

**AG Neovo**

**QX-24/QX-28/QX-32/  
QX-43/QX-55**

**RS-232 Command List**

# 1. INTRODUCTION

## 1.1 Purpose

The purpose of this document is to explain in detail the commands and steps that can be used to control a display via RS232C.

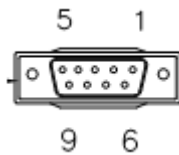
## 1.2 Definitions, Abbreviations and Acronyms

PBS	Professional Business Solutions
RC	Remote Control
ACK	Acknowledge
NACK	Not Acknowledge
NAV	Not Available
ID	Identification
0xXX	Hexadecimal notation

# 2. COMMAND PACKET FORMAT

## 2.1 Physical Specifications

1. Baud Rate : 9600
2. Data bits: 8
3. Parity : None
4. Stop Bit : 1
5. Flow Control : None
6. The Pin Assignments for DB9 Female connector:  
Female D-Sub 9-Pin (outside view)



Pin #	Signal	Remark
1	NC	
2	TXD	
3	RXD	
4	NC	
5	GND	
6	NC	
7	NC	
8	NC	
9	NC	
frame	GND	

## 2.2 Communication Procedure

Control commands can be sent from a host controller via the RS232 connection. A new command should not be sent until the previous command is acknowledged. However, if a response is not received **within 500 milliseconds** a retry may be triggered. Every valid command receives an ACK. A command that is valid but not supported in the current implementation will be responded to with a NAV (Not Available). If the command buffer is corrupt (transmission errors) the command will be responded to with a NACK. The display operates according to the received command. If the command is a valid "Get" command, the display responds with the requested info. If the command is a valid "Set" command allowed, the display performs the requested operation. Figure1 and Figure2 explain the mechanism of the Get and Set commands.

Note: For LAN control, the port number is 5000.

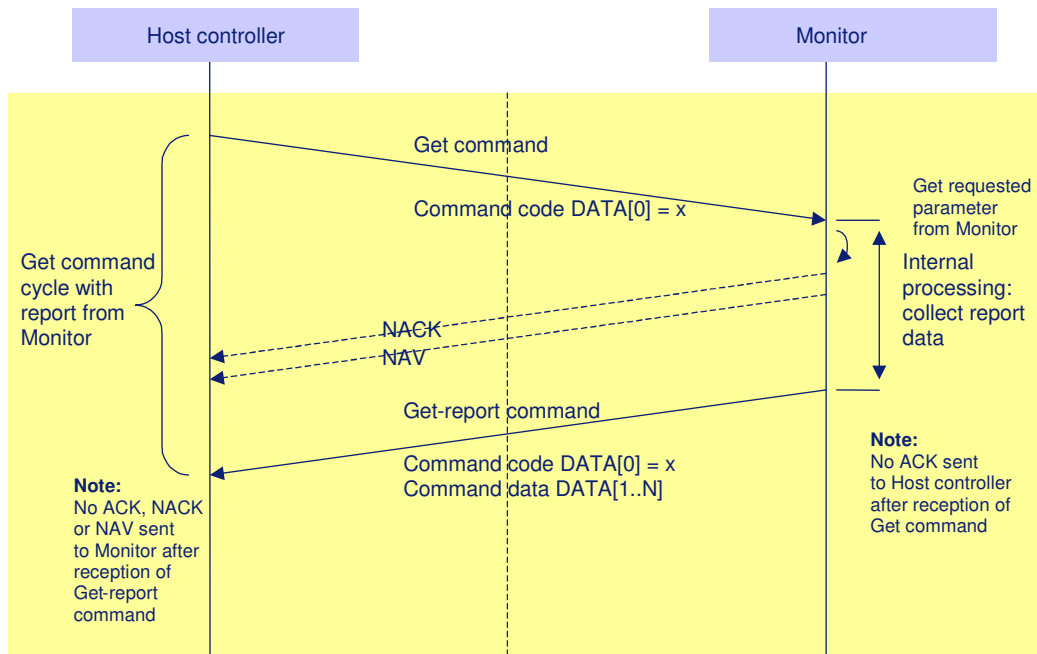


Figure 1: Explanation of mechanism of Get Command.

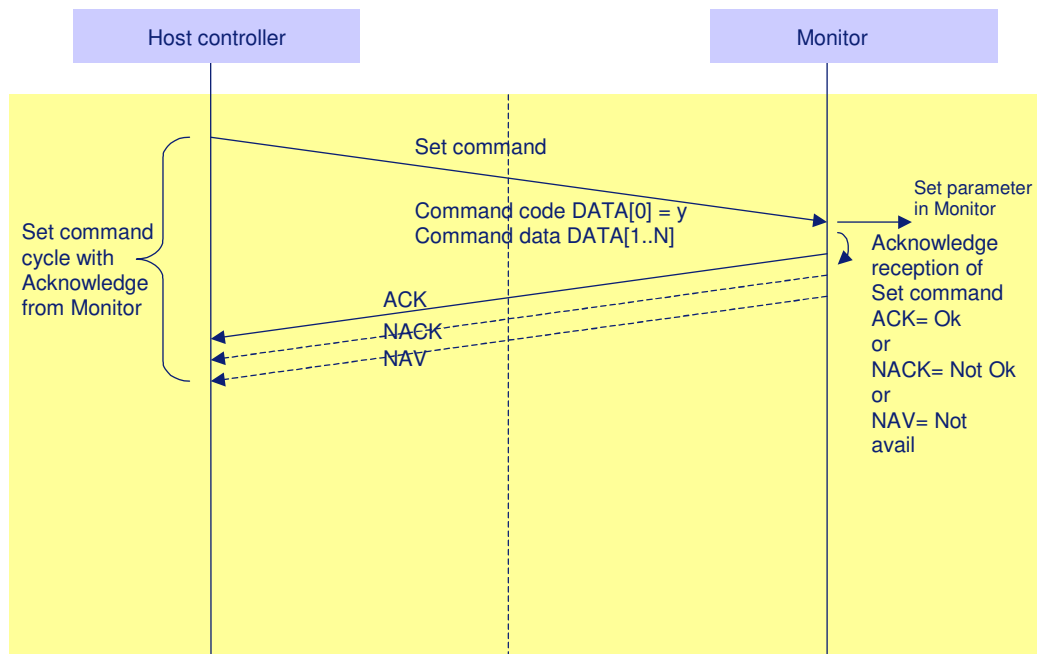


Figure 2: Explanation of mechanism of Set Command.

