



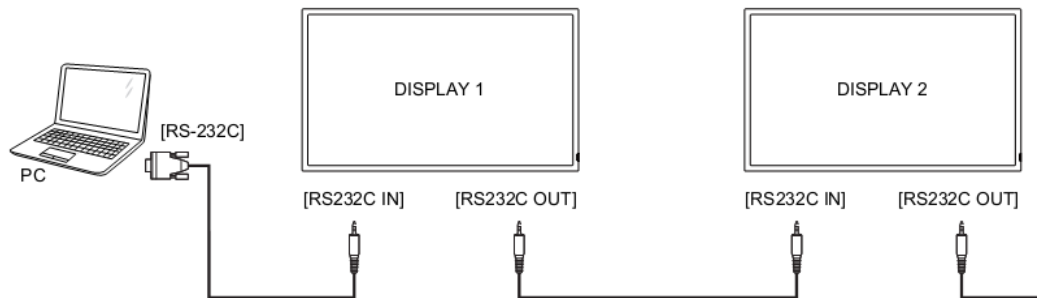
PN-46D2

Control Command

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 & LAN.**



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 RJ45 connector:**

RS232 IN Port

Pin #	Signal	Remark
1	TXD	Output from LCD Monitor
2	NC	NC
3	IR_VDD	IR_+3.3V
4	RXD	Input to LCD Monitor
5	IR_IN	IR_IN
6	GND	GND
7,8	NC	

RS232 output Port

Pin #	Signal	Remark
1	NC	NC
2	TXD	Output from LCD Monitor
3	IR_VDD	IR_+3.3V
4	RXD	Input to LCD Monitor
5	IR_O	IR_OUT
6	GND	GND
7,8	NC	

Displays use RXD, TXD and GND pins for RS-232C control.

2.2 Communication Procedure

Control commands can be sent from a host controller via the RS232 & LAN 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.**

Note: Power On Off command Response time about 5-6 seconds.

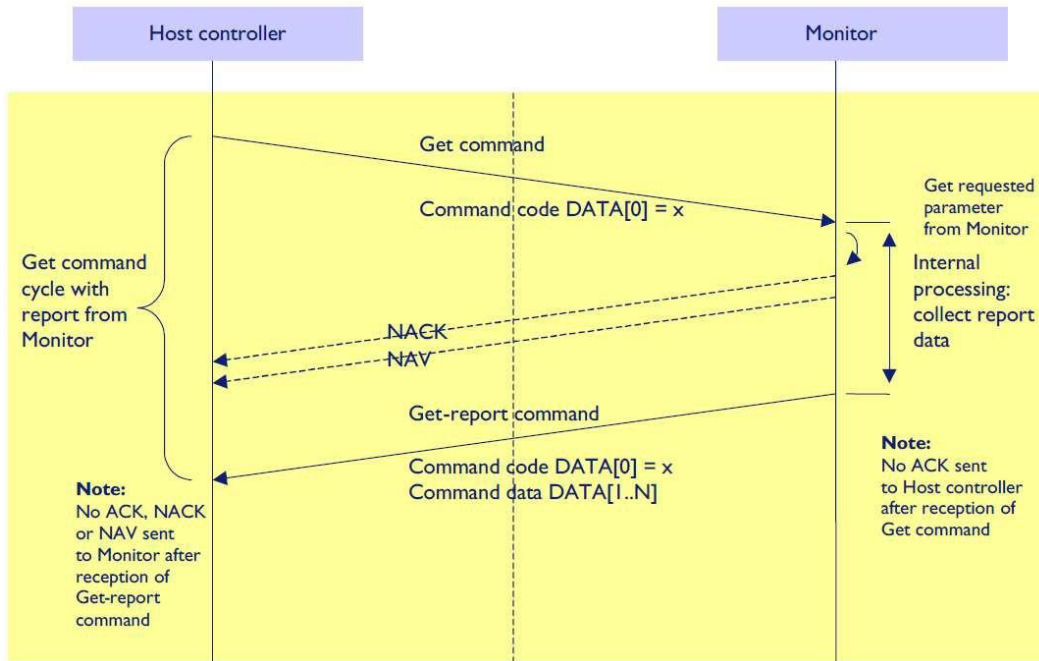


Figure 1: Explanation of mechanism of Get Command.

