(36H 33H) : 2099 or
                         "64"(36H 34H) : ----
D23~24          Month
                         "01"(30H 31H) : JAN ～
                         "0C"(30H 43H) : DEC or
                         "0D"(30H 44H) : ----
D25~26          Day
                         "01"(30H 31H) : 1 ～
                         "1F"(31H 46H) : 31 or
                         "20"(32H 30H) : ----
D27~28          Order
                         In this monitor, always ignroe 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
                   "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 Type
                   "01"(30H 31H) : On
                   "02"(30H 32H) : Off
                   "03"(30H 33H) : Reserved
D09~10          Turn on time (hour)
                   "00"(30H 30H) : 0 ～
                   "17"(31H 37H) : 23
                   "18"(31H 38H) : ---
D11~12          Turn on time (minute)
                   "00"(30H 30H) : 0 ～
                   "3B"(33H 42H) : 59
                   "3C"(33H 43H) : ---
D13~14          Timer input
                   "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
                   "87"(38H 37H) : MP
                   "88"(38H 38H) : COMPUTE MODULE
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          Option(※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 ignroe this setting.
D21~22          Year
                   "00"(30H 30H) : 2015 ～
                   "63"(36H 33H) : 2099 or
                   "64"(36H 34H) : ----
D23~24          Month
                   "00"(30H 30H) : ----
                   "01"(30H 31H) : JAN ～
                   "0C"(30H 43H) : DEC or
                   "0D"(30H 44H) : ----
D25~26          Day
                   "00"(30H 30H) : ----
                   "01"(30H 31H) : 1 ～
                   "1F"(31H 46H) : 31 or
                   "20"(32H 30H) : ----
D27~28          Order
                   In this monitor, always ignroe 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')
```

【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 writes 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) : On
                            "02"(30H 32H) : Off
                            "03"(30H 33H) : Reserved
D11~12                  Turn on time (hour)
                            "00"(30H 30H) : 0 ～
                            "17"(31H 37H) : 23
                            "18"(31H 38H) : ---
D13~14                  Turn on time (minute)
                            "00"(30H 30H) : 0 ～
                            "3B"(33H 42H) : 59
                            "3C"(33H 43H) : ---
D15~16                  Timer input
                            "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) : DisplayPort2
                            "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
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                  Option(※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 ignroe this setting.
D23~24                  Year
                            "00"(30H 30H) : 2015 ～
```

```
                              "63"(36H 33H) : 2099 or
                              "64"(36H 34H) : ----
D25~26               Month
                              "00"(30H 30H) : ----
                              "01"(30H 31H) : JAN ～
                              "0C"(30H 43H) : DEC or
                              "0D"(30H 44H) : ----
D27~28               Day
                              "00"(30H 30H) : ----
                              "01"(30H 31H) : 1 ～
                              "1F"(31H 46H) : 31 or
                              "20"(32H 30H) : ----
D29~30               Order
                       In this monitor, always ignroe 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 】

Selfdiagnosis

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
                "72"(37H 32H) : Panel-power/FAN-power +12V abnormality
                "78"(37H 38H) : Audio-power/Converter-power +24V abnormality
                "80"(38H 30H) : Cooling fan-1 abnormality
                "81"(38H 31H) : Cooling fan-2 abnormality
                "82"(38H 32H) : Cooling fan-3 abnormality
                "83"(38H 33H) : COMPUTE MODULE Cooling fan abnormality
                "90"(39H 30H) : LED Backlight abnormality (CON ERR1)*short open detection
                "91"(39H 31H) : LED Backlight abnormality (CON ERR2)*short open detection
                "92"(39H 32H) : External redundant PSU error
                "93"(39H 33H) : Internal main PSU error
                "A0"(41H 30H) : Temperature abnormality shutdown
                "A1"(41H 31H) : Temperature abnormality half brightness
                "A2"(41H 32H) : SENSOR reached at the temperature that the user had specified.
                               * Condition: DISPLAY PROTECTION-FAN CONTROL-COOLING FAN = AUTO
                "B0"(42H 30H) : No signal
                "D0"(44H 30H) : Error log buffer reduction
                "D1"(44H 31H) : RTC error
                "E0"(45H 30H) : EEPROM error
                "E3"(45H 33H) : NFC-EEPROM error
                "E4"(45H 34H)[E4H] : CPLD error
                "E5"(45H 35H)[E5H] : HDMI_SW1 error
                "E6"(45H 36H)[E6H] : HDMI_SW2 error
                "E7"(45H 37H)[E7H] : Scaler DP block abnormal
                "E8"(45H 38H)[E8H] : Garnet EEPROM error
                "EB"(45H 42H)[EBH] : Wrong rotation (G Sensor)
                "EC"(45H 43H)[E8H] : Strong impact (G Sensor)
```

【 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) (D05~06) 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.) In the case of Serial Number "12345678"
                           12345678 -> 31h 32h 33h 34h 35h 36h 37h 38h
                           -> '3'-'1'-'3'-'2'-'3'-'3'... '3'-'8' -> 33h 31h 33h 32h 33h 33h ... 33h
38h
```

【 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.) In the case of Model Name "P463"
                             P463 -> 50h 34h 36h 33h ->  '5'-'0'-'3'-'4'-'3'-'6'-'3'-'3'
                             -> 35h 30h 33h 34h 33h 36h 33h 33h
```

【 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 "EN" 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
                      "00"(30H 30H) : Disable
                      "01"(30H 31H) : START-UP LOCK (Enable)
                      "02"(30H 32H) : CONTROL LOCK
                      "03"(30H 33H) : BOTH LOCK
```

【 Note 】

Capabilities Request

CTL-F3. Capabilities Request

【 Function 】

> A Capabilities Request message shall be issued by the computer to a device to instruct the addressed device to reply with a Capabilities Reply.

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'0'-'8'-STX "Data           " ETX BCC 0DH
[HEX]01H 30H ID 30H 41H 30H 38H 02H (D01~02) (D03~06) 03H BCC 0DH

Data              Contents
-----------------------------------------------------------------------
D01~02            Message
                      "F3"(46H,33H) : Capabilities Control command
D03~06            Offset
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'- N - N -STX "Data                " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H LEN LEN 02H (D01~02) (D03~06) (D07~XX) 03H BCC 0DH

Data              Contents
-----------------------------------------------------------------------
D01~02            Message
                      "E3"(45H,33H) : Capabilities Control Reply command
D03~06            Offset
D07~XX            Capability strings data(XX Max=32)
                      "prot()"
                      "cmds()"
                      "vcp()"
                      "type()"
                      "mccs_ver()"
                      "asset_eep()"
                      "mpu_ver()"
                      "model()"
                      "c_tmp_ofst()"
                      "mswhql()"
```

【 Note 】

> A Capabilities Request message shall be issued by the computer to a device to instruct the addressed device to reply with a Capabilities Reply.
> The Capabilities Reply shall contain data starting at "offset".
> The Capabilities Request and Capabilities Reply messages form a protocol for transferring an arbitrary byte-string from the device to the computer, via a series of fragments. "Offset" shall be the index (from 0) into this string.
> To simplify the device's implementation of this protocol, "offset" shall be restricted to three values:
> 1. "send first" zero, indicating the computer wants to start over at the beginning;
> 2. "send again" the offset from the most recently transmitted Capabilities Request,
>   indicating the computer did not receive a response and wants a retransmit;
>
> 3. "send next" the offset from the most recently received Capabilities Reply plus the number of bytes in the message fragment.
> (new offset = old offset + fragment length)
> (fragment length = message length – 3).
>
> With these restrictions the computer can make three requests: start over, send current, and send next.
> See Capabilities Reply message for further details.
>
> A Capabilities Reply shall be used to reply to a Capabilities Request message with a fragment of data starting at "offset".
> The protocol is designed to be simple for the device to implement:
> The device is free to choose the most convenient fragment size from one message to the next.
> The only state information the device should need to maintain is the current offset and length of the

most recently transmitted fragment.
On receiving a Capabilities Request message, the device shall examine the "offset" field:
1. If equal to zero, the device shall set the current offset to zero and send the fragment from offset zero (0).
2. If equal to the current offset, the device shall re-send the fragment from the current offset.
3. If equal to the "current offset" + "fragment length", the device shall update the current offset (current offset := current offset + fragment length)
and then look up (or calculates) the next fragment to send and sends it.