### 2.3 Command Format

The RS232 packet format:

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	...	Data[N]	Checksum
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In detail:

Number of Field	Name of Field	Description
Byte 1	Header	Header = 0xA6
Byte 2	Monitor ID	Monitor ID Range : 1 ~ 255, <b>0 = broadcast.</b>
Byte 3	Category	Category = 0x00 (fixed)
Byte 4	Code0 (Page)	Reserve
Byte 5	Code1 (Function)	Reserve
Byte 6	Length	Length of message plus checksum code. Calculate the length from Control byte to Checksum byte.
Byte 7	Data Control	Data Control = 0x01 (fixed)
Byte 8	Data[0]	Command code.
Byte 9~Byte9+(N-1)	Data[1]~Data[N]	Data. This field can be also empty.
Last Byte	Checksum	Checksum. Range = 0 to 255 (0xFF). Algorithm: The EXCLUSIVE-OR (XOR) of all bytes in the message except the checksum itself. Checksum = [Header] XOR [Monitor ID] XOR ... DATA[0] ... XOR DATA[N]

Monitor ID=0 : Broadcast (Host 送出 ID=0 時 每一台 Monitor 會收到並執行命令, 但不會回 ACK)

## MESSAGES - SYSTEM

### 2.4 Communication Control

This defines the feedback command from monitor to host controller when it receives the display command from the host controller, depending on the commands availability, the command reported back to host controller can be one of the ACK(0x00), NACK(0x03) or NAV(0x04).

**Note: there is no reply message when the wrong ID address is being used.**

#### 2.4.1 Message-Report

Number of Field	Name of Field	Description
Byte 1	Header	Header = 0x21
Byte 2	Monitor ID	Monitor ID Range : 1 ~ 255
Byte3	Category	0x00
Byte4	Page	0x00
Byte5	MsgLen	Length of message plus checksum code. Calculate the length from Control byte to Checksum byte.
Byte6	Control	0x01
Byte7	<b>Data[0]</b>	<b>Copy the received Command code. ( Cmd )</b>
Byte8~Byte8+(N-1)	Data[1]~Data[N]	Returned data associated with command code.
Byte 8+N	Checksum	XOR of all byte in reply/report packet(except checksum itself).

*Example ACK reply: (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum	Description
0x21	0x01	0x00	0x00	0x04	0x01	0x00	<b>0x00</b>	0x25	Command is well executed. “ <b>ACK</b> ”

*Example NACK reply: (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum	Description
0x21	0x01	0x00	0x00	0x04	0x01	0x00	<b>0x03</b>	0x26	No this command code-Data(0), the system will reply “ <b>NACK</b> ”.

*Example NAV reply: (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum	Description
0x21	0x01	0x00	0x00	0x04	0x01	0x00	<b>0x04</b>	0x21	1.Checksum error, the system will reply “NAV”. 2.No this parameter-Data(1), the system will reply “NAV”.

## MESSAGES - GENERAL

### 3.1 Platform and Version Labels

This command provides the model name of platform and the display Software version to the host controller.

#### 3.1.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xA2 = Platform and Version Labels - Get</b>		Request the label version.
DATA[1]	Label		0x00 = Get the FW version 0x01 = Get model name of the platform.

*Example: Get Model Name (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0xA2	0x01	0xnn

#### 3.1.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xA2 = Platform and Version Label – Report</b>		Request the internal label version.
DATA[1] to DATA[N]	Character[0] to Character[N-1]		36 (0x24) characters maximum. No. of characters, N = 1 to 36 (0x24). The actual size determines the value of the message size byte.

*Example: reply Model Name QX-55*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]	Data[5]	Checksum
0x21	0x01	0x00	0x00	<b>0x08</b>	0x01	0xA2	0x51	0x58	0x2D	0x35	0x35	0xnn

### 3.2 Power state

This command is used to set/get the power state as it is defined as below.

#### 3.2.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x19 = Power state - Get</b>		Command requests the display to report its current power state

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x19	0xBC

#### 3.2.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x19 = Power State - Report</b>		Command reports Power state
DATA[1]	Power State		0x01 = Power Off 0x02 = On

*Example: Power State On (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0x19	0x02	0xnn

#### 3.2.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x18 = Power state - Set</b>		Command to change the Power state of the display
DATA[1]	Power state		0x01 = Power Off 0x02 = On

**Send to Monitor** *Example: Power State Deep Sleep (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x18	0x01	0xBB

**Monitor ACK reply: Power Status ON (Display address 01)**

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum	Description
0x21	0x01	0x00	0x00	0x04	0x01	<b>0x18</b>	<b>0x00</b>	0x3D	Command is well executed.

### 3.3 User Input Control

The following commands are used to lock/unlock the Remote Control and the Local Keyboard functionality corresponding.

#### 3.3.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x1D = User Input Control – Get</b>		Get the lock/unlock state

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x1D	0xB8

#### 3.3.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x1D = User Input Control – Report</b>		Report from display of lock/unlock state
DATA[1]	Bit meaning: 0 = locked 1 = unlocked	Bit 7..3	Not used
		Bit 2	Power Key Locked
		Bit 1	Local Keyboard
		Bit 0	Remote Control

*Example: Lock Keyboard and unlocked Remote Control (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0x1D	0x01	0x39

0x00 lock Keyboard(ALL)and IR Remote ,0x03 unlock keyboard and IR Remote (bit 2 invalid )

#### 3.3.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x1C = User Input Control – Set</b>		Set the lock/unlock state
DATA[1]	Bit meaning: 0 = locked 1 = unlocked	Bit 7..2	Not used.
		Bit 2	Power Key Lock
		Bit 1	Local Keyboard
		Bit 0	Remote Control

*Example: Unlock local Keyboard and unlock remote control (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x1C	0x03	0xBD



### 3.4 Power state at Cold Start

Command is used to set the cold start power state, the cold start power state are updated and stored by this command.

#### 3.4.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xA3 = Power at Cold Start - Set</b>		Set Power state at Cold Start
DATA[1]	Power state at Cold Start		0x00 = Power Off 0x01 = Forced On 0x02 = Last Status

The value is stored and it is applied only when the display starts up from cold start power state the next time: Power Off:

The monitor will be automatically switched to Power Off mode (even if the last status was on) whenever the mains power is turned on or resumed after the power interruption.

Forced On:

The monitor will be automatically switched to ON mode whenever the mains power is turned on or resumed after the power interruption.

Last Status:

The monitor will be automatically switched to the last status (either Power Off or On) whenever the mains power is turned on or resumed after the power interruption.