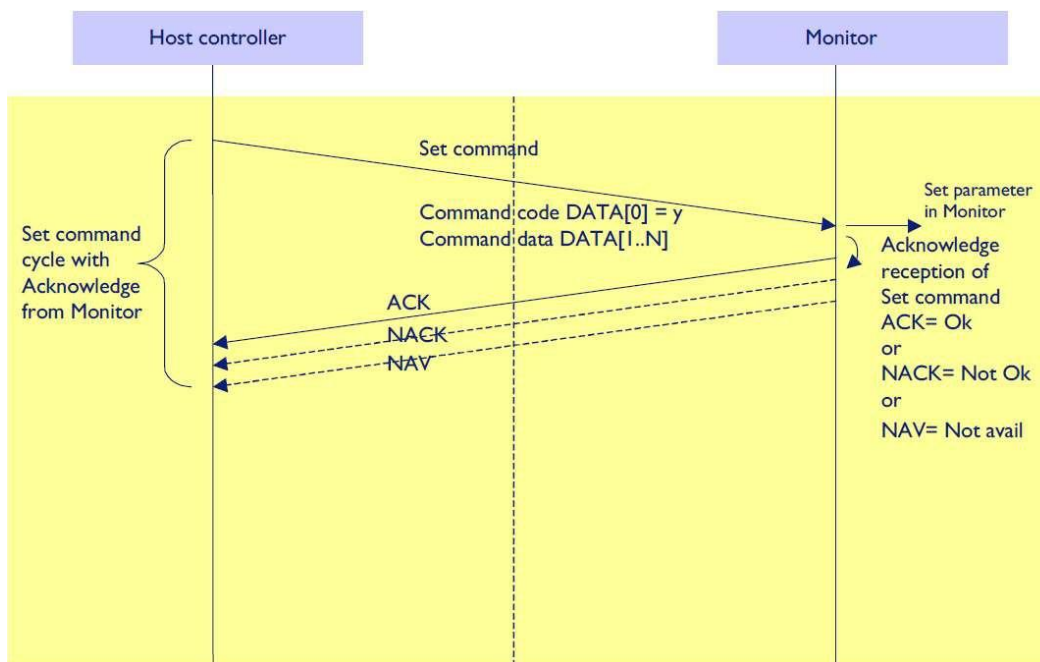


Figure 2: Explanation of mechanism of Set Command.

2.3 Command Format

The Command packet format:

Header	Monitor ID	Category	Code 0	Code 1	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 Single mode: Display Address range from 1 to 255 Broadcast mode: Display Address is 0 which indicates no ACK or Report is expected.
Byte 3	Category	Category = 0x00 (fixed)
Byte 4	Code0 (Page)	Page = 0x00 (fixed)
Byte 5	Code1 (Function)	Reserve (0x00 fixed)
Byte 6	Length	Length of message plus checksum code. Calculate the length from Control byte to Checksum byte. Length has to be calculated in the following way: Length = N + 3
Byte 7	Data Control	Data Control = 0x01 (fixed)
Byte 8	Data[0]	Command code
Byte 9 ~ Byte 44	Data[1]~Data[N]	This field can be also empty. If not empty then the range of Data Size, N = 0 to 36.
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]

3. MESSAGES - SYSTEM

3.1 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 status (0x00: Completed, 0x01: Limit Over, 0x02: Limit Over, 0x03: Command canceled or 0x04: Parse Error).

Note: Report status ACK(0x00), NACK(0x03) or NAV(0x04) for Phoenix platform.

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

3.1.1 Message-Report

Number of Field	Name of Field	Description
Byte 1	Header	Header = 0x21
Byte 2	Monitor ID	Monitor ID Range: 1 ~ 255
Byte 3	Category	Category = 0x00 (fixed)
Byte 4	Code0 (Page)	Page = 0x00 (fixed)
Byte 5	Length	Length of message plus checksum code. Calculate the length from Control byte to Checksum byte. Length = 0x04
Byte 6	Data Control	Data Control = 0x01 (fixed)
Byte 7	Command	0x00(Communication Control)
Byte8~Byte8+(N-1)	Status	0x00: Completed Normal response. 0x01: Limit Over The packets was received normally, but the data value was over the upper limit. 0x02: Limit Over The packets was received normally, but the data value was over the lower limit. 0x03: Command canceled The packet is received normally but either the value of data is incorrect or request is not permitted for the current host value. 0x04: Parse Error Received not defined format data or check sum Error.
Byte 8+N	Checksum	Check Sum XOR of all byte in reply/report packet(except checksum itself). The total from Byte1 to Byte8 calculated by XOR

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	0x00	0x25	Command is well executed.

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	0x03	0x26	No this command code-Data(0),

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	0x04	0x21	1. Checksum error, the system will reply "NAV". No this parameter-Data(1), the system will reply "NAV".

4. MESSAGES – GENERAL

4.1 Platform and Version Labels

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

4.1.1 Message-Get (0xA2 = Platform Labels)

Bytes	Bytes Description	Bits	Description
DATA[0]	0xA2 = Platform Labels - Get		Request the SICP version.
DATA[1]	Which Label		0x01 = Get the platform label

Example: Get Platform label (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	0x01

4.1.2 Message-Report (0xA2 = Platform Labels)

Bytes	Bytes Description	Bits	Description
DATA[0]	0xA2 = Platform Label – Report		Request the internal Hardware version.
DATA[1] to DATA[N]	Character[0] to Character[N-1]		Platform label = AGN

Example: Report Platform label (**AGN**)(Display address 01)

Header	Monitor ID	Category	Page	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Checksum
0x21	0x01	0x00	0x00	0x06	0x01	0xA2	0x41	0x47	0x4E	0xCD

4.1.3 Message-Get (0xA1 = Model name)

Bytes	Bytes Description	Bits	Description
DATA[0]	0xA1 = Get Model name of device		Request the Model name of the device
DATA[1]	Codes to request		0x00 = Model Name

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	0xA1	0x00	0x03

4.1.4 Message-Report (0xA1 = Report Model name)

Bytes	Bytes Description	Bits	Description
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DATA[0]	0xA1 = Report - Model Name		Request the Model name
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: Report Model name (**PN-46D2**) (Display address 01)

Header	Monitor ID	Category	Page	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]
0x21	0x01	0x00	0x00	0x0A	0x01	0xA1	0x50	0x4E	0x2D	0x34
Data[5]	Data[6]	Data[7]	Checksum							
0x36	0x44	0x32	0xCD							

4.2 Power state

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

4.2.1 Message-Get (0x19 = Power state)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x19 = Power state - Get		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

4.2.2 Message-Report (0x19 = Power state)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x19 = Power State - Report		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	Data Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0x19	0x02	0x3E

4.2.3 Message-Set (0x18 = Power state)

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

Example: Set Display Power 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	0x18	0x02	0xB8

Example: Set Display Power Off (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

4.3 Lock Functions for IR-Remote Control

The following commands are used to lock/unlock the Remote Control.