4. If the device has reached end-of-string, it shall send a fragment with the next offset but zero data bytes. This will indicate an end of string.
5. Otherwise, the device shall set the "current offset" to zero and send the fragment from offset 0.

Capability strings sample
(
prot(monitor)
type(LCD)
cmds(01 02 03 07 0C F3)
vcp(04 06 08 0E 10 12 14(01 02 04 06 07 08) 1E 20 30 3E 54 62 68(01 02 03 05) 8A 8C 9B 9C 9D 9E 9F A0 A8 B4 B6 E3)
vcp_p02(37 38 39 3B 41 47 64 65)
vcp_p10(10 11)
mccs_ver(2.0)
model(S401)
mswhql(1)
asset_eep(20)
mpu_ver(1.0.00)
)

(※1)Capability strings data
"vcp()"
    VCP data is an ASCII string of monitor control panel functions.
    All op-codes must be represented by two ASCII hexadecimal characters.
    Spaces between op-codes are optional.
    The supported enumeration value of the non-continuous VCPs which have multiple supports should be described by following way.
    The VCPs which are required to show the capability of enumerate value are shown in the "Enum value in VCP()" of attached VCP table.
    Ex.
    VCP(10 12 14(01 02 04 05 08))
    Above strings means "Contrast, Brightness and Select color preset(sRGB Native 5000K 6500K 9300K) are supported".
    If VCP Page is supported,
    Ex.; vcp(10 12 14(01 05 06 08) 16 18 1A 50 92) vcp_p02(00 11 12 18) vcp_p10(10 11)
    (Space is not necessary beside with "(" or ")" but necessary with each VCP codes.)

"type()"
    The Monitor type information is defined by following strings.
    Type(LCD) ; LCD monitor

"mccs_ver()"
    The supported MCCS version can be defined by following strings.
    The monitor which uses the protocol in this document must support the version 1.1 or later.
    Ex. mccs_ver(2.0)

"asset_eep()"
    The models that support commands "Asset read & reply" and "Asset Write Request" have this string.
    "asset_eep(length)"   Ex.: asset_eep(20)
    length : data length (min. 32byte, typ.:64byte)
    in hexadecimal form Need to reserve data area (min.32byte) for these commands.
    Refer to "2-4-10 Asset read & reply" and "2-4-11 Asset Write Request"

"mpu_ver()"
    For soft ware version information.
    Ex. mpu_ver(1.0.00)

"prot()"
    The highest level definition of a device's family category.
     Monitor device is defined as follows.
    Ex. prot(monitor)

"cmds()"
    The cmds entry contains a list of supported monitor device protocol commands.
    Supported command is shown by op-code.
        01: Get VCP
        02: VCP feature reply
        03: Set VCP
        07: Get Timing Report
        0C: Save Current Setting
        C2: NECDS Special Comand
        C4: GetVCPPage
        C6: GetPagedVCP
        C8: SetPagedVCP

```
        F3: Capability Reply
        Ex. cmds(01 02 03 07 0C C2 C4 C6 C8 F3)

"model()"
    The model entrys model name.
    Ex. model(P551)

"mswhql()"
    The mswhql should entry "1" in according to Windows requirement.
    Ex. mswhql(1)

"gamma_table()"
    Table size & each color data offset of gamma
    size(C00) : table size of gamma data
    r_ofs(0) : data offset of Red gamma data
    g_ofs(400) : data offset of Green gamma data
    b_ofs(800) : data offset of Blue gamma data
    this value wrote by hexadecimal
    Ex : data size = 3072 (C00h) word,
    red = 0 (0h), green = 1024(400h), blue = 2048(800h)
    Ex. gamma_table(size(C00)r_ofs(0)g_ofs(400)b_ofs(800))

"c_tmp_ofst()"
    The color temperature offset data.
    Ex.c_tmp_ofst(A28h)
```

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 port  "00"(30H 30H) Athlon4, 4K2K は "00" 固定
                  Athlon5 Select port
                  "00"(30H 30H) : RX64M
                  "01"(30H 31H) : Garnet
```

【 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 port  "00"(30H 30H) Athlon4, 4K2K は "00" 固定
                  Athlon5 Select port
                  "00"(30H 30H) : RX64M
                  "01"(30H 31H) : Garnet
D07~XX            MAC Address(XX 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 Setting command reply
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
                    "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
                    "00"(30H 30H) ～
                    "23"(32H 33H)
D17~18          BEGIN TIME2
                    "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
                    "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
                         "00"(30H 30H) ～
                         "23"(32H 33H)
D27~28              END TIME2
                         "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 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
                        "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
                        "00"(30H 30H) ～
                        "23"(32H 33H)
D15~16              BEGIN TIME2
                        "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
                        "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
                        "00"(30H 30H) ～
                        "23"(32H 33H)
D25~26              END TIME2
                        "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 command reply
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 Setting command reply
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 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 command reply
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 Command
D05~06          Firmware Type
                    "00"(30H 30H) : F/W Revision
                    "01"(30H 31H) : Firmware2(Scaler)
                    "02"(30H 32H) : Firmware3(HAWK)
                    "03"(30H 33H) : Firmware4(CPLD)
                    "04"(30H 34H) : Reserved
                    "05"(30H 35H) : Firmware1 Updater
```

【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
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
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
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).
                          In the case of Input Name "VGA"
                          VGA -> 56h 47h 41h ->  '5'-'6'-'4'-'7'-'4'-'1'
                              -> 35h 36h 34h 37h 34h 31h
```

【 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
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"
                        VGA -> 56h 47h 41h ->  '5'-'6'-'4'-'7'-'4'-'1'
                            -> 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
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
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
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
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 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 Proof of Play Current 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) (D09~10) (D11~12) (D13~50) 03H BCC 0DH

Data               Contents
--------------------------------------------------------------------------
D01~04             Message
                       "CB15"(43H 42H 31H 35H) : Proof of Play Reply
D05~06             Index
                       "01"(30H 31H) : Get Proof of Play Current command
D07~08             Status
                       "00"(30H 30H) : No Error
                       "01"(30H 31H) : Error
D09~10             Current log data Number (High byte)
D11~12             Current log data Number (Low byte)
                       "0001"(30H 30H 30H 31H) : 1 ～
                       "FFFF"(46H 46H 46H 46H) : 65535
D13~50             Log Data
```

【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 : Extention 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 PALYER 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) (D09~10) (D11~12) (D13~14) (D15~16)
(D17~18) 03H BCC 0DH

Data               Contents
-----------------------------------------------------------------------
D01~04             Message
                       "CB15"(43H 42H 31H 35H) : Proof of Play Reply
D05~06             Index
                       "02"(30H 32H) : Get Proof of Play Status command
D07~08             ST1: 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)
D09~10             ST2: Total Number-High byte (How many log data items are currently used.)
D11~12             ST3: Total Number-Low byte (How many log data items are currently used.)
                       "0001"(30H 30H 30H 31H) : 1 ～
                       "FFFF"(46H 46H 46H 46H) : 65535
D13~14             ST4: Maximum Number-High byte (Maximum possible number of log data items)
D15~16             ST5: Maximum Number-Low byte (Maximum possible number of log data items)
                       "0001"(30H 30H 30H 31H) : 1 ～
                       "FFFF"(46H 46H 46H 46H) : 65535
D17~18             ST6: 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) (D07~08) (D09~10) (D11~12) (D13~14) 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 command
D07~08            Block Number of Start (High byte)
D09~10            Block Number of Start (Low byte)
D11~12            Block Number of Stop (High byte)
D13~14            Block Number of Stop (Low byte)
                      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) (D09~10) (D11~12) (D13~50) 03H BCC 0DH

Data              Contents
-------------------------------------------------------------------------
D01~04            Message
                      "CB15"(43H 42H 31H 35H) : Proof of Play Reply
D05~06            Index
                      "03"(30H 33H) : Get Proof of Play Number to Number command
D07~08            Status
                      "00"(30H 30H) : No Error
                      "01"(30H 31H) : Error
D09~10            log number being returned (High byte)
D11~12            log number being returned (Low byte)
D13~50            Log Data
                      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-Block Number of Start-Block Number of Stop-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".

