Planar PS5580 RS232 and LAN Command Protocol

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PS5580 Protocol

Introduction

This document contains the communication protocol between product (PS5580) and its control devices, such as a computer. It does not include detailed technical matters, but focuses on functional explanations and communication protocol.

1. Communication Setting

Transmission & Reception Type: Asynchronous Serial Communication

Connection type: Daisy chain

Baud rate: 115200 bps

Data bits: 8

Parity: none

Stop bits: 1

Flow control: none

Cable: Male/Female 9-pin straight through wiring configuration

Computer	Pin	Pin	Monitor
Male 9-pin	-	-	Female 9-pin
Received Data	2	2	Transmitted data
Transmitted data	3	3	Received data
Signal Ground	5	5	Signal ground

LAN port setup: TCP connection to port 9761

General Protocol Rules

	STX	Command	Length	Group ID	Multi ID	Other data	ETX
Send to LCD	1 byte	1 byte	1 byte	1 byte	1 byte	N bytes	1 byte
Receive from LCD	1 byte	1 byte	1 byte	1 byte	1 byte	N bytes	2 byte

STX: Initial Code = 0x02 (fixed value; all commands start with this)

Command: Code for the operation (Variable)

Length: Length of Data area (0-255)

Group ID / Multi ID: Code to distinguish LCD sets. (0-255) If Group and Multi ID are both 0, the command is broadcast.

ETX: End of code = 0x03 (fixed value; all commands end with this)

Checksum: The ones complement of the following fields: STX, command, length, group ID and multi ID fields. The sum of STX, command, length, group ID, multi ID and checksum fields will be 0xFF.

Communication Sequence

- Wait 50 msec for the response after sending the command. If there is no response, it is recommend to resend the command.
- It is recommended that you not send another command or change the input resolution during command transmission.

2. Basic Commands

Power On

Power On	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	0x10	0x03	variable	variable	Read (Get) 0x00(0); Write (Set) 0x02(2)	
Broadcast	0x10	0x02	0x00	0x00	[none]	
Receive From PS5580 for Data Write	0x10	0x03	variable	variable	Write (Set) 0x02(2)	variable
Receive From PS5580 for Data Read	0x10	0x04	variable	variable	Read (Get) Response: 0x00(0) = Off; 0x01 (1) = On	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Power Off

Power Off	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	0x11	0x03	variable	variable	Read (Get) 0x00(0); Write (Set) 0x02(2)	
Broadcast	0x11	0x02	0x00	0x00	[none]	
Receive From PS5580 for Data Write	0x11	0x03	variable	variable	Write (Set) 0x02(2)	variable
Receive From PS5580 for Data Read	0x11	0x04	variable	variable	Read (Get) Response: 0x00(0) = Off; 0x01 (1) = On	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Input Source Change

Input Source Change	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	see below	0x03	variable	Write (Set) 0x02(2)	variable	
Receive	see below	0x03	variable	Write (Set) 0x02(2)	variable	

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Values	0xD1 = Display Port
	0xD2 = HDMI 1
	0xD3 = HDMI 2
	0xD4 = DVI
	0xD5 = PC

3. Picture Commands

Brightness

Brightness	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x20	0x04	variable	variable	Write (Set) 0x02(2)	0x00(0) - 0x64(100)	
Broadcast	0x20	0x03	0x00	0x00	[none]	0x00(0) - 0x64(100)	
Receive from PS5580	0x20	0x04	variable	variable	Write (Set) 0x02(2)	0x00(0) - 0x64(100)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Backlight

Back Light	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0xDC	0x04	variable	variable	Write (Set) 0x02(2)	0x00(0) - 0x64(100)	
Broadcast	0xDC	0x03	0x00	0x00	[none]	0x00(0) - 0x64(100)	
Receive from PS5580	0xDC	0x04	variable	variable	Write (Set) 0x02(2)	0x00(0) - 0x64(100)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Contrast