*Example: Set Power state at cold start to last status (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0xA3	0x02	0x03

#### 3.4.2 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xA4 = Power at Cold Start - Get</b>		Get Power state at Cold Start state

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0xA4	0xnn

#### 3.4.3 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xA4 = Power at Cold Start – Report</b>		Report from Power state at Cold Start state
DATA[1]	Power state at Cold Start		0x00 = Power Off 0x01 = Forced On 0x02 = Last Status

*Example: Current Power state at Cold Start state: Last Status (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0xA4	0x02	0xnn

## 4. MESSAGES - INPUT SOURCES

### 4.4 Input Source

This command is used to change the current input source.

#### 4.4.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xAC = Input Source – Set</b>		Command requests the display to set the current input source
DATA[1]	Input Source Type		<b>0x20= VGA</b> <b>0x21= DVI</b> <b>0x22= HDMI</b> <b>0x23= DP</b>
DATA[2]	Input Source Number		Not used
DATA[3]	OSD Style Reserved	Bit7	Not used.
		Bit6	
		Bit2. 0	
DATA[4]	Delay time for source change		Not used

*Example: , Set Input Source : HDMI (Display address 01) ( PIP Main and Multi-Win Win1 Input Source )*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x07	0x01	0xAC	0x22	0x00	0x00	0x00	0x2F

#### 4.5 Current Source

This command is used to get the source detect auto or not

##### 4.5.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xAD = Current Source – Get</b>		Command requests the display to report the current input source in use.

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0xAD	0x08

##### 4.5.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xAD = Current Source – Report</b>		Command reports to the host controller the current input source in use by the display.
DATA[1]	Input Source Type		<b>0xFD = Input Source (normal state)</b> 0xFE = Reserved for smartcard
DATA[2]	Input Source Number		0x20=VGA 0x21=DVI 0x22=HDMI 0x23=DP  0xFF= No Signal

*Example: Current Input Source: HDMI (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Checksum
0x21	0x01	0x00	0x00	0x05	0x01	0xAD	0xFD	0x22	0xnn

## 4.6 Auto Signal Detecting

This command is used to set source detect

### 4.6.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xAF = Auto Signal Detecting – Get</b>		Command requests the display to report its current Auto Signal Detecting status

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0xAF	0xBC

### 4.6.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xAF = Auto Signal Detecting – Report</b>		Command reports Auto Signal Detecting Setting
DATA[1]	On / Off		0x00 = Off 0x01 = On

*Example: Current Display settings: Off and On (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0xAF	0x01	0x8B

### 4.6.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xAE = Auto Signal Detecting – Set</b>		Command to change the Auto Signal Detecting setting of the display
DATA[1]	On / Off		0x00 = Off 0x01 = On

*Example: Set the Display to the following: Auto Signal Detecting On (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0xAE	0x01	0x0D

## 5. MESSAGES - VIDEO

### 5.1 Picture Format

This command is used to control the display screen format. ( **ASPECT** )

#### 5.1.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x3B = Picture Format – Get</b>		Command requests the display to report its current picture format

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x3B	0x9E

#### 5.1.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x3B = Picture Format – Report</b>		Command report to the host controller the current picture format of the display.
DATA[1]	Picture Format		Picture Format. 0x00 = 4:3 0x02 = 1:1 0x03 = WIDE 0x05 = Auto 0x20= 5:4

*Example: Current Picture Format is Widescreen on Full Display (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0x3B	0x03	0x1D

#### 5.1.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x3A = Picture Format – Set</b>		Command requests the display to set the specified picture format
DATA[1]	Picture Format		Picture Format. 0x00 = 4:3 0x02 = 1:1 0x03 = WIDE 0x05 = Auto 0x20= 5:4

The display shall respond with NAV if it receives a Picture Format that is not relevant to its Display Aspect Ratio. The display shall ignore the [Picture Format - Set] if it receives a Picture Format that it cannot execute.

*Example: Set Picture Format to Widescreen on Full Display (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x3A	0x03	0x9B

## 5.2 Color Temperature

The following commands are used to get/set the color temperature.

### 5.2.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x35 = Color Temperature – Get</b>		Command requests the display to report its current color temperature.

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x35	0xnn

### 5.2.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x35 = Color Temperature – Report</b>		Command reports to the host controller the current color temperature of the display.
DATA[1]	<b>Color Temperature</b>		<b>0x20= WARM</b> <b>0x21= COOL</b> <b>0x22= NEUTRAL</b> <b>0x23= USER</b>

*Example: The current color temperature is set to COOL (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0x35	0x21	0xnn

### 5.2.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x34 = Color Temperature – Set</b>		Command to change the current color parameters
DATA[1]	<b>Color Temperature</b>		<b>0x20= WARM</b> <b>0x21= COOL</b> <b>0x22= NEUTRAL</b> <b>0x23= USER</b>

*Example: The current color temperature is set to Warm (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x34	0x20	0xnn

### 5.3 Color Temperature Parameters

The following commands are used to get/set the color parameters for **color temperature**.

#### 5.3.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x37 = Color Parameters – Get</b>		Command requests the display to report its current color parameters.

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x37	0xnn

#### 5.3.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x37 = Color Parameters – Report</b>		Command reports to the host controller the <b>current Color Temperature's</b> color parameters of the display.
DATA[1]	Red color gain value		0 to 100 of the user selectable range of the display.
DATA[2]	Green color gain value		0 to 100 of the user selectable range of the display.
DATA[3]	Blue color gain value		<b>0 to 100</b> of the user selectable range of the display.

*Example: All color parameters are set to 100 (0x64) (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Data[3]	Checksum
0x21	0x01	0x00	0x00	<b>0x06</b>	0x01	0x37	0x64	0x64	0x64	0xnn

#### 5.3.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x36 = Color Parameters – Set</b>		Command to change the <b>USER Color Temperature's color parameters only</b>
DATA[1]	Red color gain value		<b>0 to 100</b> of the user selectable range of the display.
DATA[2]	Green color gain value		0 to 100 of the user selectable range of the display.
DATA[3]	Blue color gain value		0 to 100 of the user selectable range of the display.

*Example: USER Color Temperature's All color parameters are set to 50 (0x32) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Checksum
0xA6	0x01	0x00	0x00	0x00	<b>0x06</b>	0x01	0x36	<b>0x32</b>	<b>0x32</b>	<b>0x32</b>	0xnn

## 5.4 Picture-in-Picture (PIP) MULTI-WINDOW MODE

This command is used to control PIP on/off with different locations.