Setting Copy Command

CTL-CA09-00. Setting Copy Target Read Request

【 Function 】

```
This command is used in order to read Setting Copy Target.
```

【 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
                      "CA09"(43H 41H 30H 39H) : Setting Copy
D05~06            Index
                      "00"(30H 30H) : Target Read
```

【 ACK 】

```
[DAT]SOH-'0'-'0'-ID-'B'-'1'-'0'-STX "Data                  " ETX BCC 0DH
[HEX]01H 30H 30H ID 42H 31H 30H 02H (D01~04) (D05~06) (D07~14) 03H BCC 0DH

Data              Contents
---------------------------------------------------------------------
D01~04            Message
                      "CB09"(43H 42H 30H 39H) : Setting Copy
D05~06            Index
                      "00"(30H 30H) : Target Read
D07~14            Setting Copy Target
                      D07~08    : Setting Copy Target 4 (Bit12-Bit15)
                      D09~10    : Setting Copy Target 3 (Bit08-Bit11)
                      D11~12    : Setting Copy Target 2 (Bit04-Bit07)
                      D13~14    : Setting Copy Target 1 (Bit00-Bit03)
```

【 Note 】

```
Setting Copy Target 1
    bit0 : TARGET INPUT
    bit1 : PICTURE
    bit2 : AUDIO
    bit3 : SCHEDULE
    bit4 : INPUT
    bit5 : SLOT
    bit6 : NETWORK
    bit7 : SYSTEM

Setting Copy Target 2
    bit0 : reserved
    bit1 : reserved
    bit2 : reserved
    bit3 : PROTECT
    bit4 : reserved
    bit5 : reserved
    bit6 : reserved
    bit7 : reserved

Setting Copy Target 3
    bit0 : reserved
    bit1 : reserved
    bit2 : reserved
    bit3 : reserved
    bit4 : reserved
    bit5 : reserved
    bit6 : reserved
    bit7 : reserved
```

```
Setting Copy Target 4
    bit0 : HTTP
    bit1 : reserved
    bit2 : reserved
    bit3 : reserved
    bit4 : reserved
    bit5 : reserved
    bit6 : reserved
    bit7 : reserved
```

CTL-CA09-01. Setting Copy Target Write Request

【 Function 】

```
This command is used in order to write Setting Copy Target.
```

【 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) (D07~14) 03H BCC 0DH

Data                Contents
--------------------------------------------------------------------
D01~04              Message
                        "CA09"(43H 41H 30H 39H) : Setting Copy
D05~06              Index
                        "01"(30H 31H) : Target Write
D07~14              Setting Copy Target
                        D07~08      : Setting Copy Target 4 (Bit12-Bit15)
                        D09~10      : Setting Copy Target 3 (Bit08-Bit11)
                        D11~12      : Setting Copy Target 2 (Bit04-Bit07)
                        D13~14      : Setting Copy Target 1 (Bit00-Bit03)
```

【 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
                        "CB09"(43H 42H 30H 39H) : Setting Copy
D05~06              Index
                        "01"(30H 31H) : Target Write
D07~08              Result code
                        "00"(30H 30H) : No Error
                        "01"(30H 31H) : Error
```

【 Note 】

```
Setting Copy Target 1
    bit0 : TARGET INPUT
    bit1 : PICTURE
    bit2 : AUDIO
    bit3 : SCHEDULE
    bit4 : INPUT
    bit5 : SLOT
    bit6 : NETWORK
    bit7 : SYSTEM

Setting Copy Target 2
    bit0 : reserved
    bit1 : reserved
    bit2 : reserved
    bit3 : PROTECT
    bit4 : reserved
    bit5 : reserved
    bit6 : reserved
    bit7 : reserved

Setting Copy Target 3
    bit0 : reserved
    bit1 : reserved
    bit2 : reserved
    bit3 : reserved
    bit4 : reserved
    bit5 : reserved
    bit6 : reserved
    bit7 : reserved

Setting Copy Target 4
```

```
bit0 : HTTP
bit1 : reserved
bit2 : reserved
bit3 : reserved
bit4 : reserved
bit5 : reserved
bit6 : reserved
bit7 : reserved
```

CTL-CA09-02. Setting Copy Start Request

【 Function 】

```
This command is used in order to start Setting Copy.
```

【 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
                       "CA09"(43H 41H 30H 39H) : Setting Copy
D05~06             Index
                       "02"(30H 32H) : Start
```

【 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
                       "CB09"(43H 42H 30H 39H) : Setting Copy
D05~06             Index
                       "02"(30H 32H) : Start
D07~08             Result code
                       "00"(30H 30H) : No Error
                       "01"(30H 31H) : Error
```

【 Note 】

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
D05~06          Index
                    "00"(30H 30H) : Read
D07~08          Mode
                    "00"(30H 30H) : AUTO POWER SAVE
                    "01"(30H 31H) : AUTO STANDBY
                    "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          Mode
                    "00"(30H 30H) : AUTO POWER SAVE
                    "01"(30H 31H) : AUTO STANDBY
                    "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
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
D05~06            Index
                     "02"(30H 32H) : Auto Power Save Read
D07~08            Auto Power Save Time
                     "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 Write
D07~08          Power Save Time
                "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
D05~06          Index
                "03"(30H 33H) : Auto Power Save 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) : PD Security
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) : PD Security
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 Command reply
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)
```

【 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
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
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
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
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
                     "01"(30H 31H) : VGA
                     "02"(30H 32H) : RGB/HV
                     "03"(30H 33H) : DVI
                     "04"(30H 34H) : HDMI (Set only)
                     "05"(30H 35H) : VIDEO
                     "06"(30H 36H) : VIDEO2
                     "07"(30H 37H) : S-VIDEO
                     "08"(30H 38H) : (reserved)
                     "09"(30H 39H) : (reserved)
                     "0A"(30H 41H) : (reserved)
                     "0B"(30H 42H) : (reserved)
                     "0C"(30H 43H) : Y/Pb/Pr
                     "0D"(30H 44H) : Option
                     "0E"(30H 45H) : Y/Pb/Pr2
                     "0F"(30H 46H) : DisplayPort
                     "10"(31H 30H) : DisplayPort2
                     "11"(31H 31H) : HDMI
                     "12"(31H 32H) : HDMI2
                     "80"(38H 30H) : DisplayPort3
                     "82"(38H 32H) : HDMI3
```

【 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
```

【 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
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
                    "01"(30H 31H) : VGA(RGB)
                    "02"(30H 32H) : VGA2
                    "03"(30H 33H) : DVI
                    "04"(30H 34H) : DVI2
                    "05"(30H 35H) : VIDEO
                    "06"(30H 36H) : VIDEO2
                    "07"(30H 37H) : S-VIDEO
                    "08"(30H 38H) : S-VIDEO2
                    "09"(30H 39H) : TUNER
                    "0A"(30H 41H) : TUNER2
                    "0B"(30H 42H) : TUNER3
                    "0C"(30H 43H) : VGA(YPbPr)
                    "0D"(30H 44H) : OPTION
                    "0E"(30H 45H) : Y/Pb/Pr3
                    "0F"(30H 46H) : DisplayPort1
                    "10"(31H 30H) : DisplayPort2
                    "11"(31H 31H) : HDMI1
                    "12"(31H 32H) : HDMI2
                    "80"(38H 30H) : DisplayPort3
                    "82"(38H 32H) : HDMI3
D15~16          Tile Matrix Mem
                    "00"(30H 30H) : COMMON
                    "01"(30H 31H) : INPUT
D17~18          DisplayPort Mode
                    "00"(30H 30H) : No mean
                    "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
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
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
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
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
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
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
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
```

【 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
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
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
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
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
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 】

Dual Daisy Chain Mode

CTL-CA35-00. Dual Daisy Chain Mode Read

【Function】