Contrast	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x21	0x04	variable	variable	Write (Set) 0x02(2)	0x00(0) - 0x64(100)	
Broadcast	0x21	0x03	0x00	0x00	[none]	0x00(0) - 0x64(100)	
Receive from PS5580	0x21	0x04	variable	variable	Write (Set) 0x02(2)	0x00(0) - 0x64(100)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Sharpness

Sharpness	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x22	0x04	variable	variable	Write (Set) 0x02(2)	0x00(0) - 0x18(24)	
Broadcast	0x22	0x03	0x00	0x00	[none]	0x00(0) - 0x18(24)	
Receive from PS5580	0x22	0x04	variable	variable	Write (Set) 0x02(2)	0x00(0) - 0x18(24)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Color Temperature

Color Temperature	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x26	0x04	variable	Write (Set) 0x02(2)	variable	variable	
Broadcast	0x26	0x03	0x00	0x00	[none]	variable	
Receive from PS5580	0x26	0x04	variable	Write (Set) 0x02(2)	variable	variable	variable

Control Value:

0x01(1) for 4000K
0x02(2) for 6500K
0x03(3) for 10000K
0x04(4) for User Mode

Gamma Selection

Gamma Selection	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x35	0x04	variable	variable	Write (Set) 0x02(2)	variable	
Broadcast	0x35	0x03	0x00	0x00	[none]	variable	
Receive from PS5580	0x35	0x04	variable	variable	Write (Set) 0x02(2)	variable	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value: 0x00(0) for Gamma 1.8
0x01(1) for Gamma 2.2

Color Space Configuration

Color Space Configuration	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0xB4	0x04	variable	variable	Write (Set) 0x02(2)	variable	
Broadcast	0xB4	0x03	0x00	0x00	[none]	variable	
Receive from PS5580	0xB4	0x04	variable	variable	Write (Set) 0x02(2)	variable	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value:	0x00(0) = Auto
	0x01(1) = RGB PC
	0x02(2) = RGB Video

Get Picture Control Data

Get Picture Control Data	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	0x90	0x03	variable	variable	Read (Get) 0x00(0)	
Receive from PS5580	0x90	0x2A	variable	variable	39 Bytes see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Does not have a broadcast command.

Received Picture Control Data		Note: All lengths = 1 Byte
No.	Data	Explanation
1	Input Source	Display Port = 0x01(1) HDMI 1 = 0x02(2) HDMI 2 = 0 03(3) DVI = 0x04(4) PC = 0x05(5)
2	Brightness	0x00(0) - 0x64(100)
3	Contrast	0x00(0) - 0x64(100)
4	Sharpness	0x00(0) - 0x18(24)
5	Tint	0x4D(77) - 0xB1(177) -50 - 50
6	Color	0x00(0) - 0x64(100)
7	Dimmming (LCD Backlight)	0x00(0) - 0x64(100)
8	Color Temperature	0x01(1) = 4000K 0x02(2) = 6500K 0x03(3) = 10000K 0x04(4) = User
9	HDMI 1 - Gain Red	0x00(0) - 0x64(100)
10	HDMI 1 - Gain Green	0x00(0) - 0x64(100)
11	HDMI 1 - Gain Blue	0x00(0) - 0x64(100)
12	HDMI 1 - Offset Red	0x00(0) - 0x64(100)
13	HDMI 1 - Offset Green	0x00(0) - 0x64(100)
14	HDMI 1 - Offset Blue	0x00(0) - 0x64(100)
15	HDMI 2 - Gain Red	0x00(0) - 0x64(100)
16	HDMI 2 - Gain Green	0x00(0) - 0x64(100)
17	HDMI 2 - Gain Blue	0x00(0) - 0x64(100)
18	HDMI 2 - Offset Red	0x00(0) - 0x64(100)
19	HDMI 2 - Offset Green	0x00(0) - 0x64(100)
20	HDMI 2 - Offset Blue	0x00(0) - 0x64(100)
21	DVI - Gain Red	0x00(0) - 0x64(100)
22	DVI - Gain Green	0x00(0) - 0x64(100)
23	DVI - Gain Blue	0x00(0) - 0x64(100)
24	DVI - Offset Red	0x00(0) - 0x64(100)
25	DVI - Offset Green	0x00(0) - 0x64(100)
26	DVI - Offset Blue	0x00(0) - 0x64(100)
27	Display Port - Gain Red	0x00(0) - 0x64(100)
28	Display Port - Gain Green	0x00(0) - 0x64(100)
29	Display Port - Gain Blue	0x00(0) - 0x64(100)