4.3.1 Message-Get (0x1D = IR-Remote Control)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x1D = Get - Lock Status – IR – Remote Control		Get unlock all /lock all /lock all but power/lock all but volume/ Primary/Secondary status

Example: Get IR remote control status (Display address 01)

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

4.3.2 Message-Report (0x1D = IR-Remote Control)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x1D = Report - Lock Status – IR – Remote Control		Report unlock all /lock all /lock all but power/lock all but volume/ Primary/Secondary status
DATA[1]	Status indicator byte for Remote Control		0x01 = Unlock all 0x02 = Lock all 0x03 = Lock all but Power 0x04 = Lock all but Volume

Example: Unlocked IR Remote Control (Display address 01)

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

4.3.3 Message-Set (0x1C = IR-Remote Control)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x1C = Set - Lock State – IR – Remote Control		Set unlock all/lock all /lock all but power/lock all but volume/ Primary/Secondary status
DATA[1]	Status indicator byte for Remote Control		0x01 = Unlock all 0x02 = Lock all 0x03 = Lock all but Power 0x04 = Lock all but Volume

Example: Unlock all 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	0x01	0xBF

5. MESSAGES - INPUT SOURCES

5.1 Input Source

This command is used to change the current input source.

5.1.1 Message-Set (0xAC = Input Source)

Bytes	Bytes Description	Bits	Description
DATA[0]	0xAC = Input Source – Set		Command requests the display to set the current input source
DATA[1]	Input Source Type		0x06 = HDMI 2 0x07 = Display Port 2 0x0A = Display Port1 0x0D= HDMI
Data[2]	Reserve		0x00 fixed
Data[3]	Reserve		0x00 fixed
Data[4]	Reserve		0x00 fixed

Example: Set on HDMI (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	0xAC	0x0D	0x00	0x00	0x00	0x00

5.2 Current Source

5.2.1 Message-Get (0xAD = Current Source)

Bytes	Bytes Description	Bits	Description
DATA[0]	0xAD = Current Source –Get		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

5.2.2 Message-Report (0xAD = Current Source)

Bytes	Bytes Description	Bits	Description
DATA[0]	0xAD = Current Source – Report		Command reports to the host controller the current input source in use by the display.
DATA[1]	Input Source Type/Number		0x06 = HDMI 2 0x07 = Display Port 2 0x0A = Display Port 1 0x0D = HDMI
DATA[2]	Reserved		0x00 fixed
DATA[3]	Reserved		0x01 fixed
DATA[4]	Reserved		0x000 fixed

Example: Current Input Source: HDMI (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	0xAD	0x0D	0x00	0x01	0x00	0x87

6. MESSAGES - VIDEO

6.1 Video Parameters

The following commands are used to get/set video parameters as it is defined below.

6.1.1 Message-Get (0x33 = Video Parameters)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x33 = Video Parameters –Get		Command requests the display to report its current video parameters.

Example: (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x33	0x96

6.1.2 Message-Report (0x33 = Video Parameters)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x33 = Video Parameters – Report		Command reports to the host controller the current video parameters of the display.
DATA[1]	Brightness.		0 to 100 (%) of the user selectable range of the display.
DATA[2]	Reserve		Fixed 0x00
DATA[3]	Contrast.		0 to 100 (%) of the user selectable range of the display.
DATA[4]	Sharpness.		0 to 100 (%) of the user selectable range of the display.
DATA[5]	saturation		0 to 100 (%) of the user selectable range of the display.
DATA[6]	Reserve		Fixed 0x00
DATA[7]	Gamma Selection		0x00=Native ,0x01=1.8 ,0x05=2.0 ,0x09=2.2 ,0x0D=2.4

Example: All video parameters are set to 55 % (0x37) and Gamma Curve is set to 2.2 (Display address 01)

Header	Monitor ID	Category	Page	Length	Data Control	Data[0]	Data[1]	Data[2]
0x21	0x01	0x00	0x00	0x0A	0x01	0x33	0x50	0x00
Data[2]	Data[3]	Data[4]	Data[5]	Data[6]	Data[7]	Checksum		
0x37	0x32	0x14	0x32	0x00	0x09	0x6B		

6.1.3 Message-Set (0x32 = Video Parameters)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x32 = Video Parameters – Set		Command to change the current video parameters
DATA[1]	Brightness.		0 to 100 (%) of the user selectable range of the display.
DATA[2]	Reserve		Fixed 0x00
DATA[3]	Contrast.		0 to 100 (%) of the user selectable range of the display.
DATA[4]	Sharpness.		0 to 100 (%) of the user selectable range of the display.
DATA[5]	Saturation		0 to 100 (%) of the user selectable range of the display.
DATA[6]	Reserve		Fixed 00x00
DATA[7]	Gamma Selection		0x00=Native ,0x01=1.8 ,0x05=2.0 ,0x09=2.2 ,0x0D=2.4

Example: Set all video parameters to 0x37 (55 %) (Display address 01)