```
This command is used in order to read Dual Daisy Chain 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
                    "CA35"(43H 41H 33H 35H) : Video Out Settings Command
D05~06          Index
                    "00"(30H 30H) : Dual Daisy Chain Mode 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
                    "CB35"(43H 42H 33H 35H) : Video Out Settings reply
D05~06          Index
                    "00"(30H 30H) : Dual Daisy Chain Mode Read
D07~08          Result code
                    "00"(30H 30H) : No Error
                    "01"(30H 31H) : Error
D09~10          Dual Daisy Chain Mode
                    "00"(30H 30H) : Disable
                    "01"(30H 31H) : Enable
```

【Note】

```
- VCP-00-60. Input Source Select :INPUT_DPORT && VCP-10-F2. Display Port Mode SW :DPORT_14
- VCP-00-60. Input Source Select :INPUT_OPTION && IsUseOptDp
```

CTL-CA35-01. Dual Daisy Chain Mode Write

【 Function 】

```
This command is used in order to write Dual Daisy Chain 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
                      "CA35"(43H 41H 33H 35H) : Video Out Settings Command
D05~06            Index
                      "01"(30H 31H) : Dual Daisy Chain Mode Write
D07~08            Dual Daisy Chain Mode
                      "00"(30H 30H) : Disable
                      "01"(30H 31H) : Enable
```

【 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
                      "CB35"(43H 42H 33H 35H) : Video Out Settings reply
D05~06            Index
                      "01"(30H 31H) : Dual Daisy Chain Mode Write
D07~08            Result code
                      "00"(30H 30H) : No Error
                      "01"(30H 31H) : Error
D09~10            Dual Daisy Chain Mode
                      "00"(30H 30H) : Disable
                      "01"(30H 31H) : Enable
```

【 Note 】

```
- VCP-00-60. Input Source Select :INPUT_DPORT && VCP-10-F2. Display Port Mode SW :DPORT_14
```

CTL-CA36-00. Dual Daisy Chain Mode Main Read

【 Function 】

```
This command is used in order to read Dual Daisy Chain Mode Input Main.
```

【 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
                     "CA36"(43H 41H 33H 36H) : Video Out Settings Command
D05~06            Index
                     "00"(30H 30H) : Dual Daisy Chain Mode Main 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
                     "CB36"(43H 42H 33H 36H) : Video Out Settings reply
D05~06            Index
                     "00"(30H 30H) : Dual Daisy Chain Mode Main Read
D07~08            Result code
                     "00"(30H 30H) : No Error
                     "01"(30H 31H) : Error
D09~10            Dual Daisy Chain Mode Main Input
                     "00"(30H 30H) : No mean
                     "0D"(30H 44H) : OPTION
                     "0F"(30H 46H) : Display Port1
                     "10"(31H 30H) : Display Port2
                     "11"(31H 31H) : HDMI1
                     "12"(31H 32H) : HDMI2
                     "88"(38H 38H) : COMPUTE MODULE
```

【 Note 】

```
 - VCP-00-60. Input Source Select :INPUT_DPORT && VCP-10-F2. Display Port Mode SW :DPORT_14
 - VCP-00-60. Input Source Select :INPUT_OPTION && IsUseOptDp
 - CTL-CA35-00. Dual Daisy Chain Mode Read : Disable
```

CTL-CA36-01. Dual Daisy Chain Mode Main Write

【 Function 】

```
This command is used in order to write Dual Daisy Chain Mode Input Main.
```

【 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
                     "CA36"(43H 41H 33H 36H) : Video Out Settings Command
D05~06             Index
                     "01"(30H 31H) : Dual Daisy Chain Mode Main Write
D07~08             Dual Daisy Chain Mode Main Input
                     "00"(30H 30H) : No mean
                     "0D"(30H 44H) : OPTION
                     "0F"(30H 46H) : Display Port1
                     "10"(31H 30H) : Display Port2
                     "11"(31H 31H) : HDMI1
                     "12"(31H 32H) : HDMI2
                     "88"(38H 38H) : COMPUTE MODULE
```

【 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
                     "CB36"(43H 42H 33H 36H) : Video Out Settings reply
D05~06             Index
                     "01"(30H 31H) : Dual Daisy Chain Mode Main Write
D07~08             Result code
                     "00"(30H 30H) : No Error
                     "01"(30H 31H) : Error
D09~10             Dual Daisy Chain Mode Main Input
                     "00"(30H 30H) : No mean
                     "0D"(30H 44H) : OPTION
                     "0F"(30H 46H) : Display Port1
                     "10"(31H 30H) : Display Port2
                     "11"(31H 31H) : HDMI1
                     "12"(31H 32H) : HDMI2
                     "88"(38H 38H) : COMPUTE MODULE
```

【 Note 】

```
- VCP-00-60. Input Source Select :INPUT_DPORT && VCP-10-F2. Display Port Mode SW :DPORT_14
- VCP-00-60. Input Source Select :INPUT_OPTION && IsUseOptDp
- CTL-CA35-00. Dual Daisy Chain Mode Read : Disable
```

CTL-CA37-00. Dual Daisy Chain Mode Sub Read

【 Function 】

```
This command is used in order to read Dual Daisy Chain Mode Input Sub.
```

【 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
                    "CA37"(43H 41H 33H 37H) : Video Out Settings Command
D05~06          Index
                    "00"(30H 30H) : Dual Daisy Chain Mode Sub 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
                    "CB37"(43H 42H 33H 37H) : Video Out Settings reply
D05~06          Index
                    "00"(30H 30H) : Dual Daisy Chain Mode Sub Read
D07~08          Result code
                    "00"(30H 30H) : No Error
                    "01"(30H 31H) : Error
D09~10          Dual Daisy Chain Mode Sub Input
                    "00"(30H 30H) : No mean
                    "0D"(30H 44H) : OPTION
                    "0F"(30H 46H) : Display Port1
                    "10"(31H 30H) : Display Port2
                    "11"(31H 31H) : HDMI1
                    "12"(31H 32H) : HDMI2
                    "88"(38H 38H) : COMPUTE MODULE
```

【 Note 】

```
- VCP-00-60. Input Source Select :INPUT_DPORT && VCP-10-F2. Display Port Mode SW :DPORT_14
- VCP-00-60. Input Source Select :INPUT_OPTION && IsUseOptDp
- CTL-CA35-00. Dual Daisy Chain Mode Read : Disable
```

CTL-CA37-01. Dual Daisy Chain Mode Sub Write

【 Function 】

```
This command is used in order to write Daisy Chain Sub Input Main.
```

【 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
                      "CA37"(43H 41H 33H 37H) : Video Out Settings Command
D05~06            Index
                      "01"(30H 31H) : Dual Daisy Chain Mode Sub Write
D07~08            Dual Daisy Chain Mode Sub Input
                      "00"(30H 30H) : No mean
                      "0D"(30H 44H) : OPTION
                      "0F"(30H 46H) : Display Port1
                      "10"(31H 30H) : Display Port2
                      "11"(31H 31H) : HDMI1
                      "12"(31H 32H) : HDMI2
                      "88"(38H 38H) : COMPUTE MODULE
```

【 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
                      "CB37"(43H 42H 33H 37H) : Video Out Settings reply
D05~06            Index
                      "01"(30H 31H) : Dual Daisy Chain Mode Sub Write
D07~08            Result code
                      "00"(30H 30H) : No Error
                      "01"(30H 31H) : Error
D09~10            Dual Daisy Chain Mode Sub Input
                      "00"(30H 30H) : No mean
                      "0D"(30H 44H) : OPTION
                      "0F"(30H 46H) : Display Port1
                      "10"(31H 30H) : Display Port2
                      "11"(31H 31H) : HDMI1
                      "12"(31H 32H) : HDMI2
                      "88"(38H 38H) : COMPUTE MODULE
```