30	Display Port - Offset Red	0x00(0) - 0x64(100)
31	Display Port - Offset Green	0x00(0) - 0x64(100)
32	Display Port - Offset Blue	0x00(0) - 0x64(100)
33	PC - Gain Red	0x00(0) - 0x64(100)
34	PC - Gain Green	0x00(0) - 0x64(100)
35	PC - Gain Blue	0x00(0) - 0x64(100)
36	PC - Offset Red	0x00(0) - 0x64(100)
37	PC - Offset Green	0x00(0) - 0x64(100)
38	PC(RGB) - Offset Blue	0x00(0) - 0x64(100)
39	Gamma	0x00(0) = Gamma 1.8 0x01(1) = Gamma 2.2

4. Screen Commands

Screen H Position

Screen H Position	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x36	0x04	variable	variable	Write (Set) 0x02(2)	variable	
Broadcast	0x36	0x03	0x00	0x00	[none]	variable	
Receive from PS5580	0x36	0x04	variable	variable	Write (Set) 0x02(2)	variable	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Control Value Range: 0x00(0) - 0x64(100)

Screen V Position

Screen V Position	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x37	0x04	variable	variable	Write (Set) 0x02(2)	variable	
Broadcast	0x37	0x03	0x00	0x00	[none]	variable	
Receive from PS5580	0x37	0x04	variable	variable	Write (Set) 0x02(2)	variable	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Control Value Range: 0x00(0) - 0x64(100)

Screen Clock

Screen Clock	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x38	0x04	variable	variable	variable	variable	
Broadcast	0x38	0x03	0x00	0x00	[none]	variable	
Receive from PS5580	0x38	0x04	variable	variable	variable	variable	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Control Value Range: 0x00(0) - 0x64(100)

Screen Clock Phase

Screen Clock Phase	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x39	0x04	variable	variable	Write (Set) 0x02(2)	variable	
Broadcast	0x39	0x03	0x00	0x00	[none]	variable	
Receive from PS5580	0x39	0x04	variable	variable	Write (Set) 0x02(2)	variable	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Control Value Range: 0x00(0) - 0x3F(63)

5. SETUP A Commands

Auto Calibration

Auto Calibration	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x61	0x03	variable	variable	Write (Set) 0x02(2)	variable	
Broadcast	0x61	0x02	0x00	0x00	[none]	variable	
Receive from PS5580	0x61	0x09	variable	variable	Control 6 Bytes	variable	variable
All lengths = 1 Byte	Gain Red	Gain Green	Gain Blue	Offset R	Offset G	Offset B	
	variable	variable	variable	variable	variable	variable	

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value range: 0x00(0) - 0xFF (255)

Auto Tracking

Auto Tracking	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x62	0x04	variable	variable	Write (Set) 0x02(2)		
Broadcast	0x62	0x03	0x00	0x00	[none]		
Receive from PS5580	0x62	0x09	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

	H Position	V Position	Clock	Clock Phase
	1 Byte	1 Byte	1 Byte	1 Byte
Control Value range:	0x00(0)-0x64(100)	0x00(0)-0x64(100)	0x00(0)-0x64(100)	0x00(0)-0x3F(63)

Power Save

Power Save	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x63	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0x63	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0x63	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value: OFF = 0x00(0)
ON = 0x01(1)

Auto Power

Auto Power	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x64	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0x64	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0x64	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value: OFF = 0x00(0)
ON = 0x01(1)

Key Lock Configuration (Keypad Lock Configuration)