Header	Monitor ID	Category	Code 0	Code 1	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]	Data[5]	Data[6]	Data[7]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x0A	0x01	0x32	0x37	0x00	0x37	0x37	0x37	0x00	0x09	0xA9

6.2 Color Temperature

6.2.1 Message-Get (0x35 = Color Temperature)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x35 = Color Temperature – Get		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	0x90

6.2.2 Message-Report (0x35 = Color Temperature)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x35 = Color Temperature – Report		Command reports to the host controller the current color temperature of the display.
DATA[1]	Color temperature		0x00 = User1 0x01 = Native 0x04 = 9300K 0x05 = 7500K

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

Header	Monitor ID	Category	Page	Length	Data Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0x35	0x01	0x11

6.2.3 Message-Set (0x34 = Color Temperature)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x34 = Color Temperature – Report		Command reports to the host controller the current color temperature of the display.
DATA[1]	Color temperature		0x00 = User1 0x01 = Native 0x04 = 9300K 0x05 = 7500K

Example: The current color temperature is set to Native (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	0x01	0x97

6.3 Color Parameters

6.3.1 Message-Get (0x37 = Color Parameters)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x37 = Color Parameters –Get		Command reports to the host controller the current video parameters 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	0x37	0x92

6.3.2 Message-Report (0x37 = Color Parameters)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x37 = Color Parameters –Report		Command reports to the host controller the current video parameters of the display.
DATA[1]	Red color gain value		0 to 255 of the user selectable range of the display.
DATA[2]	Green color gain value		0 to 255 of the user selectable range of the display.
DATA[3]	Blue color gain value		0 to 255 of the user selectable range of the display.
DATA[4]	Reserve		Reserve fixed 0x80
DATA[5]	Reserve		Reserve fixed 0x80
DATA[6]	Reserve		Reserve fixed 0x80

Example: All color parameters are set to 128 (0x80) (Display address 01)

Header	Monitor ID	Category	Page	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]*	Data[5]*	Data[6]*	Checksum
0x21	0x01	0x00	0x00	0x09	0x01	0x37	0x80	0x80	0x80	0x80	0x80	0x80	0x1F

1.1.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0x36 = Color Parameters –Set		Command to change the User color parameters
DATA[1]	Red color gain value		0 to 255 (0x00~0xFF) of the user selectable range of the display.
DATA[2]	Green color gain value		0 to 255 (0x00~0xFF) of the user selectable range of the display.
DATA[3]	Blue color gain value		0 to 255 (0x00~0xFF) of the user selectable range of the display.
DATA[4]			Reserve fixed 0x80
DATA[5]			Reserve fixed 0x80
DATA[6]			Reserve fixed 0x80

Example: All color parameters are set to 128 (0x80) (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[2]	Data[3]	DATA[4] ~[6]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x06	0x01	0x36	0xF1	0xF2	0xF3	0x80/0x80/0x80	0x16

6.4 Picture Format

This command is used to control the display screen format.

6.4.1 Message-Get (0x3B = Picture Format)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x3B = Picture Format -Get		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

6.4.2 Message-Report (0x3B = Picture Format)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x3B = Picture Format -Report		Command report to the host controller the current picture format of the display.
DATA[1]	Picture Format*	Bit 7..4	Not used.
		Bit 3..0	Picture Format. 0x00=Normal(4:3) 0x03 = Full

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

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

6.4.3 Message-Set (0x3A = Picture Format)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x3A = Picture Format -Set		Command requests the display to set the specified picture format
DATA[1]	Picture Format	Bit 7..4	Not used.
		Bit 3..0	Picture Format. 0x00=Normal(4:3) 0x03 = Full

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

7. MISCELLANEOUS

7.1 Operating Hours

The command is used to record the working hours of the display.

7.1.1 Message-Get (0x0F = Misc Info)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x0F = Misc Info -Get		Command requests the display to report from miscellaneous information parameters
DATA[1]	Item		0x02 = Operating Hours

Example: (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	0x02	0xAF

7.1.2 Message-Report (0x0F = Misc Info)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x0F = Misc Info – Report		Command reports current Operating Hours
DATA[1] to DATA[2]	Operating Hours		Operating Hours: DATA[1] and DATA[2] form the MSByte and LSByte, respectively, of the 16-bit-wide Operational Hours value.

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

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

7.2 Serial Code

7.2.1 Message-Get (0x15 = Serial Code)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x15 = Serial Code Get		Command requests the display to report its Serial Code Number (Production code) 14 digits

Example: (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x15	0xB0

7.2.2 Message-Report (0x15 = Serial Code)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x15 = Serial Code – Report		Command reports Serial Code
DATA[1]	1 st Character		Character acc. ASCII character map (HEX)
DATA[2]	2 nd Character		
DATA[3]	3 rd Character		
DATA[14]	14 th Character		Character acc. ASCII character map (HEX)
DATA[16]	16 th Character		Character acc. ASCII character map (HEX)

Example: Current Display settings: Serial Code = PDQ65AB123456789 (Display address 01)

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Data[3]	Data[4]
0x21	0x01	0x00	0x00	0x13	0x01	0x15	0x50	0x44	0x51	0x36

Data[5]	Data[6]	Data[7]	Data[8]	Data[9]	Data[10]	Data [11]	Data[12]	Data[13]	Data[14]	Data[15]
0x35	0x41	0x42	0x31	0x32	0x33	0x34	0x35	0x36	0x37	0x38