### 5.4.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0x3D = PIP / Multi-Win – Get		Command requests the display to get the specified Multi-Win

*Example: Get PIP setting (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x3D	0x98

### 5.4.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	0x3D = Picture-in-Picture – Report		Command reports to the host controller the current PIP settings.
DATA[1]	Picture-in-Picture		0x00=OFF 0x01= PIP 0x02= PBP 2WIN 0x03= PBP 3 WIN 0x04= PBP 4 WIN
DATA[2]	Additional PIP parameters		Position of the PIP window: 0x00 = 00 = position 0 (typically bottom-left) 0x01 = 01 = position 1 (typically top-left) 0x02 = 10 = position 2 (typically top-right) 0x03 = 11 = position 3 (typically bottom-right)
DATA[3]	PIP Size		0x01=SMALL 0x02= MID 0x03= Large 0x04=Huge
DATA[4]			( reserved, default 0 )

*Example: Current PIP setting is enabling and located at position 2, PIP Size Small (Display address 01)*

Header	Monitor ID	Category	Page	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]	Checksum
0x21	0x01	0x00	0x00	0x07	0x01	0x3D	0x01	0x02	0x01	0x00	0x18

### 5.4.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0x3C = PIP / Multi-Win – Set		Command requests the display to set the specified PIP settings.
DATA[1]	Picture-in-Picture / Multi-Win		
			0x00=Off 0x01=PIP 0x02=PBP 2 0x03=PBP 3 0x04=PBP 4
DATA[2]	Additional PIP parameters		



			Position of the PIP window: 0x00 = 00 = position 0 (typically bottom-left) 0x01 = 01 = position 1 (typically top-left) 0x02 = 10 = position 2 (typically top-right) 0x03 = 11 = position 3 (typically bottom-right)
DATA[3]	PIP Size		0x01=SMALL 0x02= MID 0x03= Large 0x04=Huge
DATA[4]			( reserved, default 0 )

*Example: Set PIP ON, top-right Small Size(Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x07	0x01	0x3C	0x01	0x02	0x01	0x00	0x9F

## 5.5 PIP Source ( Multi-Win )

This command is used to control the PIP source settings for each display quadrant on the screen. Example: If display resolution is 4K2K, user can select input source for each Full HD quadrant.

Q1 (main)	Q2
Q3	Q4

PIP Set/Get can only change input source for Q2, Q3, and Q4 individually by following the commands below.

### 5.5.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0x85 = Multi-Win Source – Get		Command requests the display to report its current PIP source setting.

This command is used to get the source for the PIP window when PIP feature is activated.

*Example: Get PIP source setting (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x85	0x20

### 5.5.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	0x85 = PIP Source – Get		Command requests the display to report its current PIP source setting.
DATA[1]	Source Type		0xFD = Input Source (normal state) 0xFE = Reserved for smartcard
DATA[2]	Q2 Source Number		0x20= VGA 0x21= DVI 0x22= HDMI 0x23= DP
DATA[3]	Q3 Source Number		0x20= VGA 0x21= DVI 0x22= HDMI 0x23= DP
DATA[4]	Q4 Source Number		0x20= VGA 0x21= DVI 0x22= HDMI 0x23= DP

Example: Get PIP source report (Display address 01)

Header	Monitor	Category	Page	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]	Checksum
0x21	0x01	0x00	0x00	0x07	0x01	0x85	0xFD	0x21	0x22	0x23	0x54

### 5.5.3 Message-Set

This is the PIP source selection command

Bytes	Bytes Description	Bits	Description
DATA[0]	0x84 = PIP Source – Set		Command requests the display to set the specified PIP source.
DATA[1]	Source Type		0xFD = Input Source (normal state) 0xFE = Reserved for smartcard
DATA[2]	Q2 Source Number		0x20= VGA 0x21= DVI 0x22= HDMI 0x23= DP
DATA[3]	Q3 Source Number		0x20= VGA 0x21= DVI 0x22= HDMI 0x23= DP
DATA[4]	Q4 Source Number		0x20= VGA 0x21= DVI 0x22= HDMI 0x23= DP

This command is used to select the source for the PIP window before the PIP feature is activated.

Example: Set source PIP (Display address 01)

Header	Monitor	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x07	0x01	0x84	0xFD	0x21	0x22	0x23	0xnn

## 6. MESSAGES - AUDIO

### 6.1 Volume

This command is used to set/get the Volume as it is defined as below.

#### 6.1.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x45 = Volume – Get</b>		Command requests the display to report its current Volume level

The interface to set Software must be such that they also modify the variables representing these current parameters.

To mute the display, send Volume = 0. This command does not overwrite the system mute status of the display.

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x45	0xE0

#### 6.1.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x45 = Volume – Report</b>		Command reports current Volume level
DATA[1]	Volume.		<b>0 to 100</b> of the user selectable range of the display.

*Example: Current Display settings: Volume:50 (0x32) (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0x45	0x32	0x52

#### 6.1.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x44 = Volume – Set</b>		
DATA[1]	Volume.		<b>0 to 100</b> of the user selectable range of the display.

*Example: Set the Display Volume to 20 (0x14) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x44	0x14	0xF2

## 8. MISCELLANEOUS

### 8.1 Operating Hours & Source Status

The command is used to record the working hours of the display and Input main Source Status

#### 8.1.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x0F = Misc Info - Get</b>		Command requests the display to report from miscellaneous information parameters
DATA[1]	Subcommand		0x01 = Current source status. <b>0x02 = Operating Hours</b> (All other values are reserved)

*Example: Get Operating Hours (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x0F	<b>0x02</b>	0xAF

*Example: Get Current source status (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x0F	<b>0x01</b>	0xAF

#### 8.1.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x0F = Misc Info – Report</b>		Command reports current Operating Hours
DATA[1] to DATA[2]	Operating Hours / Current source status.		Operating Hours: DATA[1] and DATA[2] form the MSByte and LSByte, respectively, of the 16-bit-wide Operational Hours value.  Current source status. DATA[1]: 0x00 <b>DATA[2]: 0x01 = signal loss / 0x02 = signal stable.</b>

*Example: Current Display Operation Hours counter value 10 hours (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Checksum
0x21	0x01	0x00	0x00	0x05	0x01	0x0F	<b>0x00</b>	<b>0x0A</b>	0xnn

*Example: Current source Status **signal stable** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Checksum
0x21	0x01	0x00	0x00	0x05	0x01	0x0F	<b>0x00</b>	<b>0x02</b>	0xnn

## 8.2 Auto Adjust

This command works for VGA (host controller) video auto adjust.

### 8.2.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x70 = Video Alignment – Set</b>		Command requests the display to make auto adjustment on VGA Input source.
DATA[1]	Subcommand		0x40 = Auto Adjust (* All other values are reserved *)
DATA[2]	Reserved		( reserved, fixed 0 )

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x05	0x01	0x70	0x40	0x00	0x93

## 8.4 Temperature Sensors

### 8.4.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x2F = Temperature Sensor – Get</b>		Command requests the display to report its value of the temperature sensors ( $\pm 3^{\circ}\text{C}$ ).