Keypad Lock Configuration	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0xB1	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0xB1	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0xB1	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value:	OFF = 0x00(0)
	ON = 0x01(1)

Get PC (Input Source) Set Up Control Data

Get PC Setup Control Data	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x96	0x03	variable	variable	Read (Get) 0x00(0)	variable	
Receive from PS5580	0x96	0x04	variable	variable	Read (Get) 0x00(0)	see below	variable

Does not respond to Broadcast Command

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value (10 bytes)			
Length	No.	Data	Explanation
All 1 Byte	1	PC ADC: Gain Red	0x00(0) - 0x64(100)
	2	PC ADC: Gain Green	0x00(0) - 0x64(100)
	3	PC ADC: Gain Blue	0x00(0) - 0x64(100)
	4	PC ADC: Offset Red	0x00(0) - 0x64(100)
	5	PC ADC: Offset Green	0x00(0) - 0x64(100)
	6	PC ADC: Offset Blue	0x00(0) - 0x64(100)
	7	H Position	0x00(0) - 0x64(100)
	8	V Position	0x00(0) - 0x64(100)
	9	Clock	0x00(0) - 0x64(100)
	10	Clock Phase	0x00(0) - 0x3F(63)

6. SETUP B Commands

Serial Control

Serial Control	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	see below	0x03	variable	variable	Write (Set) 0x02(2)	
Broadcast	see below	0x02	0x00	0x00	[none]	
Receive from PS5580	see below	0x03	variable	variable	Write (Set) 0x02(2)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Command:

0x70 = LAN ON

0x71 = LAN OFF

LCD Network IP Address

LCD Network IP Address	Command	Length	Group ID	Multi ID	Mode	Control (20 Byte)	
Normal	0x75	0x17	variable	variable	Write (Set) 0x02(2)	[none]	
Receive from PS5580	0x75	0x17	variable	variable	Write (Set) 0x02(2)	see below	variable

Control Value all variable	IP Address (4 Byte)	Subnet Mask (4 Byte)	Default Gateway (4 Byte)	DNS Primary (4 Byte)	DNS Secondary (4 Byte)

Control Value range: 0x00(0) - 0xFF(255) respectively.

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively.

Does not support a Broadcast Command.

Get LCD Network IP

Get LCD Network IP Address	Command	Length	Group ID	Multi ID	Mode	Control
Normal	0x7A	0x03	variable	variable	Read (Get) 0x00(0)	[none]
Receive from PS5580	0x7A	0x1E	variable	variable	Read (Get) 0x00(0)	27 Bytes see below

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively.
It does not support Broandcast Command

Receive from PS5580			Data				
	Command	Length	Group ID	Multi ID	Mode	Control (27 Bytes)	Check Sum
	0x7A	0x1E	variable	variable	Read (Get) 0x00(0)	variable (see below)	variable

LAN ON/OFF	DHCP	IP	IP	IP	IP	Subnet Mask	Subnet Mask	Subnet Mask	Subnet Mask	Gateway	Gateway	Gateway	Gateway	DNS (Primary)	DNS (Primary)	DNS (Primary)	DNS (Primary)	DNS (Secondary)	DNS (Secondary)	DNS (Secondary)	DNS (Secondary)	Port Number	Port Number	Port Number	Port Number	Port Number
All variable																										

Control Value:
LAN Communication - 0x00(0) = LAN OFF; 0x01(1) = LAN ON
DHCP (ON/OFF) - 0x00(0) = Disable; 0x01(1) = Enable
IP, Subnet Mask, Gateway, DNS Server (Primary, DNS Server (Secondary) Range - 0x00(0)-0xFF(255), respectively.
Port Number: 1 Byte each (e.g. Port Number 3007 - 0x00(0) 0x03(3) 0x00(0) 0x00(0) 0x07(7))

LCD Network IP Reset

LCD Network IP Reset	Command	Length	Group ID	Multi ID	Mode
Normal	0x7B	0x03	variable	variable	Write (Set) 0x02(2)
Broadcast	0x7B	0x02	0x00	0x00	[none]

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

OSD Turn OFF

F

OSD Turn OFF	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x7D	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0x7D	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0x7D	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID Range (Program): 0x01(1)-0xFF(255), respectively.