Data[16]	Checksum
0x39	0x53

7.3 Temperature Sensors

7.3.1 Message-Get (0x2F = Temperature Sensor)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x2F = Temperature Sensor – Get		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	0x8A

7.3.2 Message-Report (0x2F = Temperature Sensor)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x2F = Temperature Sensor – Report		Command reports Temperature sensor value
DATA[1]	Temperature Sensor 1		0-100 in Celsius degrees represented in hex.
DATA[2]	Reserve		Fixed 0x00

Example: Current Temp Sensor read out: Sensor 1 = 39°C (Display address 01)

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Checksum
0x21	0x01	0x00	0x00	0x05	0x01	0x2F	0x27	0x00	0x2C

7.4 IR Remote Command

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

7.4.1 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0xFD = IR Remote Command		Command to simulate the IR Remote to send IR Key to display
DATA[1]	IR KEY		0xA0: Power 0xA1: Menu 0xA2: Input 0xA6: Cursor_Up 0xA7: Cursor_Down 0xA8: Cursor_Left 0xA9: Cursor_Right 0xB1: OK 0xB2: Return 0xC1: Red 0xC2: Green 0xC3: Yellow 0xC4: Blue 0xD1: Format 0xD2: Info 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

8. UniWall

8.1 UniWall

The command is used to set/get the UniWall status as it is defined as below.

8.1.1 Message-Get (0x23 = UniWall)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x23 = UniWall – Get		Command requests the display to report UniWall status.

Example: (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x23	0x86

8.1.2 Message-Report (0x23 = UniWall)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x23 = UniWall – Report		Command reports UniWall Setting
DATA[1]	Enable		0x00 = No 0x01 = Yes
DATA[2]	Frame comp.		Bit7~Bit4 for H Frame comp. 0~15 Bit3~Bit0 for V Frame comp. 0~15
DATA[3]	Position		0x01 = position 1 0x02 = position 2 till See Note 1
DATA[4]	V monitors, H monitors		0x00 = don't care 0x01 = V monitors =1 H monitors =1 0x02 = V monitors =1 H monitors =2 till See Note 2

Note 1:

(1) The maximum Position value is 225 (hexadecimal value is 0xE1).

(2) The Position is counted from left to right, then up to down in the UniWall

Example1: See Figure 3 for the hexadecimal Position value in a 4x3 (H Monitors x V Monitors) UniWall

Example: See Figure 4 for the hexadecimal Position value in a 5x5 (H Monitors x V Monitors) UniWall

Example: See Figure 5 for the hexadecimal Position value in a 15x15 (H Monitors x V Monitors) UniWall

Note 2:

(1) The maximum H Monitors are 15 and the maximum V Monitors are 15.

The formulas for DATA [4], V Monitors, and H Monitors are as follows:

H Monitors = MOD (Data [4], 15) (Data [4] ÷ 15, take the remainder)
V Monitors = INT (Data [4], 15) + 1 (Data [4] ÷ 15, take the quotient and plus one)

Data[4] = (V Monitors – 1) x 15 + H Monitors

Example: If H Monitors = 12 and V Monitors = 6, the Data [4] value will be (6–1) x 15 + 12 = 87

Example 1:

Set the display as follows:

Data[1] : UniWall enabled: Yes

Data[2] : Framecomp.: No

Data[3] : Position: 2

H Monitors: 4 , V monitors: 3

Data[4] value will be: $(3-1) \times 15 + 4 = 34$ (hex value: 0x22)

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	0x23	0x01	0x00	0x02	0x22	0x24

Figure 3. The hexadecimal Position value in a 4x3 (H Monitors x V Monitors) UniWall.

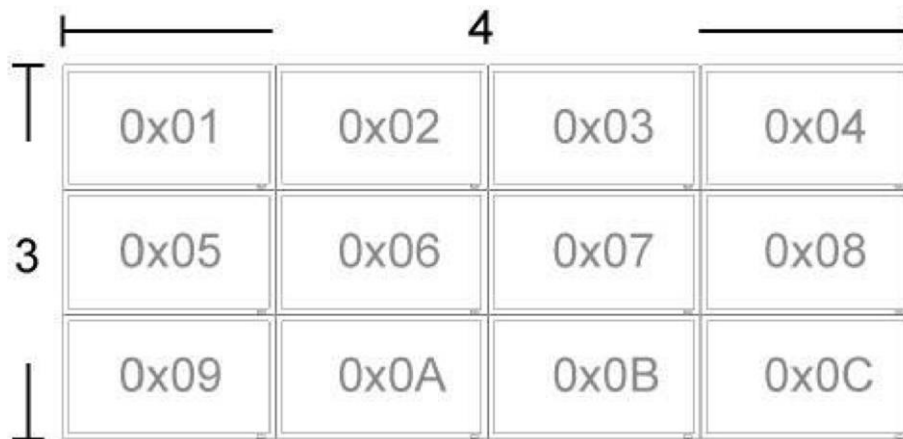


Figure 4. The hexadecimal Position value in a 5x5 (H Monitors x V Monitors) UniWall Wall.