【 Note 】

```
- VCP-00-60. Input Source Select :INPUT_DPORT && VCP-10-F2. Display Port Mode SW :DPORT_14
- VCP-00-60. Input Source Select :INPUT_OPTION && IsUseOptDp
- CTL-CA35-00. Dual Daisy Chain Mode Read : Disable
```

CTL-CA38-00. Dual Daisy Chain Is Active Read

【 Function 】

```
This command is used in order to read Dual Dasiy Chain Is Active
```

【 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
                      "CA38"(43H 41H 33H 38H) : Video Out Settings Command
D05~06            Index
                      "00"(30H 30H) : Dual Daisy Chain Is Active 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
                      "CB38"(43H 42H 33H 38H) : Video Out Settings reply
D05~06            Index
                      "00"(30H 30H) : Dual Daisy Chain Is Active Read
D07~08            Result code
                      "00"(30H 30H) : No Error
                      "01"(30H 31H) : Error
D09~10            Dual Daisy Chain Is Active
                      "00"(30H 30H) : No action
                      "01"(30H 31H) : Activate
```

【 Note 】

```
 - VCP-00-60. Input Source Select :INPUT_DPORT && VCP-10-F2. Display Port Mode SW :DPORT_14
 - VCP-00-60. Input Source Select :INPUT_OPTION && IsUseOptDp
```

CTL-CA38-01. Dual Daisy Chain Is Active Write

【 Function 】

```
This command is used in order to write Dual Dasiy Chain Is Active
```

【 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
                      "CA38"(43H 41H 33H 38H) : Video Out Settings Command
D05~06            Index
                      "01"(30H 31H) : Dual Daisy Chain Is Active Write
D07~08            Dual Daisy Chain Is Active
                      "00"(30H 30H) : No action
                      "01"(01H 31H) : Activate
```

【 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
                      "CB38"(43H 42H 33H 38H) : Video Out Settings reply
D05~06            Index
                      "01"(30H 31H) : Dual Daisy Chain Is Active Write
D07~08            Result code
                      "00"(30H 30H) : No Error
                      "01"(30H 31H) : Error
D09~10            Dual Daisy Chain Is Active
                      "00"(30H 30H) : No action
                      "01"(01H 31H) : Activate
```

【 Note 】

```
- VCP-00-60. Input Source Select :INPUT_DPORT && VCP-10-F2. Display Port Mode SW :DPORT_14
- VCP-00-60. Input Source Select :INPUT_OPTION && IsUseOptDp
```

DP to HDMI Convert

CTL-CA39-00. DP to HDMI Convert Read

【 Function 】

```
This command is used in order to read DP to HDMI Convert.
```

【 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
                "CA39"(43H 41H 33H 39H) : Video Out Settings Command
D05~06          Index
                "00"(30H 30H) : DP to HDMI Convert 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
                "CB39"(43H 42H 33H 39H) : Video Out Settings reply
D05~06          Index
                "00"(30H 30H) : DP to HDMI Convert Read
D07~08          Result code
                "00"(30H 30H) : No Error
                "01"(30H 31H) : Error
D09~10          DP to HDMI Convert
                "00"(30H 30H) : Disable
                "01"(30H 31H) : Enable
```

【 Note 】

```
- CTL-CA35-00. Dual Daisy Chain Mode Read : Enable
```

CTL-CA39-01. DP to HDMI Convert Write

【 Function 】

```
This command is used in order to write DP to HDMI Convert.
```

【 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
                "CA39"(43H 41H 33H 39H) : Video Out Settings Command
D05~06          Index
                "01"(30H 31H) : DP to HDMI Convert Write
D07~08          DP to HDMI Convert
                "00"(30H 30H) : Disable
                "01"(30H 31H) : Enable
```

【 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
                "CB39"(43H 42H 33H 39H) : Video Out Settings reply
D05~06          Index
                "01"(30H 31H) : DP to HDMI Convert Write
D07~08          Result code
                "00"(30H 30H) : No Error
                "01"(30H 31H) : Error
D09~10          DP to HDMI Convert
                "00"(30H 30H) : Disable
                "01"(30H 31H) : Enable
```

【 Note 】

```
- CTL-CA35-00. Dual Daisy Chain Mode Read : Enable
```

CTL-C22A-0F. CMD_GET_LAN_ALERT_SETTING

【 Function 】

```
CMD_GET_LAN_ALERT_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
                      "C22A"(43H 32H 32H 41H) : Read cmd
D05~06            Index
                      "0F"(30H 46H)
```

【 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
                      "C32A"(43H 33H 32H 41H) : Read reply cmd
D05~06            Result code
                      "00"(30H 30H) : normal
                      "FF"(46H 46H) : abnormal
D07~08            Index
                      "0F"(30H 46H)
D09~10            alert
                      "00"(30H 30H) : ALERT Disable
                      "01"(30H 31H) : ALERT Enable
```

【 Note 】

CTL-C22B-0E-04. Ping Command(IPv4)

【 Function 】

```
Ping Command(IPv4)
```

【 Command 】

```
[ASC]SOH-'0'-ID-'0'-'A'-'1'-'2'-STX "Data                                    " ETX
BCC 0DH
[HEX]01H 30H ID 30H 41H 31H 32H 02H (D01~04) (D05~06) (D07~08) (D09~10) (D11~12) (D13~14) (D15~16) 03H
BCC 0DH

Data              Contents
-------------------------------------------------------------------
D01~04            Message
                      "C22B"(43H 32H 32H 42H) : Write cmd
D05~06            Index
                      "0E"(30H 45H)
D07~08            IP Version("04") : IPv4
D09~10            Oct1
D11~12            Oct2
D13~14            Oct3
D15~16            Oct4
```

【 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
                      "C32B"(43H 33H 32H 42H) : Write reply cmd
D05~06            Result code
                      "00"(30H 30H) : normal
                      "FF"(46H 46H) : abnormal
D07~08            Index
                      "0E"(30H 45H)
```

【 Note 】

CTL-C22B-0F. CMD_SET_LAN_ALERT_SETTING

【 Function 】

```
CMD_SET_LAN_ALERT_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
                     "C22B"(43H 32H 32H 42H) : Write cmd
D05~06            Index
                     "0F"(30H 46H)
D07~08            alert :
                     00H : ALERT Disable
                     01H : ALERT Enable
```