Control Value Range:	5 sec - 120 sec = 0x05(5) - 0x78(120)

OSD H Position

OSD H Position	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x7E	0x04	variable	variable	Write (Set) 0x02(2)	variable	
Broadcast	0x7E	0x03	0x00	0x00	[none]	variable	
Receive from PS5580	0x7E	0x04	variable	variable	Write (Set) 0x02(2)	variable	variable

Group/Multi ID Range (Program): 0x01(1)-0xFF(255), respectively.

Control Value Range: 0-100 (0x00(0)-0x64(100)

OSD V Position

OSD V Position	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x7F	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0x7F	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0x7F	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID Range (Program): 0x01(1)-0xFF(255), respectively.
Control Value Range: 0-100 (0x00(0)-0x64(100)

OSD Rotation

OSD Rotation	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x80	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0x80	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0x80	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID Range (Program): 0x01(1)-0xFF(255), respectively.

Control Value:
0x00(0) for OFF (OSD Rotation Stop)
0x01(1) for OSD Horizontal Mirror
0x02(2) for OSD Vertical Mirror

OSD Info Display

OSD Info Display	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x81	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0x81	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0x81	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID Range (Program): 0x01(1)-0xFF(255), respectively.

Control Value:
0x00(0) = OFF (No INFO DISPLAY)
INFO DISPLAY Duration = 0x03(3 sec.) - 0x0A(10 sec)

OSD Transparency

OSD Transparency	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x82	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0x82	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0x82	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID Range (Program): 0x01(1)-0xFF(255), respectively.
Control Value: 0x00(0)-0x0F(15)

Get OSD Control Data

Get OSD Control Data	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x98	0x03	variable	variable	Read (Get) 0x00(0)	[none]	
Receive from PS5580	0x98	0x0A	variable	variable	Read (Get) 0x00(0)	see below	variable

Group/Multi ID Range (Program): 0x01(1)-0xFF(255), respectively.
Does not have a Broadcast command.

Control Value 7 Bytes	No.	Data	Length	Explanation
	1	OSD Language	1 Byte	English - 0x00(0) (English only)
	2	OSD Control Menu Turn Off Time (duration)	1 Byte	5 sec. - 120 sec. (0x05-0x78)
	3	OLD Horizontal Position	1 Byte	0x100 (0x00-0x64)
	4	OSD Vertical Position	1 Byte	0x100 (0x00-0x64)
	5	OSD Rotation	1 Byte	0x00(0) - OFF; 0x01(1) - H Mirror; 0x02(2) - V Mirror
	6	OSD Info Display (OSD Display & Duration)	1 Byte	0x00(0) - OFF; 0x03(3 Sec); 0x0A(10Sec)
	7	OSD Transparency	1 Byte	0x00(0) - 0x0F(15)

7. Option Commands

Input Source Resolution Display

Input Source Resolution Display	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	0x2A	0x03	variable	variable	Write (Set) 0x02(2)	
Broadcast	0x2A	0x02	0x00	0x00	[none]	
Receive from PS5580	0x2A	0x03	variable	variable	Write (Set) 0x02(2)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Scan Mode

Scan Mode	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	0x9A = Over Scan ON 0x9B = Over Scan OFF	0x03	variable	variable	Write (Set) 0x02(2)	
Broadcast	0x9A = Over Scan ON 0x9B = Over Scan OFF	0x02	0x00	0x00	[none]	
Receive from PS5580	0x9A = Over Scan ON 0x9B = Over Scan OFF	0x03	variable	variable	Write (Set) 0x02(2)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Tiling Menu Lock Configuration