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x2F	0xnn

### 8.4.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0x2F = Temperature Sensor – Report</b>		Command reports Temperature sensor value
DATA[1]	Temperature Sensor 1		0-100 in Celsius degrees represented in hex.
DATA[2]	Temperature Sensor 2		0-100 in Celsius degrees represented in hex
DATA[3]	Temperature Sensor 3		0-100 in Celsius degrees represented in hex

*Example: Current Temp Sensor read out: Sensor 1~3 = 28°C (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Data[3]	Checksum
0x21	0x01	0x00	0x00	0x06	0x01	0x2F	0x1C	0x1C	0x1C	0xnn

## 9.1 Backlight Level

This command is used to set/get the Backlight level as it is defined as below.

### 9.1.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0x31 = Backlight level – Get		Command requests the display to report its current Backlight level.

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x31	0xnn

### 9.1.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	0x31 = Backlight level – Report		Command reports current Backlight level
DATA[1]	Backlight value		0 to 100 of the user selectable range of the display.

*Example: Backlight:90 (0x5A) (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0x31	0x5A	0xnn

### 9.1.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0x30 = Backlight level – Set		Command to change the Backlight level of the display.
DATA[1]	Backlight value		0 to 100 of the user selectable range of the display.

*Example: Set Backlight:90 (0x5A) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x42	0x5A	0xnn



### 9.3 Factory Reset

The command is used to reset all you customized settings to the factory defaults.

#### 9.3.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xFE = Factory Reset</b>		Command to do the Factory Reset of the display

*Example: Set Factory Settings (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0xFE	0x5B

### 9.4 IR Remote Command

The command is used to send IR Key to Control display.

#### 9.4.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xFD = IR Remote Command</b>		Command to simulate the IR Remote to send IR Key to display
DATA[1]	IR KEY		0xA0: Power 0xA1: Menu 0xA2: Input 0xA5: Mute 0xA6: Up 0xA7: Down 0xA8: Left 0xA9: Right 0xB1: OK 0xB2: Return ( exit ) 0xD1: Format 0xD2: Info X 0x00: Btn_0 0x01: Btn_1 0x02: Btn_2 0x03: Btn_3 0x04: Btn_4 0x05: Btn_5 0x06: Btn_6 0x07: Btn_7 0x08: Btn_8 0x09: Btn_9

*Example: Send Power Key (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0xFD	0xA0	0xFF

## Extend Command

### 11.1 BRIGHTNESS (reference to backlight level )

The following commands are used to get/set video **BRIGHTNESS** parameters

#### 11.1.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC1 = BRIGHTNESS – Get</b>		Command requests the display to report its current BRIGHTNESS level

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xC1</b>	0x64

#### 11.1.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC1 = BRIGHTNESS – Report</b>		Command reports current <b>BRIGHTNESS</b> level
DATA[1]	<b>BRIGHTNESS.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Current Display settings: **BRIGHTNESS:50 (0x32)** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xC1</b>	0x32	0x52

#### 11.1.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC0 = BRIGHTNESS – Set</b>		
DATA[1]	<b>BRIGHTNESS.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Set the Display **BRIGHTNESS** to 20 (0x14) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xC0</b>	0x14	0xF2

## 11.2 CONTRAST

The following commands are used to get/set video **CONTRAST** parameters

### 11.2.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC3 = CONTRAST – Get</b>		Command requests the display to report its current <b>CONTRAST</b> level

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xC3</b>	0xnn

### 11.2.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC3 = CONTRAST – Report</b>		Command reports current <b>CONTRAST</b> level
DATA[1]	<b>CONTRAST.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Current Display settings: **CONTRAST:50** (0x32) (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xC3</b>	0x32	0x52

### 11.2.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC2 = CONTRAST – Set</b>		
DATA[1]	<b>CONTRAST.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Set the Display **CONTRAST** to 20 (0x14) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xC2</b>	0x14	0xF2

### 11.3 BLACKLEVEL

The following commands are used to get/set video **BLACKLEVEL** parameters

#### 11.3.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC5 = BLACKLEVEL – Get</b>		Command requests the display to report its current <b>CONTRAST</b> level

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xC5</b>	0xnn

#### 11.3.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC5 = BLACKLEVEL – Report</b>		Command reports current <b>BLACKLEVEL</b> level
DATA[1]	<b>BLACKLEVEL.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Current Display settings: **BLACKLEVEL:50 (0x32)** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xC5</b>	0x32	0x52

#### 11.3.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC4 = BLACKLEVEL – Set</b>		
DATA[1]	<b>BLACKLEVEL.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Set the Display **BLACKLEVEL** to 20 (0x14) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xC4</b>	0x14	0xF2

## 11.4 SHARPNESS

The following commands are used to get/set video **Sharpness** parameters

### 11.4.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC7 = Sharpness – Get</b>		Command requests the display to report its current <b>Sharpness</b> level

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xC5</b>	0xnn

### 11.4.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC7 = Sharpness – Report</b>		Command reports current <b>Sharpness</b> level
DATA[1]	<b>Sharpness.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Current Display settings: **Sharpness:50** (0x32) (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xC7</b>	0x32	0x52

### 11.4.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC6 = Sharpness – Set</b>		
DATA[1]	<b>Sharpness</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Set the Display **Sharpness** to 20 (0x14) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xC6</b>	0x14	0xF2

## 11.5 HUE

The following commands are used to get/set video **Hue** parameters

### 11.5.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC9 = Hue – Get</b>		Command requests the display to report its current <b>Hue</b> level

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xC9</b>	0xnn

### 11.5.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC9 = Hue – Report</b>		Command reports current <b>Hue</b> level
DATA[1]	<b>Hue.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Current Display settings: Hue:50 (0x32) (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xC9</b>	0x32	0x52

### 11.5.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xC8 = Hue – Set</b>		
DATA[1]	<b>Hue.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Set the Display Hue to 20 (0x14) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xC8</b>	0x14	0xF2

## 11.6 SATURATION

The following commands are used to get/set video **Saturation** parameters

### 11.6.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xCB = Saturation – Get</b>		Command requests the display to report its current <b>Saturation</b> level

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xCB</b>	0xnn

### 11.6.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xCB = Saturation – Report</b>		Command reports current <b>Saturation</b> level
DATA[1]	<b>Saturation.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Current Display settings: **Saturation:50 (0x32)** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xCB</b>	0x32	0x52

### 11.6.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xCA = Saturation – Set</b>		
DATA[1]	<b>Saturation.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Set the Display **Saturation** to 20 (0x14) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xCA</b>	0x14	0xF2

## 11.7 SUPER RESOLUTION

The following commands are used to get/set video **Super Resolution** parameters

### 11.7.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xCD = Super Resolution – Get</b>		Command requests the display to report its current <b>Super Resolution</b> level

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xCD</b>	0xnn

### 11.7.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xCD = Super Resolution – Report</b>		Command reports current <b>Super Resolution</b> level
DATA[1]	<b>Super Resolution.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Current Display settings: **Super Resolution:50** (0x32) (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xCD</b>	0x32	0x52

### 11.7.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xCC = Super Resolution – Set</b>		
DATA[1]	<b>Super Resolution.</b>		<b>0 to 100</b> of the user selectable range of the display.