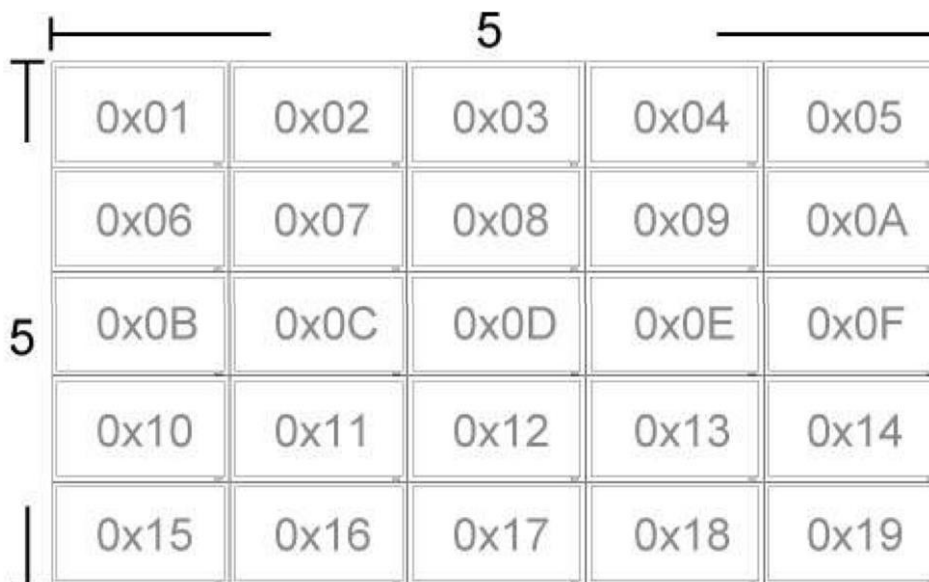
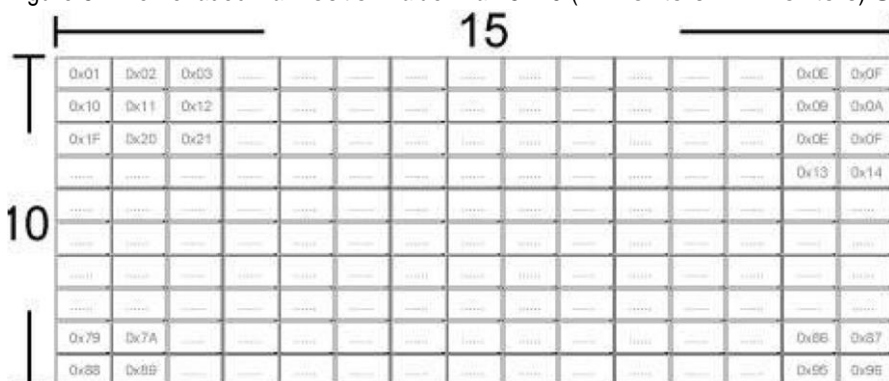


Figure 5. The hexadecimal Position value in a 15x10 (H Monitors x V Monitors) UniWall Wall.



8.1.3 Message-Set (0x22 = UniWall)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x22 = UniWall – Set		Command reports UniWall Setting
DATA[1]	Enable		0x00 = No 0x01 = Yes
DATA[2]	Frame comp.		Bit7~Bit4 for H Frame comp. 0~15 Bit3~Bit0 for V Frame comp. 0~15
DATA[3]	Position		0x00 = don't overwrite (keep previous value) 0x01 = position 1 0x02 = position 2 till See Note 1 at 9.1.2
DATA[4]	V monitors, H monitors		0x00 = don't overwrite (keep previous value) 0x01 = V monitors =1 H monitors =1 0x02 = V monitors =1 H monitors =2 till See Note 2 at 9.1.2

Example: Set the Display to the following: UniWall Enabled Yes, Frame comp. No, Position 2, V Monitors=2, H monitors = 3 (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	0x22	0x01	0x00	0x02	0x12	0x92

Example: Set the Display to the following: UniWall Enabled: Yes, Frame comp.: keep as before, Position: Keep as before, V Monitors, H monitors: keep as before (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	0x22	0x01	0x02	0x00	0x00	0x80

8.2 Backlight Level

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

8.2.1 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	0x94

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 (0x00 ~ 0x64) 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	0x4E

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	0x30	0x5A	0xC8

8.3 Auto Signal Detecting

8.3.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0xAF = Auto Signal Detecting – Get		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	0x0A

8.3.2 Message-Report

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

Example: Current Display settings: 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

8.3.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0xAE = Auto Signal Detecting – Set		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

8.4 Scheduling Parameters

The following commands are used to get/set scheduling parameters as it is defined below.

8.4.1 Message-Get (0x5B = Scheduling Parameters)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x5B = Scheduling Parameters – Get		Command requests the display to report its current Scheduling parameters.
DATA[1]	Page		1 to 7 of the scheduling pages.

Example: (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x04	0x01	0x5B	0x01	0xF8

8.4.2 Message-Report (0x5B = Scheduling Parameters)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x5B = Scheduling Parameters – Report		Command reports to the host controller the current Scheduling parameters of the display.
DATA[1]	Page		0x00 = Page disable 0x01 = Page enable
DATA[2]	Start time hour		0 to 23 of the start time hour 24 = NULL
DATA[3]	Start time minute		0 to 59 of the start time minute 60 = NULL
DATA[4]	End time hour		0 to 23 of the end time hour 24 = NULL
DATA[5]	End time minute		0 to 59 of the end time minute 60 = NULL
DATA[6]	Video source		scheduling source 0x06 = HDMI 2 0x07 = Display Port 2 0x0A = Display Port 1 0x0D = HDMI
DATA[7]	Working day(s)		the scheduling working days. Bit0 = 1: every week Bit1 = Monday Bit2 = Tuesday Bit3 = Wednesday Bit4 = Thursday Bit5 = Friday Bit6 = Saturday Bit7 = Sunday
DATA[8]	Reserve		Fixed 0x00

Example: Report page1 with DisplayPort starts at 6:30 and ends at 22:00 every day.