Tiling Menu Lock Configuration	Command	Length	Group ID	Multi ID	Mode	Control 1 Byte	Check Sum
Normal	0xB3	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0xB3	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0xB3	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value:	0x00(0) = Tiling Lock
	0x01(1) = Tiling Lock

Frame Comp

Frame Comp	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	0x2C = ON 0x2D = OFF	0x03	variable	variable	Write (Set) 0x02(2)	
Broadcast	0x2C = ON 0x2D = OFF	0x02	0x00	0x00	[none]	
Receive from PS5580	0x2C = ON 0x2D = OFF	0x03	variable	variable	Write (Set) 0x02(2)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Multi Scale

Multi Scale	Command	Length	Group ID	Multi ID	Mode	Control 4 Bytes	Check Sum
Normal	0xD1 = Display Port 0xD2 = HDMI 1 0xD3 = HDMI 2 0xD4 = DVI 0xD5 = PC	0x07	variable	variable	Write (Set) 0x02(2)	see below	
Receive from PS5580	0xD1 = Display Port 0xD2 = HDMI 1 0xD3 = HDMI 2 0xD4 = DVI 0xD5 = PC	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

	No. of H Axis (X)	No. of V Axis (Y)	Expanded Pos. 1	Expanded Pos. 2
Value (all 1 Byte)	0x00(0) - 0xFF(255)	0x00(0) - 0xFF(255)	0x00(0) - 0xFF(255)	0x00(0) - 0xFF(255)

If there are 100 sets installed, and the no. of H axis (X) is 0x0A(10)
and the no. of V axis (Y) is 0x0A(10), send the command for expanded Position 1 & 2 in sequence from 1 to 100.

Expanded Position 1 is 0x00(0) and Position 2 is 0x01(1) for 1
Expanded Position 1 is 0x00(0) and Position 2 is 0x01(1) for 2
:
:
Expanded Position 1 is 0x00(0) and Position 2 is 0x64(100)) for 100

Expanded Position 2 can be up to 255. If it is 256, Position 1 is 0x01(1)
and Position 2 is 0x00(0)

Single Input Source Conversion during Multi Scale (Expanded Screen)

Single Source Conversion	Command	Length	Group ID	Multi ID	Mode	Control 1 Byte	Check Sum
Normal	0XD6	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Receive from PS5580	0xD6	0x04	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Does not respond to Broadcast Command

Control Value:	0xD2 = HDMI 1	
	0xD3 = HDMI 2	
	0xD4 = DVI	

IR Lock Configuration

IR Lock Configuration	Command	Length	Group ID	Multi ID	Mode	Control 1 Byte	Check Sum
Normal	0XB2	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0xB2	0x03	0x00	0x00	[none]		
Receive from PS5580	0xB2	0x03	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Control Value:	0x00(0) = IR Lock Off	
	0x01(1) = IR Lock On	

Power On Delay Time

Power On Delay Time	Command	Length	Group ID	Multi ID	Mode	Control 1 Byte	Check Sum
Normal	0x9E	0x04	variable	variable	Write (Set) 0x02(2)	see below	
Broadcast	0x9E	0x03	0x00	0x00	[none]	see below	
Receive from PS5580	0x9E	0x03	variable	variable	Write (Set) 0x02(2)	see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Control Value: 0x00(0) - OFF; 0x01(1 sec)-0x32(50 sec) (Time can be selected by second)

Control Value:	0x00(0) = OFF
	0x01(1 sec) - 0x32(50 sec) (Time can be selected by second.)