【 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
                     "C32B"(43H 33H 32H 42H) : Write reply cmd
D05~06            Result code
                     "00"(30H 30H) : normal
                     "FF"(46H 46H) : abnormal
D07~08            Index
                     "0F"(30H 46H)
```

【 Note 】

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
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
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
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
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
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
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
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
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
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
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
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
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 (for Athlon5)

【 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
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
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 (for Athlon5)

【 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
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
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 】

VCP.OP-Code Table

OSD				Command	Parameter
INPUT	INPUT NAME	DisplayPort1		VCP-00-60	000DH : OPTION 000FH : Display Port1 0010H : Display Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
		DisplayPort2			
		HDMI1			
		HDMI2			
		COMPUTE MODULE			
		OPTION			
	INPUT SETTINGS	INPUT NAME		CTL-CA04-00 CTL-CA04-01	---
		NAME RESET		CTL-CA04-02	---
		QUICK INPUT CHANGE	ON / OFF	VCP-10-86	0001H : OFF 0002H : ON
			INPUT 1	VCP-10-CE	000DH : OPTION 000FH : Display Port1 0010H : Display Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
			INPUT 2	VCP-10-CF	000DH : OPTION 000FH : Display Port1 0010H : Display Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
		AUTO INPUT CHANGE	AUTO INPUT CHANGE	VCP-02-40	0000H : FIRST DETECT 0001H : LAST DETECT 0002H : NONE 0004H : CUSTOM DETECT
			PRIORITY: 1	VCP-10-2E	0000H : --- 000DH : OPTION 000FH : Display Port1 0010H : Display
			PRIORITY: 2	VCP-10-2F	
			PRIORITY: 3	VCP-10-30	

					Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
		CURRENT INPUT		N/A	---
		RESOLUTION		N/A	---
		FREQUENCY		N/A	---
		COLOR FORMAT		N/A	---
	INPUT SIGNAL INFORMATION	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	寞サPlease refer to "INPUT-ADVANCED"			
INPUT ADVANCED	INPUT SIGNAL SETTINGS	DisplayPort	DisplayPort VERSION	VCP-10-F2 VCP-11-67	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
			EQUALIZER	VCP-11-D6	0001H : Auto 0002H : Manual
		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
			EQUALIZER	VCP-11-D6	0001H : Auto 0002H : Manual
		SIGNAL FORMAT	OVERSCAN	VCP-02-E3	0001H : Under Scan 0002H : Over Scan 0003H : Auto
			VIDEO RANGE	VCP-10-40	0001H : EXPANDED

					SIGNAL 0002H : RAW SIGNAL 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 : NO 0002H : YES
			AUDIO RECEIVER	VCP-11-78	0001H : DISABLE 0002H : ENABLE
			SEARCH DEVICE	VCP-11-79	0001H : NO 0002H : YES
		BACKGROUND COLOR		VCP-02-DF	0000H - 0064H (to Black) - (to White)
	VIDEO OUT SETTINGS	DUAL DAISY CHAIN MODE	DISABLE / ENABLE	CTL-CA35-00 CTL-CA35-01	---
			MAIN INPUT	CTL-CA36-00 CTL-CA36-01	---
			SUB INPUT	CTL-CA37-00 CTL-CA37-01	---
			EXECUTE	CTL-CA38-00 CTL-CA38-01	---
		DP TO HDMI CONVERT		CTL-CA39-00 CTL-CA39-01	---
	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 - FFFFH

Carbon Footprint Display	Message	---	---
	CARBON FOOTPRINT	---	---
VIDEO BLACK LEVEL		VCP-00-92	0000H - 0064H (to Dark) - (to Bright)
GAMMA	GAMMA	VCP-02-68	0001H : NATIVE 0004H : 2.2 0005H : DICOM 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 (to Pale) - (tp Deep) VCP-00-8A 0000H - 0064H (to Pale) - (tp Deep)
	COLOR TEMPERATURE	COLOR TEMP	VCP-00-0C VCP-00-54 VCP-00-14	VCP-00-0C 0 窶・(max value: 0001h-FFFFh) 0: Get -> 2600K - 3000K Set -> 3000K > 0: Color Temperature increment(VCP-00-0B)縺ｺ荳玲焚縺ｨ縺励※菴ｿ逕ｨ縺輔ｌ繧区凾縺ｮ蜊倅ｽ阪縺九ｉ縲縺ｯ3000K縺ｯ蜉ｹ譫ｫ縺溘＠・繧譛蜈臼縺ｨ蜈臼逕宐

					縺ヨ縺ヲ縺ﾆ縺ﾣ繧九€・ 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 - FFFFH
			G GAIN	VCP-00-18	0000H - FFFFH
			B GAIN	VCP-00-1A	0000H - FFFFH
		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 - FFFFH
PICTURE MODE (SVE = ON)	PICTURE MODE	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 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)
	SYSTEM GAMMA	VCP-11-B8	0000H : Auto 0005H - 0014H (0.5) - (2.0)
	PEAK LUMINANCE	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 寰・(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 addedto base value 3000K. VCP-00-14 0002H : Display native (NATIVE) 0009H : 10000K 000BH : User1(CUSTOM)
		WHITE	VCP-10-52 VCP-10-53	VCP-10-52 00FAH - 01E0H VCP-10-53 00FAH - 01AEH
		RED(x, y)	VCP-10-55 VCP-10-56	VCP-10-55 0226H - 0320H VCP-10-56 00C8H - 0190H
		GREEN(x, y)	VCP-10-57 VCP-10-58	VCP-10-57 0064H - 015EH VCP-10-58 01F4H - 0384H
		BLUE(x, y)	VCP-10-59 VCP-10-5A	VCP-10-59 0000H - 00FAH VCP-10-5A 0000H - 0096H
	EMULATION	3D LUT EMULATION	VCP-10-69	0001H : OFF 0002H : ON 0003H : Compare
		PROFILE	---	---
		COLOR VISION EMULATION	VCP-10-5B	0001H : OFF 0002H : Type P 0003H : Type D

				0004H : Type T 0005H : Grayscale
		RED	HUE	VCP-00-9B	0000H - 00C8H (to Magenta) - (to Yellow)
			SAT.	VCP-02-12	0000H - 00C8H
			OFFSET	VCP-02-F1	0000H - 00C8H
		YELLOW	HUE	VCP-00-9C	0000H - 00C8H (to Red) - (to Green)
			SAT.	VCP-02-13	0000H - 00C8H
			OFSSET	VCP-02-F2	0000H - 00C8H
	6AXIS COLOR TRIM	GREEN	HUE	VCP-00-9D	0000H - 00C8H (to Yellow) - (to Cyan)
			SAT.	VCP-02-14	0000H - 00C8H
			OFFSET	VCP-02-F3	0000H - 00C8H
		CYAN	HUE	VCP-00-9E	0000H - 00C8H (to Green) - (to Blue)
			SAT.	VCP-02-15	0000H - 00C8H
			OFFSET	VCP-02-F4	0000H - 00C8H
		BLUE	HUE	VCP-00-9F	0000H - 00C8H (to Cyan) - (to Magenta)
			SAT.	VCP-02-16	0000H - 00C8H
			OFFSET	VCP-02-F5	0000H - 00C8H