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]
0x21	0x01	0x00	0x00	0x0B	0x01	0x5B	0x00	0x06
Data[3]	Data[4]	Data[5]	Data[6]	Data[7]	Data[8]	Checksum		
0x1E	0x16	0x00	0x0A	0xFF	0x00	0x8B		

8.4.3 Message-Set (0x5A = Scheduling Parameters)

Bytes	Bytes Description	Bits	Description
DATA[0]	0x5A = Scheduling Parameters – Set		Command to change the current Scheduling parameters
DATA[1]	Page		BIT 7-BIT4: 1 to 7 of the scheduling pages BIT 3-BIT0: 0: Page disable 1: Page enable
DATA[2]	Start time hour		0 to 23 of the start time hour 24 = NULL
DATA[3]	Start time minute		0 to 59 of the start time minute 60 = NULL
DATA[4]	End time hour		0 to 23 of the end time hour 24 = NULL
DATA[5]	End time minute		0 to 59 of the end time minute 60 = NULL
DATA[6]	Video source		To set scheduling source 0x06 = HDMI 2 0x07 = Display Port 2 0x0A = Display Port 1 0x0D= HDMI
DATA[7]	Working day(s)		To set the scheduling working days. Bit0 = 1: every week Bit1 = 1: Monday Bit2 = 1: Tuesday Bit3 = 1: Wednesday Bit4 = 1: Thursday Bit5 = 1: Friday Bit6 = 1: Saturday Bit7 = 1: Sunday
DATA[8]	Reserve		Fixed 0x00

Example: Set page1 with DisplayPort starts at 06:30 and ends at 22:00 every day.

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]
0xA6	0x01	0x00	0x00	0x00	0x0B	0x01	0x5A	0x10
Data[2]	Data[3]	Data[4]	Data[5]	Data[6]	Data[7]	Data[8]	Checksum	
0x06	0x1E	0x16	0x00	0x0A	0xFF	0x00	0x1C	

8.5 Time State

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

8.5.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0x72 = Time state - Get		Command requests the display to report its Time state

Example: (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x72	0xD7

8.5.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	0x72 = Time state - Report		Command reports Time state
DATA[1]	Hour		0x00 – 0x17 = 0 -23
DATA[2]	Minute		0x00 – 0x3B = 0 - 59

Example: Time: 11:28 (Display address 01)

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Data[2]	Checksum
0x21	0x01	0x00	0x00	0x05	0x01	0x72	0x0B	0x1C	0x41

8.5.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0x71 = Time state - Set		Command to change the Time state of the display
DATA[1]	Hour		0x00 – 0x17 = 0 -23
DATA[2]	Minute		0x00 – 0x3B = 0 - 59

Example: Set Time to 00:00 (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	0x71	0x00	0x00	0xD2

8.6 Date State

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

8.6.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0x6F = Date state - Get		Command requests the display to report its Date state

Example: (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0x6F	0xCA

8.6.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	0x6F = Date state - Report		Command reports Time state
DATA[1]	Year		0x0E - 0x63 = 2014 - 2099
DATA[2]	Month		0x01 - 0x0C = JAN - DEC
DATA[3]	Day		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

Example: Date: 2014/10/10 (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	0x6F	0x0E	0x0A	0x0A	0x46

8.6.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0x6E = Date state - Set		Command to change the Date state of the display
DATA[1]	Year		0x0E - 0x63 = 2014 - 2099
DATA[2]	Month		0x01 - 0x0C = JAN - DEC
DATA[3]	Day		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

Example: Set Date to 2014/01/01 (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Data[1]	Data[0]	Data[1]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x06	0x01	0x6E	0x0E	0x01	0x01	0xC0

8.7 **ANTI-BURN-IN**

This command is used to set/get the Anti-Burn-in setting it is defined as below.

8.7.1 **Message – Set**

Bytes	Bytes Description	Bits	Description
Data [0]	0xE4 = Anti-Burn-in - Set		Command to change the Anti-Burn-in setting of the display.
Data [1]	Enable / Disable		0x00 = OFF 0x01 = ON
Data [2]	Anti-Burn-in Interval		0x01 = 4 (Hours) 0x02 = 5 0x03 = 6 0x04 = 8
Data [3]	Anti-Burn-in Type		0x00 - fixed

Example: The current **ANTI-BURN-IN** are set ON / 4 Hours / Type A (Display address 01)

Header	Monitor ID	Category	Code [0]	Code [1]	Length	Data Control	Data [0]	Data [1]	Data [2]
0xA6	0x01	0x00	0x00	0x00	0x06	0x01	0xE4	0x01	0x01

Data [3]	Checksum
0x01	0x45

8.7.2 **Message – Get**

Bytes	Bytes Description	Bits	Description
Data [0]	0xE5 = Anti-Burn-in - Get		Command requests the display to report its current setting.