*Example: Set the Display **Super Resolution** to 20 (0x14) (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xCC</b>	0x14	0xF2



## 11.8 PICTURE MODE

The following commands are used to get/set the **Picture Mode**.

### 11.8.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD1 = Picture Mode – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xD1</b>	0xnn

### 11.8.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD1 = Picture Mode – Report</b>		Command reports to the host controller the current <b>Picture Mode</b> of the display.
DATA[1]	<b>Picture Mode</b>		<b>0x20= STANDARD</b> <b>0x21= TEXT</b> <b>0x22= CCTV</b> <b>0x23= SIGNAGE-GRAPHICS</b> <b>0x24= ECO</b> <b>0x25= SIGNAGE-VIDEO</b>

*Example: The current **Picture Mode** is set to **Standard** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xD1</b>	<b>0x20</b>	0xnn

### 11.8.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD0 = Picture Mode – Set</b>		Command to change the current <b>Picture Mode</b> parameters
DATA[1]	<b>Picture Mode</b>		<b>0x20= STANDARD</b> <b>0x21= TEXT</b> <b>0x22= CCTV</b> <b>0x23= SIGNAGE-GRAPHICS</b> <b>0x24= ECO</b> <b>0x25= SIGNAGE-VIDEO</b>

*Example: The current **Picture Mode** is set to **Standard** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xD0</b>	0x20	0xnn

## 11.9 DCR

The following commands are used to get/set the **DCR**.

### 11.9.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD3 = DCR – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xD3</b>	0xnn

### 11.9.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD3 = DCR – Report</b>		Command reports to the host controller the current <b>Setting</b> of the display.
DATA[1]	<b>DCR</b>		<b>0x00= OFF</b> <b>0x01 = ON</b>

*Example: Report the current **DCR** is set to **ON** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xD3</b>	<b>0x01</b>	0xnn

### 11.9.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD2 = DCR – Set</b>		Command to change the current <b>DCR</b> Setting
DATA[1]	<b>DCR</b>		<b>0x00= OFF</b> <b>0x01= ON</b>

*Example: The current **DCR** is set to **ON** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xD2</b>	0x01	0xnn

## 11.10 AUTO BRIGHTNESS

The following commands are used to get/set the **AUTO BRIGHTNESS**.

### 11.10.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD5 = AUTO BRIGHTNESS – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xD5</b>	0xnn

### 11.10.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD5 = AUTO BRIGHTNESS – Report</b>		Command reports to the host controller the current <b>Setting</b> of the display.
DATA[1]	<b>AUTO BRIGHTNESS</b>		<b>0x00= OFF 0x01 = ON</b>

*Example: Report the current **AUTO BRIGHTNESS** is set to **ON** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xD5</b>	<b>0x01</b>	0xnn

### 11.10.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD4 = AUTO BRIGHTNESS – Set</b>		Command to change the current <b>AUTO BRIGHTNESS</b> Setting
DATA[1]	<b>AUTO BRIGHTNESS</b>		<b>0x00= OFF 0x01= ON</b>

*Example: The current **AUTO BRIGHTNESS** is set to **ON** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xD4</b>	0x01	0xnn

### 11.11 LOW BLUE

The following commands are used to get/set the **LOW BLUE**.

#### 11.11.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD7 = LOW BLUE – Get</b>		Command requests the display to report its current <b>Setting</b> .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xD7</b>	0xnn

#### 11.11.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD7 = LOW BLUE – Report</b>		Command reports to the host controller the current <b>Setting</b> of the display.
DATA[1]	<b>LOW BLUE</b>		<b>0x00= OFF</b> <b>0x01 = WEAK</b> <b>0x02= MEDIUM</b> <b>0x03= STRONG</b> <b>0x04= STRONGEST</b>

*Example: Report the current **LOW BLUE** is set to **WAEK** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xD7</b>	<b>0x01</b>	0xnn

#### 11.11.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD6 = LOW BLUE – Set</b>		Command to change the current <b>LOW BLUE</b> Setting
DATA[1]	<b>LOW BLUE</b>		<b>0x00= OFF</b> <b>0x01 = WEAK</b> <b>0x02= MEDIUM</b> <b>0x03= STRONG</b> <b>0x04= STRONGEST</b>

*Example: The current **LOW BLUE** is set to **WEAK** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xD6</b>	0x01	0x75

## 11.12 OVER DRIVER

The following commands are used to get/set the **OVER DRIVER**.

### 11.12.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD9 = OVER DRIVER – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xD9</b>	0xnn

### 11.12.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD9 = OVER DRIVER – Report</b>		Command reports to the host controller the current <b>Setting</b> of the display.
DATA[1]	<b>OVER DRIVER</b>		<b>0x00= OFF</b> <b>0x01 = WEAK</b> <b>0x02= MEDIUM</b> <b>0x03= STRONG</b>

*Example: Report the current **OVER DRIVER** is set to **WAEK** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xD9</b>	<b>0x01</b>	0xnn

### 11.12.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xD8 = OVER DRIVER – Set</b>		Command to change the current <b>OVER DRIVER</b> Setting
DATA[1]	<b>OVER DRIVER</b>		<b>0x00= OFF</b> <b>0x01 = WEAK</b> <b>0x02= MEDIUM</b> <b>0x03= STRONG</b>

*Example: The current **OVER DRIVER** is set to **WEAK** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xD8</b>	0x01	0x7B

### 11.13 DP VERSION

The following commands are used to get/set the **DR VERSION**.

#### 11.13.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDB = DP VERSION – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xDB</b>	0xnn

#### 11.13.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDB = DP VERSION – Report</b>		Command reports to the host controller the current <b>Set</b> of the display.
DATA[1]	<b>DP VERSION</b>		<b>0x00= 1.1</b> <b>0x01= 1.2</b>

*Example: Report the current **DP VERSION** is set to **1.2** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xDB</b>	<b>0x01</b>	0xnn

#### 11.13.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDA = DP VERSION – Set</b>		Command to change the current <b>DP VERSION</b> Set.
DATA[1]	<b>DP VERSION</b>		<b>0x00= 1.1</b> <b>0x01= 1.2</b>

*Example: The current **DP VERSION** is set to **1.2** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xDA</b>	<b>0x01</b>	0xnn

## 11.14 GAMMA

The following commands are used to get/set the **GAMMA**.