		MAGENTA	HUE	VCP-00-A0	0000H - 00C8H (to Blue) - (to Red)
			SAT.	VCP-02-17	0000H - 00C8H
			OFFSET	VCP-02-F6	0000H - 00C8H
	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 : LOW
	SPECTRAVIEW ENGINE	SPECTRAVIEW ENGINE		VCP-11-47	0001H : OFF(Disabled SV Engine Function)

					0002H : ON(Enabled SV Engine Function)
		NUMBER OF PICTURE MODES		VCP-11-B0	0001H - 000AH
		METAMERISM		VCP-10-5C	0001H : OFF 0002H : ON
		CALIBRATION		---	---
	ADVANCED	窶ｻPlease refer to "PICTURE ADVANCED"			
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(dot by dot)
		ZOOM	ZOOM	VCP-02-6F VCP-11-2C	VCP-02-6F 0000H : No Operate 0001H - 00C9H (100%) - (300%) VCP-11-2C 005AH - 012CH (0.90) - (3.00) Other : No mean *The range of values depends on the model.
			H ZOOM	VCP-02-6C VCP-11-2D	VCP-02-6C 0000H : No Operate 0001H - 00C9H (100%) - (300%) VCP-11-2D 005AH - 012CH (0.90) - (3.00) Other : No mean *The range of values

						depends on the model.
			V ZOOM		VCP-02-6D VCP-11-2E	VCP-02-6D 0000H : No Operate 0001H - 00C9H (100%) - (300%) VCP-11-2E 005AH - 012CH (0.90) - (3.00) 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)
	NOISE REDUCTION				VCP-02-20	0000H : OFF 0001H - 0003H
	ADAPTIVE CONTRAST				VCP-02-8D	0001H : OFF 0002H : LOW 0004H : HIGH
	UNIFORMITY				VCP-02-C2	0000H : No Action 0001H : OFF 0002H : ON 0003H : Adjust
	AUTO DIMMING	AUTO BRIGHTNESS			VCP-02-2D	0000H : OFF 0001H : ON 0002H : MODE2
		AMBIENT LIGHT SENSING	MODE		VCP-10-C8	0001H : OFF 0002H : MODE1 0003H : MODE2
			IN BRIGHT		---	---
				ILLUMINANCE	VCP-11-F6	0000H - 0064H (Step 5)
				BACKLIGHT	VCP-10-34	0000H - 0064H
			IN DARK		---	---
				ILLUMINANCE	VCP-11-F5	0000H - 0064H (Step 5)
				BACKLIGHT	VCP-10-33	0000H - 0064H
			STATUS		---	---
				ILLMINANCE	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
			BACK LIGHT	VCP-10-DD VCP-10-C6	VCP-10-DD 0001H : Off 0002H : On VCP-10-C6 0000H - 0064H
			CURRENT	---	---
			VOLUME	VCP-10-DE VCP-10-C7	VCP-10-DE 0001H : Off 0002H : On VCP-10-C7 0000H - 0064H
			CURRENT	---	---
			INPUT SELECT	VCP-10-DF VCP-10-D0	VCP-10-DF 0001H : Off 0002H : On VCP-10-D0 000DH : OPTION 000FH : Display Port1 0010H : Display Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
			CURRENT	---	---
			WAITING TIME	VCP-10-78	0000H - 0258H
		AUTO TILE MATRIX	H MONITORS	CTL-CA03-04 CTL-CA03-05	---
			V MONITORS	CTL-CA03-04 CTL-CA03-05	---
			EXECUTE	---	---
	TILE MATRIX	TILE MATRIX		VCP-02-D3	0001H : Disable(off) 0002H : Enable(on) 0003H : Disable(off)
		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	ON/OFF	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	ON/OFF	VCP-11-C0	0001H : OFF 0002H : ON
			H SIZE	VCP-11-C1	0000H - 03C0H
			V SIZE	VCP-11-C2	0000H - 021CH
	IMAGE FLIP	IMAGE FLIP		VCP-02-D7	0001H : Normal 0002H : H-Mirror 0003H : V-Mirror 0004H : Rotate
		OSD FRIP		VCP-10-B8	0001H : OSD does not work with image 0002H : OSD works with image
	MULTI PICTURE	MULTI PICTURE MODE	MODE	VCP-11-EB	0001H : OFF 0002H : 2PIP 0003H : 2PBP 0004H : 4PBP
			PICTURE 1	VCP-11-0E	000DH : OPTION 000FH : Display Port1 0010H : Display Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
			PICTURE 2	VCP-11-0F	000DH : OPTION 000FH : Display Port1 0010H : Display

			Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
	PICTURE 3	VCP-11-10	000DH : OPTION 000FH : Display Port1 0010H : Display Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
	PICTURE 4	VCP-11-11	000DH : OPTION 000FH : Display Port1 0010H : Display Port2 0011H : HDMI1 0012H : HDMI2 0088H : COMPUTE MODULE
AUDIO		VCP-10-80	0014H : DisplayPort1 0015H : DisplayPort2 0016H : HDMI1 0017H : HDMI2 0018H : OPTION(DIGITAL) 001AH : Raspberry PI
ACTIVE PICTURE		VCP-11-0B	0001H : WINDOW1 0002H : WINDOW2 0003H : WINDOW3 0004H : WINDOW4
ACTIVE FRAME		VCP-11-0D	0001H : OFF 0002H : ON
PICTURE SIZE		VCP-10-B9 VCP-02-71	<u>VCP-10-B9</u> 0000H - 0050H (Small) - (Large) <u>VCP-02-71</u> 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 : 0deg 0004H : 270deg
		PICTURE 1	VCP-11-12	0001H : 0deg 0004H : 270deg
		PICTURE 2	VCP-11-13	0001H : 0deg 0004H : 270deg
		PICTURE 3	VCP-11-14	0001H : 0deg 0004H : 270deg
		PICTURE 4	VCP-11-15	0001H : 0deg 0004H : 270deg
	RESET		VCP-02-CB	0002H : Picture
AUDIO	AUDIO MODE		VCP-11-D8	0001H : RETAIL 0002H : CONFERENCING 0003H : HIGHBRIGHT 0004H : TRANSPORTATION 0005H : CUSTOM1 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.) 0002H : Stereo Expanded(As defined by the models)
		BALANCE	VCP-00-93	0000H - 0032H (to Left) - (to Right)
		SURROUND	VCP-02-34	0001H : Off 0002H : Low
	EQUALIZER	TREBLE	VCP-00-8F	0000H - 000AH (De-emphasized) - (Emphasized)

		BASS	VCP-00-91	0000H - 000AH (Small) - (Large)
	ADVANCED	婁ﾎPlease refer to "AUDIO ADVANCED"		
AUDIO ADVANCED	LINE OUT		VCP-10-81	0001H : FIXED 0002H : VARIABLE
	AUDIO DELAY	AUDIO DELAY	VCP-10-CA	0001H : OFF 0002H : ON
		DELAY TIME	VCP-10-CB	0000H - 0064H
	AUDIO INPUT		VCP-02-2E	0004H : HDMI1 0006H : Option 0007H : Display Port1 0008H : Display Port2 000AH : HDMI2 000EH : COMPUTE MODULE
	RESET		VCP-02-CB	0004H : Audio
SCHEDULE	SCHEDULE SETTINGS	SETTINGS	CTL-C23D CTL-C23E	---
		POWER		
		TIME		
		INPUT		
		DATE — YEAR		
		DATE — MONTH		
		DATE — DAY		
		EVERY WEEK		
	OFF TIMER		VCP-02-2B	0000H - 0018H (Off) - (24hour)
	RESET		VCP-02-CB	0005H : Schedule
SLOT	OPTION		---	---
	POWER CONTROL	POWER SUPPLY	VCP-11-DA	0001H : ON 0002H : OFF
		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	---	---

		Type	N/A	---
		Interface Version	N/A	---
		Form Factor Size	N/A	---
		Connector Type	---	---
		Max Power	N/A	---
	POWER SETTING	AUTO POWER UP	VCP-11-DD	0001H : DISABLE 0002H : ENABLE
		AUTO SHUTDOWN	VCP-11-DE	0001H : DISABLE 0002H : ENABLE
		POWER SUPPLY OFF DELAY	VCP-11-DF	0000H : off 001EH - 0258H (30sec) - (600sec)
		AUTO DISPLAY OFF	VCP-10-C1	0001H : Option Slot does not shutdown with Monitor 0002H : Option Slot shutdown with Monitor
		OFFWARNING	VCP-10-C0	0001H : Not display warning Message 0002H : Display warning Message
	ADVANCED	CHANNEL SELECT	TBD	---
		INTERFACE CAPABILITY	TBD	---
	COMPUTE MODULE		---	---