Example: Get the Anti-Burn-in parameters (Display address 01)

Header	Monitor ID	Category	Code [0]	Code [1]	Length	Data Control	Data [0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0xE5	0x40

8.7.3 **Message – Get Report**

Bytes	Bytes Description	Bits	Description
Data [0]	0xE5 = Anti-Burn-in - Report		Command reports Anti-Burn-in setting.
Data [1]	Enable / Disable		0x00 = OFF 0x01 = ON
Data [2]	Anti-Burn-in Interval		0x01 = 4 (Hours) 0x02 = 5 0x03 = 6 0x04 = 8
Data [3]	Anti-Burn-in Type		0x01 = fixed

Example: The current **ANTI-BURN-IN** parameters are ON / 4 Hours / Type A (Display address 01)

Header	Monitor ID	Category	Page	Length	Data Control	Data [0]	Data [1]	Data [2]
0x21	0x01	0x00	0x00	0x06	0x01	0xE5	0x01	0x01

Data [3]	Checksum
0x01	0xC3

8.8 UniWall Enable

8.8.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0xC3 = UniWall Enable – Get		Command requests the display to report its current UniWall Enable status

Example: (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0xC3	0x66

8.8.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	0xC3 = UniWall Enable – Report		Command reports UniWall Enable Setting
DATA[1]	On / Off		0x00 = Off 0x01 = On

Example: UniWall Enable settings: On (Display address 01)

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0xC3	0x01	0xE7

8.8.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0xC2 = UniWall Enable – Set		Command to change the UniWall Enable setting of the display
DATA[1]	On / Off		0x00 = Off 0x01 = On

Example: Set the UniWall Enable: 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	0xC2	0x01	0x61

8.9 Anti-Burn-In Enable

8.9.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0xB1 = Anti-Burn-In Enable – Get		Command requests the display to report its current Anti-Burn-In Enable status

Example: (Display address 01)

Header	Monitor ID	Category	Code0	Code1	Length	Data Control	Data[0]	Checksum
0xA6	0x01	0x00	0x00	0x00	0x03	0x01	0xB1	0x14

8.9.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	0xB1 = Anti-Burn-In Enable – Report		Command reports Anti-Burn-In Enable Setting
DATA[1]	On / Off		0x00 = Off 0x01 = On

Example: UniWall Enable settings: On (Display address 01)

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0xB1	0x01	0x95

8.9.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0xB2 = Anti-Burn-In Enable – Set		Command to change the Anti-Burn-In Enable setting of the display
DATA[1]	On / Off		0x00 = Off 0x01 = On

Example: Set the Anti-Burn-In Enable: 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	0xB2	0x01	0x11

8.10 Brightness Level

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

8.10.1 Message-Get

Bytes	Bytes Description	Bits	Description
DATA[0]	0xC1 = Brightness level – Get		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	0xC1	0x64

8.10.2 Message-Report

Bytes	Bytes Description	Bits	Description
DATA[0]	0xC1 = Brightness level – Report		Command reports current Brightness level
DATA[1]	Brightness value		0 to 100 (0x00 ~ 0x64) of the user selectable range of the display.

Example: Brightness:90 (0x5A) (Display address 01)

Header	Monitor ID	Category	Page	Length	Control	Data[0]	Data[1]	Checksum
0x21	0x01	0x00	0x00	0x04	0x01	0xC1	0x5A	0xBE

8.10.3 Message-Set

Bytes	Bytes Description	Bits	Description
DATA[0]	0xC0 = Brightness level – Set		Command to change the Brightness level of the display.
DATA[1]	Brightness value		0 to 100 of the user selectable range of the display.

Example: Set Brightness: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	0xC0	0x5A	0X38

3. Command summary

Command name	Set Command	Get Command	Command Code	Remarks
Platform labels		√	0xA2	
Model name		√	0xA1	
Power state Get		√	0x19	
Power state Set	√		0x18	
Lock Status-IR-Remote Control Get		√	0x1D	
Lock Status-IR-Remote Control Set	√		0x1C	
Input Source	√		0xAC	
Current Source		√	0xAD	
Video parameters Get		√	0x33	Brightness, etc.
Video parameters Set	√		0x32	
Color temperature Get		√	0x35	
Color temperature Set	√		0x34	
Color parameters Get		√	0x37	
Color parameters Set		√	0x36	
Picture Format Get		√	0x3B	
Picture Format Set	√		0x3A	
Miscellaneous info Get		√	0x0F	Operating hours
Serial Code Get		√	0x15	
Temperature Get		√	0x2F	
IR Remote Control	√		0xFD	
UniWall Get		√	0x23	
UniWall Set	√		0x22	
Backlight Level get		√	0x31	
Backlight Level set	√		0x30	
Auto Signal Detecting get		√	0xAF	
Auto Signal Detecting set	√		0xAE	
Schedule Get		√	0x5B	
Schedule Set	√		0x5A	
Time Get		√	0x71	
Time Set	√		0x72	
Date Get		√	0x6F	
Date Set	√		0x6E	
Anti-Burn-in Get		√	0xE5	
Anti-Burn-In Set	√		0xE4	

UniWall Enable Get		√	0xC3	
UniWall Enable Set	√		0xC2	
Anti-Burn-In Enable Get		√	0xB1	
Anti-Burn-In Enable Set	√		0xB2	
Brightness Get		√	0xC1	
Brightness Set	√		0xC0	

3. Revision History

Date	Version	Description
2023-02-16	0.1	Initial version
2023-02-21	0.2	Initial version V0.2
2023-06-14	0.3	Add 0x36 Color Temp RGB gain Setting
2023-06-27	0.5	revise