### 11.14.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDD = GAMMA – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xDD</b>	0xnn

### 11.14.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDD = GAMMA – Report</b>		Command reports to the host controller the current <b>Set</b> of the display.
DATA[1]	<b>GAMMA</b>		<b>0x00= 2.2</b> <b>0x01= 2.4</b> <b>0x02= 2.6</b> <b>0x03= 1.8</b> <b>0x04= 2.0</b>

*Example: Report the current **GAMMA** is set to 2.2 (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xDD</b>	<b>0x00</b>	0xnn

### 11.14.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDC = GAMMA – Set</b>		Command to change the current <b>GAMMA</b> Set.
DATA[1]	<b>GAMMA</b>		<b>0x00= 2.2</b> <b>0x01= 2.4</b> <b>0x02= 2.6</b> <b>0x03= 1.8</b> <b>0x04= 2.0</b>

*Example: The current **GAMMA** is set to 2.4 (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xDC</b>	<b>0x01</b>	0xnn

### 11.15 NOISE REDUCTION

The following commands are used to get/set the **Noise Reduction**.

#### 11.15.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDF = Noise Reduction – Get</b>		Command requests the display to report its current <b>Setting</b> .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xDF</b>	0xnn

#### 11.15.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDF = Noise Reduction – Report</b>		Command reports to the host controller the current <b>Set</b> of the display.
DATA[1]	<b>Noise Reduction</b>		<b>0x00= OFF</b> <b>0x01= LOW</b> <b>0x02= MEDIUM</b> <b>0x03= HIGH</b>

*Example: Report the current **Noise Reduction** is set to **LOW** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xDF</b>	<b>0x01</b>	0xnn

#### 11.15.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xDE = Noise Reduction – Set</b>		Command to change the current <b>Noise Reduction Set</b> .
DATA[1]	<b>Noise Reduction</b>		<b>0x00= OFF</b> <b>0x01= LOW</b> <b>0x02= MEDIUM</b> <b>0x03= HIGH</b>

*Example: The current **Noise Reduction** is set to **LOW** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xDE</b>	<b>0x01</b>	0xnn



## 11.16 DYNAMIC LUMINOUS CONTRAL

The following commands are used to get/set the **DYNAMIC LUMINOUS CONTRAL / DLC**.

### 11.16.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xEB = DLC – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xEB</b>	0xnn

### 11.16.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xEB = DLC – Report</b>		Command reports to the host controller the current <b>Set</b> of the display.
DATA[1]	<b>DLC</b>		<b>0x00= OFF</b> <b>0x01= ON</b>

*Example: Report the current **DLC** is set to **OFF** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xEB</b>	<b>0x00</b>	0xnn

### 11.16.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xEA = Noise Reduction – Set</b>		Command to change the current <b>DLC</b> Set.
DATA[1]	<b>DLC</b>		<b>0x00= OFF</b> <b>0x01= ON</b>

*Example: The current **DLC** is set to **ON** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xEA</b>	<b>0x01</b>	0xnn

### 11.16 SWAP PIP

This command set PIP Source to Swap.

#### 11.16.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xEC = source swap – Set</b>		PIP source swap
DATA[1]	Subcommand		<b>0x41 = PIP Source Swap</b>
DATA[2]	Reserved		( reserved, fixed 0 )

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x05	0x01	<b>0xEC</b>	<b>0x41</b>	0x00	0xnn

### 11.17 COLOR Auto Adjust

This command works for VGA (host controller) video auto colour adjust.

#### 11.17.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xEC = Video COLOR Alignment – Set</b>		Command requests the display to make auto Color adjustment on VGA Input source.
DATA[1]	Subcommand		<b>0x40 = Auto Color Adjust</b> (* All other values are reserved *)
DATA[2]	Reserved		( reserved, fixed 0 )

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x05	0x01	<b>0xEC</b>	<b>0x40</b>	0x00	0x0F

## 11.18 AUDIO MUTE

The following commands are used to get/set the **Audio Mute**.

### 11.18.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE1 = audio mute – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xE1</b>	0xnn

### 11.18.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE1 = audio mute – Report</b>		Command reports to the host controller the current <b>Set</b> of the display.
DATA[1]	<b>Audio mute</b>		<b>0x00= OFF</b> <b>0x01= ON</b>

*Example: Report the current **mute** is set to **OFF** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xE1</b>	<b>0x00</b>	0xnn

### 11.18.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE0 = audio mute – Set</b>		Command to change the current <b>mute</b> Set.
DATA[1]	<b>mute</b>		<b>0x00= OFF</b> <b>0x01= ON</b>

*Example: The current **mute** is set to **ON** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xE0</b>	<b>0x01</b>	0xnn

### 11.19 Power Saving

The following commands are used to get/set the **Power Saving function**

#### 11.19.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE3= Saving – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xE3</b>	0xnn

#### 11.19.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE3 = Saving – Report</b>		Command reports to the host controller the current <b>Set</b> of the display.
DATA[1]	<b>Saving</b>		<b>0x00= OFF</b> <b>0x01= ON</b>

*Example: Report the current **Power Saving** is set to **OFF** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	<b>0xE3</b>	<b>0x00</b>	0xnn

#### 11.19.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE2 = Power Saving – Set</b>		Command to change the current <b>mute</b> Set.
DATA[1]	<b>Saving</b>		<b>0x00= OFF</b> <b>0x01= ON</b>

*Example: The current **Power Saving** is set to **ON** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	<b>0xE2</b>	<b>0x01</b>	0xnn

## 11.20 ANTI BURN IN

The following commands are used to get/set the **Anti Burn In**

### 11.20.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE5= Anti Burn in – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xE5</b>	0xnn

### 11.20.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE5 = Anti Burn in – Report</b>		Command reports to the host controller the current <b>Set</b> of the display.
DATA[1]	<b>Enable / Disable</b>		<b>0x00= OFF</b> <b>0x01= ON</b>
DATA[2]			<b>0x01= 4 ( Hours )</b> <b>0x02= 5 ( Hours )</b> <b>0x03= 6</b> <b>0x04= 8</b>

*Example: Report the current **Anti Burn in** is set to **ON / 4 Hours** (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Checksum
0x21	0x01	0x00	0x00	0x05	0x01	<b>0xE5</b>	<b>0x01</b>	<b>0x01</b>	0xnn

### 11.20.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE4 = Anti Burn In– Set</b>		Command to change the current Anti Burn In Set.
DATA[1]	<b>Enable / Disable</b>		<b>0x00= OFF</b> <b>0x01= ON</b>
DATA[2]			<b>0x01= 4 ( Hours )</b> <b>0x02= 5</b> <b>0x03= 6</b> <b>0x04= 8</b>

*Example: The current **Anti Burn In** is set to **ON / 5 Hours** (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x05	0x01	<b>0xE4</b>	<b>0x01</b>	0x02	0xnn

## 11.21 DATE TIME

The following commands are used to get/set the **DATE & TIME**

### 11.21.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE7= DATE &amp; TIME – Get</b>		Command requests the display to report its current Setting .