8. Factory Mode Commands

Get Model Name and Serial Number

Get Model Name and Serial Number	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0XB9	0x03	variable	variable	Read (Get) 0x00(0)	[none]	
Receive from PS5580	0XB9	0x19	variable	variable	Read (Get) 0x00(0)	22 Bytes see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Does not respond to Broadcast Command

Get Model Name and Serial Number

Receive from PS5580			Data				
	Command	Length	Group ID	Multi ID	Mode	Control (27 Bytes)	Check Sum
	0xB9	0x19	variable	variable	variable	variable (see below)	variable

Characters for . . .																			
Model Name									Serial Number										
1st	2nd	3rd	4th	5th	6th	7th	8th	9th	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th

Control Value: (example)
Model Name for OLMC-5510 0x4F 0x4C 0x53 0x37 0x30 0x31 0x30 0x4E 0x42 (ASCII Code)
Serial Number range - ASCII Code '0'(0x30) - 'Z' (0x5A)

Get MAC Address

Get MAC Address	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0xD0	0x03	variable	variable	Read (Get) 0x00(0)	[none]	
Receive from PS5580	0xD0	0x09	variable	variable	Read (Get) 0x00(0)	1 Byte see below	variable

	Data (all 1 Byte)					
	1st	2nd	3rd	4th	5th	6th
Value	variable	variable	variable	variable	variable	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Does not respond to Broadcast Command

Control Value: Each Address range from 1st Data to 6th Data is 0x00(0)-0xFF(255)

Factory Reset (Firmware Default)

Factory Reset (Firmware Default)	Command	Length	Group ID	Multi ID	Mode	Check Sum
Normal	0xBB	0x03	variable	variable	Write (Set) 0x02(2)	
Broadcast	0xBB	0x02	[none]	[none]	[none]	
Receive from PS5580	0xBB	0x03	variable	variable	Write (Set) 0x02(2)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

White Balance Control

This is the command to control Gain RGB and Offset RGB of White Balance.
Since every LCD set has its own characteristics, White Balance cannot be adjusted all together by sending commands with ID value 0x00 for the same configuration.
So, it is highly recommended to adjust White Balance separately.

White Balance Control	Command	Length	Group ID	Multi ID	Mode	Input Source	Control	Check Sum
Normal	see below	0x05	variable	variable	Write (Set) 0x02(2)	variable	0x00(0) - 0x63(100)	
Receive from PS5580	see below	0x05	variable	variable	Write (Set) 0x02(2)	variable	0x00(0) - 0x63(100)	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Input Source:	0x01(1) = Display Port
	0x02(2) = HDMI 1
	0x03(3) = HDMI 2
	0x04(4) = DVI
	0x05(5) = PC

Command Value:		
	0xBC = Gain R	0xBF = Offset R
	0xBD = Gain G	0xC1 = Offset G
	0xBE = Gain B	0xC2 = Offset B

Get Firmware Version Information

Get Firmware Version Information	Command	Length	Group ID	Multi ID	Mode	Verison Info	Check Sum
Normal	0xF9	0x03	variable	variable	Read (Get) 0x00(0)	[none]	
Receive from PS5580	0xF9	0x0B	variable	variable	Read (Get) 0x00(0)	16 Bytes see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Does not respond to Broadcast Command

	Version Data															
No.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th
Length	All 1 Byte															
Explanation	Scalar Firmware	Scalar Firmware	Scalar Firmware	Scalar Firmware	Scalar Firmware	Scalar Firmware	Scalar Firmware	Scalar Firmware	Micom Firmware	Micom Firmware	Micom Firmware	Micom Firmware	Micom Firmware	Micom Firmware	Micom Firmware	Micom Firmware

Version Information (example):

	Year 2012	November 16th	Revision/Beta/Release
Scalar	0x01 0x02	0x01 0x01 0x01 0x06	0x00 0x01
Micom	0x01 0x03	0x01 0x01 0x01 0x06	0x00 0x00

Get LCD Status

Get LCD Status	Command	Length	Group ID	Multi ID	Mode	Status	Check Sum
Normal	0x87	0x03	variable	variable	Read (Get) 0x00(0)	[none]	
Receive from PS5580	0x87	0x0C	variable	variable	Read (Get) 0x00(0)	9 Bytes see below	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Does not support Broadcast Command