	POWER CONTROL	POWER SPPLY	VCP-11-7C	0001H : OFF 0002H : ON
		POWER BUTTON	VCP-11-E0	0001H : Execute
		RESET	VCP-11-E1	0001H : Execute
		Connection Status	---	---
		Power Status	VCP_OSD_INFO_CM_PWR_STS	---
		Module	---	---
		Type	VCP_OSD_INFO_CM_MODULE	---
	POWER	AUTO POWER UP	VCP-11-7D	0001H : DISABLE

	SETTING			0002H : ENABLE
		AUTO SHUTDOWN	VCP-11-B7	0000H : No Mean 0001H : DISABLE 0002H : ENABLE
		POWER OFF DELAY	VCP-11-82	0000H : OFF 001EH - 0258H (30sec) - (600sec)
		AUTO DISPLAY OFF	VCP-11-E2	0001H : Option Slot does not shutdown with Monitor 0002H : Option Slot shutdown with Monitor
		OFF WARNING	VCP-11-E3	0001H : Not display warning Message, 0002H : Display warning Message
		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
	ADVANCED	WDT	WDT	VCP-11-9B VCP-11-9E	<u>VCP-11-9B</u> 0001H : DISABLE 0002H : ENABLE <u>VCP-11-9E</u> 0000H : No Mean 0000H : WDT is disabled 0001H : Reset WDT 0001H : WDT is running 0002H : Stop 0002H : WDT is stopped
			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	IP SETTING	CTL-C22B-03	---

		INFORMATION	IP ADDRESS	CTL-C22A-04 CTL-C22B-04-04 CTL-C22A-45	---
			SUBNET MASK	CTL-C22A-05 CTL-C22B-05-04 CTL-C22A-46	---
			DEFAULT GATEWAY	CTL-C22A-06 CTL-C22B-06-04 CTL-C22A-47	---
			DNS	CTL-C22A-0C CTL-C22B-0C	---
			DNS PRIMARY	CTL-C22A-07 CTL-C22B-07-04	---
			DNS SECONDARY	CTL-C22A-08 CTL-C22B-08-04	---
			MAC ADDRESS	CTL-C220	---
			EXECUTE	CTL-C22B-0D	---
		NETWORK SECURITY	INTERFACE	VCP-11-CF VCP-11-D1	0001H : Disable 0002H : Enable
			NETWORK PORT	VCP-11-F0 VCP-11-F1 VCP-11-F2 VCP-11-F3 VCP-11-F4	0000H : No Mean 0001H : OFF 0002H : ON
			APPLY	VCP-11-CF VCP-11-D1	<u>VCP-11-CF</u> 0001H : Disable 0002H : Enable <u>VCP-11-D1</u> 0001H : Disable 0002H : Enable
		PING	IP ADDRESS	---	---
			EXECUTE	CTL-C22B-0E-04	---
		RESET		---	---
	PROTECT	POWER SAVE SETTINGS	POWER SAVE	CTL-CA0B-00 CTL-CA0B-01	---
			TIME SETTING	CTL-CA0B-02 CTL-CA0B-03	---
			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	STATUS	N/A	---
		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	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	OPTION	N/A	---

	REQUIREMENT	COMPUTE MODULE	N/A	---
SCREEN SAVER	MOTION		VCP-02-DD	0000H - 005AH (0 sec(off)) - (900 sec)
	INTERVAL		VCP-02-DD	0000H - 005AH (0 sec(off)) - (900 sec)
	ZOOM		VCP-10-35	0000H - 000AH (95%) - (105%) (1Step = 1%)
POWER ON DELAY	DELAY TIME		VCP-02-D8	0000H : OFF 0001H - 0032H (1 sec) - (50 sec)
	LINK TO ID		VCP-10-BC	0001H : Not Link to Monitor ID 0002H : Link to Monitor ID
	ID No.		N/A	---
	POWER ON TIME		N/A	---
SECURITY SETTINGS	PASSWORD		CTL-C21D	---
	SECURITY MODE		CTL-C21D	---
	PASSWORD CHANGE		---	---
	CURRENT PASSWORD		N/A	---
	NEW PASSWORD		N/A	---
	CONFIRM PASSWORD		N/A	---
LOCK SETTINGS	SELECT		CTL-CA32 CTL-CA33	0001H : KEY 0002H : IR 0003H : BOTH
	MODE		CTL-CA32 CTL-CA33	0000H : No Operate 0001H : UNLOCK 0002H : ALL LOCK 0003H : CUSTOM LOCK
	POWER		CTL-CA32 CTL-CA33	0000H : No Operate 0001H : UNLOCK 0002H : LOCK
	VOLUME		CTL-CA32 CTL-CA33	0000H : No Operate 0001H : UNLOCK

					0002H : LOCK
		MIN VOL		CTL-CA32 CTL-CA33	0000H - 0064H
		MAX VOL		CTL-CA32 CTL-CA33	0000H - 0064H
		INPUT		CTL-CA32 CTL-CA33	0000H : No Operate 0001H : UNLOCK 0002H : LOCK
		EXECUTE		---	---
	ALERT MAIL			CTL-C22A-0F CTL-C22B-0F	---
	RESET			VCP-02-CB	0011H : Protect
SYSTEM		MODEL		CTL-C217	---
		SERIAL		CTL-C216	---
	MONITOR INFORMATION	CARBON SAVINGS		VCP-10-10 VCP-10-11 VCP-10-28 VCP-10-29	<u>VCP-10-10</u> 0000H - 03E7H <u>VCP-10-11</u> 0000H - FFFFH <u>VCP-10-28</u> 0000H - 03E7H <u>VCP-10-29</u> 0000H - FFFFH
		CARBON USAGE		VCP-10-2A VCP-10-2B VCP-10-26 VCP-10-27	<u>VCP-10-2A</u> 0000H - 03E7H <u>VCP-10-2B</u> 0000H - FFFFH <u>VCP-10-26</u> 0000H - 03E7H <u>VCP-10-27</u> 0000H - FFFFH
		FIRMWARE	REVISION	CTL-C03F	---
		MAC ADDRESS		CTL-C220	---
	DATE & TIME	TIME ZONE	UTC	CTL-C211 / CTL-C212	---
		INTERNET TIMER SERVER	ON/OFF	CTL-C21A / CTL-C21B	---
			ADDRESS	CTL-C21A / CTL-C21B	---
		UPDATE		CTL-C212	---
		YEAR		CTL-C211/ CTL-C212	---
		MONTH			---

		DAY		---
		TIME		---
		CURRENT DATE TIME	N/A	---
SUMMER TIME		SUMMER TIME	CTL-CA01-02/CTL-CA01-03	
	BEGIN	MONTH	CTL-CA01-00/CTL-CA01-01	---
		DAY		
		TIME		
	END	MONTH		
		DAY		
		TIME		
	TIME DIFFERENCE			
EXTERNAL CONTROL	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		---	---
	AUTO ID/IP SETTING	SETTING ITEM	CTL-CA0A-0E	---
		BASE NUMBER	CTL-CA0A-0E	---
		BASE ADDRESS	CTL-CA0A-0E	---
		ID/IP SETTING START	CTL-CA0A-01	---
		DETECTED MONITORS	CTL-CA0A-07	---
	AUTO ID/IP RESET		CTL-CA0A-08	0000H : No Operate 0001H : Execute
	AUTO ID/IP RESET	RESET ITEM	CTL-CA0A-0B CTL-CA0A-0C	---
		ID/IP RESET START	CTL-CA0A-08	---
	DETECTED MONITORS		CTL-CA0A-07	---

		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 TIME	VCP-00-FC	0000H : Ignored 0001H : Ignored 0002H - 0030H (10sec.) - (240sec.)
		OSD POSITION	VCP-02-38 VCP-02-39	VCP-02-38 0000H - FFFFH (to Left) - (to Right) VCP-02-39 0000H - FFFFH (to Buttom) - (to Top)
		OSD SIZE	VCP-11-E6	0001H : NORMAL 0002H : EXPAND
		INFORMATION OSD	VCP-02-3D	0000H : OFF 0001H - 0010H : ON(If user get, return 0001H)
		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ツ −) 0002H : Auto
		KEY GUIDE	VCP-11-7A	0001H : OFF 0002H : ON
	CLONE SETTING	CLONE SETTING	---	---
		TAGRET INPUT	N/A	---
		INPUT	N/A	---
		PICTURE	N/A	---
		AUDIO	N/A	---

	SCHEDULE	N/A	---
	SLOT	N/A	---
	NETWORK	N/A	---
	PROTECT	N/A	---
	SYSTEM	N/A	---
	HTTP	N/A	---
	COPY START	N/A	---
	EXECUTE	N/A	---
POWER INDICATOR		VCP-02-BE	0001H : ON 0002H : OFF
MUTE SETTING	AUDIO	VCP-11-E9	0001H : AUDIO 0002H : VIDEO 0003H : AUDIO&VIDEO
	VIDEO	VCP-11-E9	0001H : AUDIO 0002H : VIDEO 0003H : AUDIO&VIDEO
	AUDIO & VIDEO	VCP-11-E9	0001H : AUDIO 0002H : VIDEO 0003H : AUDIO&VIDEO
USB	PC SOURCE	VCP-11-74	0001H : AUTO 0002H : EXTERNAL PC 0003H : INTERNAL PC 0004H : RASPBERRY PI
	USB POWER	VCP-11-75	0001H : ON 0002H : AUTO
	EXTERNAL CONTROL	VCP-11-73	0001H : Disable(off) 0002H : Enable(on)
UPDATE FIRMWARE	EXECUTE	N/A	---
ALL RESET		VCP-02-CB	0001H : All(=Factory Reset)