*Example: (Display address 01)*

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	<b>0xE7</b>	0xnn

### 11.21.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE7 = DATE &amp; TIME – Report</b>		Command reports to the host controller the current <b>Set</b> of the display.
DATA[1]	<b>Year</b>		x0E - 0x63 = 2014 - 2099
DATA[2]	<b>Month</b>		0x01 – 0x0C = JAN – DEC
DATA[3]	<b>Day</b>		DATA[2] = JAN, MAR, MAY, JUL, AUG, OCT, DEC: 0x01 – 0x1F = 1 – 31 DATA[2] = APR, JUN, SETP, NOV: 0x01 – 0x1E = 1 – 30 DATA[2] = FEB: 0x01 – 0x1C = 1 - 28
DATA[4]	<b>Hour</b>		0x00 – 0x17 = 0 -23
DATA[5]	<b>Minute</b>		0x00 – 0x3B = 0 - 59
DATA[6]	<b>Second</b>		0x00 – 0x3B = 0 - 59

*Example: Report the current DATE & TIME ( 2017/01/30/ 18:59:30) (Display address 01)*

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]
0x21	0x01	0x00	0x00	0x0F	0x01	<b>0xE7</b>	<b>0x11</b>	<b>0x01</b>

Data[3]	Data[4]	Data[5]	Data[6]	Checksum
0x1E	0x12	0x3B	0x1E	0xnn

### 11.21.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	<b>0xE6 = DATE &amp; TIME – Report</b>		Command to change the current Date & Time
DATA[1]	<b>Year</b>		x0E - 0x63 = 2014 - 2099
DATA[2]	<b>Month</b>		0x01 – 0x0C = JAN – DEC
DATA[3]	<b>Day</b>		DATA[2] = JAN, MAR, MAY, JUL, AUG, OCT, DEC:

			0x01 – 0x1F = 1 – 31 DATA[2] = APR, JUN, SETP, NOV: 0x01 – 0x1E = 1 – 30 DATA[2] = FEB: 0x01 – 0x1C = 1 - 28
DATA[4]	<b>Hour</b>		0x00 – 0x17 = 0 -23
DATA[5]	<b>Minute</b>		0x00 – 0x3B = 0 - 59
DATA[6]	<b>Second</b>		0x00 – 0x3B = 0 - 59

*Example: The current **DATE & TIME** Set to 2017/01/30/ 18:59:30 (Display address 01)*

Header	Monitor ID	Category	Code0	<b>Code1</b>	Length	Control	Data[0]	Data[1]	Data[2]
<b>0xA6</b>	0x01	0x00	0x00	<b>0x00</b>	0x09	0x01	<b>0xE6</b>	0x11	0x01

Data[3]	Data[4]	Data[5]	Data[6]	Checksum
0x1E	0x12	0x3B	0x1E	0xnn

## 21. Command summary

Command name	Set Command	Get Command	Command Code	Remarks
Communications Control			0x00	Generic report
<b>Platform and version labels</b>		√	0xA2	
<b>Power state Get</b>		√	0x19	
<b>Power state Set</b>	√		0x18	
User Input Control Get		√	0x1D	
User Input Control Set	√		0x1C	
Power at cold start Set	√		0xA3	
Power at cold start Get		√	0xA4	
Input Source Set	√		0xAC	
Current Source Get		√	0xAD	
Auto Signal Detecting Get		√	0xAF	
Auto Signal Detecting Set	√		0xAE	
Color Temperature Get		√	0x35	
Color Temperature Set	√		0x34	
Color Parameters Get		√	0x37	
Color Parameters Set	√		0x36	
Picture Format get		√	0x3B	
Picture Format set	√		0x3A	
Picture-in-Picture Get	√		0x3D	
Picture-in-Picture Set		√	0x3C	
PIP source Get	√		0x85	
PIP source Set		√	0x84	
Volume Get		√	0x45	
Volume Set	√		0x44	
Miscellaneous info		√	0x0F	Signal status Operating hours
Auto Adjust	√		0x70	<b>0x40</b> / VGA only
Temperature Get		√	0x2F	
Backlight Level Get		√	0x31	
Backlight Level Set	√		0x30	
Factory Reset	√		0xFE	



## 21. Command summary (Extend)

Command name	Set Command	Get Command	Command Code	Remarks
Brightness Get			0xC1	
Brightness Set			0xC0	
Contrast Get			0xC3	
Contrast Set			0xC2	
Black Level Get			0xC5	
Black Level Set			0xC4	
Sharpness Get			0xC7	
Sharpness Set			0xC6	
HUE Get			0xC9	
HUE Set			0xC8	
Saturation Get			0xCB	
Saturation Set			0xCA	
Super Resolution Get			0xCD	
Super Resolution Set			0xCC	
Picture Mode Get			0xD1	
Picture Mode Set			0xD0	
DCR Get			0xD3	
DCR Set			0xD2	
AUTO BRIGHTNESS Get			0xD5	
AUTO BRIGHTNESS Set			0xD4	
LOW BLUE Get			0xD7	
LOW BLUE Set			0xD6	
OVER DRIVER Get			0xD9	
OVER DRIVER Set			0xD8	
DP Version Get			0xDB	
DP Version Set			0xDA	
Gamma Get			0xDD	
Gamma Set			0xDC	
Noise Reduction Get			0xDF	
Noise Reduction Set			0xDE	
Color Auto Adjust Set			0xEC	<b>0x40</b>
PIP SWAP Set			0xEC	<b>0x41</b>
Audio Mute Get			0xE1	
Audio Mute Set			0xE0	
Power Saving Get			0xE3	
Power Saving Set			0xE2	
ANTI-BURN-IN Get			0xE5	
ANTI-BURN-IN Set			0xE4	
DATE & TIME Get			0xE7	
DATE & TIME Set			0xE6	
DLC Get			0xEB	
DLC Set			0xEA	