No.	Data	Explanation
1	PWR Status	0x00(0) = Power Off(Standby) 0x01(1) = Power On
2	Input Source	0x01(1) = Display Port 0x02(2) = HDMI 1 0x03(3) = HDMI 2 0x04(4) = DVI 0x05(5) = PC
3	Resolution - TBD	Resolution - see below
4	Color Temp Mode(Video Mode)	0x01(1) = 4000K 0x02(2) = 6500K 0x03(3) = 10000K 0x04(4) = User
5	Power Save Mode	0x00(0) = OFF; 0x01(1) = ON
6	Auto Power Mode	0x00(0)= OFF; 0x01(1) = ON
7	Frame Compensation	0x00(0) = OFF; 0x01(1) = ON
8	Over Scan Mode	0x00(0) = OFF; 0x01(1) = ON
9	Loop Out Input Source	0xD2 = HDMI 1 0xD3 = HDMI 2 0xD4 = DVI

Reconfiguration for Individual ID

Reconfiguration for Individual ID	Command	Length	Group ID	Multi ID	Mode	Control
Normal	0xFF	0x05	variable	variable	variable	2 Bytes see below

	Group ID to be reconfigured	Multi ID to be reconfigured
Value	variable	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively

Mode: Write(Set) - 0x02(2)

Does not support Broadcast Command

	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Receive from PS5580	0xFF	0x05	variable	variable	variable	2 Bytes see below	variable

	Reconfigured Group ID	Reconfigured Multi ID
Value	variable	variable

Control configuration value range: 0x01(1)-0xFF(255) for Group ID and Multi ID to be reconfigured, respectively.

Get Total ID

Get Total ID	Command	Length	Mode
Normal	0xFD	0x01	0x00

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Mode: Write(Set) - 0x02(2)
Does not support Broadcast Command

	Command	Length	Mode	ID (Group ID 1 Byte; Multi ID 1 Byte)	Check Sum
Receive from PS5580	0xFD	variable	variable	variable	variable

Length data consists of Mode (1 Byte) plus the number of installed sets x 2 (2 Bytes)
It is variable, e.g., the length will be 0x09 for a 2x2 set installation
ID information value consists of Group ID (1 Byte) and Multi ID (1 Byte)
Example: For a 2x2 set installation: (RS 232 cable connection)

Group ID: 1 Multi ID: 1 ––––––→	Group ID: 1 | Multi ID: 2 |
Group ID: 1 Multi ID: 3 ←–––––––	Group ID: 1 ↓ Multi ID: 4

The ID information value will be: 0x01 0x01 0x01 0x02 0x01 0x04 0x01 0x03
for the above configuration.

Firmware Download Mode Configuration (Scalar Download)

Firmware Download Mode Configuration	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0x09	0x04	variable	variable	variable	1 Byte	
Broadcast	0x09	0x03	0x00	0x00	[none]	1 Byte	
Receive from PS5580	0x09	0x04	variable	variable	variable	1 Byte	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Mode: Write(Set) - 0x02(2)
Control Value: 0x00(0) for Scalar Download Mode Disable; 0x01(1) for Enable

Test Pattern Mode

Test Pattern Mode	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0xE7	0x04	variable	variable	variable	1 Byte	
Broadcast	0xE7	0x03	0x00	0x00	[none]	1 Byte	
Receive from PS5580	0xE7	0x04	variable	variable	variable	1 Byte	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Mode: Write(Set) - 0 02(2)
Control Value: 0x00(0) for Screen Mode (Current Input mode change);
0x01(1) far White Pattern (Internal Test Pattern)

Loop Out Input Source Select

Loop Out Input Source Select	Command	Length	Group ID	Multi ID	Mode	Control	Check Sum
Normal	0xE9	0x04	variable	variable	variable	1 Byte	
Broadcast	0xE9	0x03	0x00	0x00	[none]	1 Byte	
Receive from PS5580	0xE9	0x04	variable	variable	variable	1 Byte	variable

Group/Multi ID range (Program): 0x01(1)-0xFF(255), respectively
Mode: Write(Set) - 0 02(2)
Control Value: 0xD2 (HDMI 1); 0xD3 (HDMI 2); 0xD4 (DVI). Input source is Daisy Chain Out.