VW-55H2
Control Command

1. INTRODUCTION

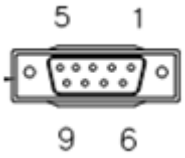
1.1 Purpose

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

1.2 Serial RS232 Physical Specification

a. Baud Rate: 9600 bps
b. Data bits: 8 bits
c. Parity: None
d. Stop Bit: 1 bit
e. Flow Control: None
f. The Pin Assignments for DB9 Female connector:

Female D-Sub 9-Pin (outside view)



Pin #	Signal	Remark
1	NC	
2	TXD	Output from LCD Monitor
3	RXD	Input to LCD Monitor
4	NC	
5	GND	
6	NC	
7	NC	
8	NC	
9	NC	
frame	GND	

1.3 LAN Control Specification

a. Protocol : **TCP**
b. port : **42552**

2. Command Format

The Serial packet format:

Header	Length	Monitor ID	CMD Type	CMD Code	Data [0]	…	Data [N]	CR

Set / Get in detail:

Number of Field	Name of Field	Description
Byte 1	Header	Header = 0xEA
Byte 2	Length	length from Head to CR byte
Byte 3	Monitor ID	Monitor ID Range: 1 ~ 127, 253(0xFD) = broadcast. Single mode: Display Address range from 1 to 127
Byte 4	CMD Type	0x73: Set Command 0x67: Get Command 0x20: Return / Report message
Byte 5	CMD Code	Command Code
Byte 6 ~ Byte N	Data[0]~Data[N]	This field Data or Value
Last Byte	CR	Termination symbol, Fixed 0x0D

3. Message General

3.1 Power Control

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

3.1.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- **Set**		Command to change the Power state of the display.
CMD Code	**0xAE = Power**		
Data [0]	Power state		0x00 = Standby 0x01 = Power ON

Example: Set Display Power is ON (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0xAE	0x01	0x0D

3.1.2 Message – Get

Bytes	Bytes Description	Bits	Description
CMD Type	0x67 -- **Get**		Command requests the display to report its current Power state.
CMD Code	**0xAD = Power state**		
Data [0]	Fix 0x00		Fix 0x00

Example: Get Power State (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x67	0xAD	0x00	0x0D

3.1.3 Message – Get Report

Bytes	Bytes Description	Bits	Description
CMD Type	0x20 -- Report		Command reports Power state.
CMD Code	0xAD = Power		
Data [0]	Power state		0x00 = Standby 0x01 = Power ON

Example Return: Current Power is ON (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x20	0xAD	0x01	0x0D

3.2 Input Source

This command is used to set/get the input source setting it is defined as below.

3.2.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the i**nput source** of the display.
CMD Code	0x50 = **Input source**		
Data [0]	**Input source**		0x00: HDMI 1 0x01: HDMI 2 0x03: Display Port 1 0x04: Display Port 2

Example: The **input source** is set to HDMI 1 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0x50	0x00	0x0D

3.2.2 Message – Get

Bytes	Bytes Description	Bits	Description
CMD Type	0x67 -- Get		Command requests the display to report its current i**nput source.**
CMD Code	0x50 = I**nput source**		
Data [0]	Fix 0x00		Fix 0x00

Example: Get **input source** (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x67	0x50	0x00	0x0D

3.2.3 Message – Get Report

Bytes	Bytes Description	Bits	Description
CMD Type	0x20 -- Report		Command reports i**nput source**
CMD Code	0x50 = **Input source**		
Data [0]	**Input source**		0x00: HDMI 1 0x01: HDMI 2 0x03: Display Port 1 0x04: Display Port 2

Example Return: The current **Input Source** is HDMI 1 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x20	0x50	0x00	0x0D

3.3 Picture Mode

This command is used to set/get the **picture mode** as it is defined as below.

3.3.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the p**icture mode** of the display.
CMD Code	0xA1 = p**icture mode**		
Data [0]	**picture mode**		0x00: Standard 0x01: Soft 0x02: Bright 0x03: User

Example: The **picture mode** is set to standard (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0xA1	0x00	0x0D

No support get command

3.4 Brightness

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

3.4.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the brightness of the display.
CMD Code	0x60 = Brightness		
Data [0]	Brightness level		Range : 0 ~ 100 Hex (0x00 ~ 0x64)

Example: The Brightness is set to 50 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0x60	0x32	0x0D

No support get command

3.5 Contrast

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

3.5.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the Contrast of the display.
CMD Code	0x61 = Contrast		
Data [0]	Contrast level		Range : 0 ~ 100 Hex (0x00 ~ 0x64)

Example: The Contrast is set to 50 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0x61	0x32	0x0D

3.5.2 Message – Get

Bytes	Bytes Description	Bits	Description
CMD Type	0x67 -- Get		Command requests the display to report its current Contrast level.
CMD Code	0x61 = Contrast		
Data [0]	Fix 0x00		Fix 0x00

Example: Get Contrast level (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x67	0x61	0x00	0x0D

3.5.3 Message – Get Report

Bytes	Bytes Description	Bits	Description
CMD Type	0x20 -- Report		Command reports Contrast level
CMD Code	0x61 = Contrast		
Data [0]	Contrast level		Range : 0 ~ 100 Hex (0x00 ~ 0x64)

Example Return: The current Contrast level is 50 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x20	0x61	0x35	0x0D

3.6 Backlight

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

3.6.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the Backlight of the display.
CMD Code	0x62 = Backlight		
Data [0]	Backlight level		Range : 0 ~ 100 Hex (0x00 ~ 0x64)

Example: The Backlight is set to 50 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0x62	0x32	0x0D

3.6.2 Message – Get

Bytes	Bytes Description	Bits	Description
CMD Type	0x67 -- Get		Command requests the display to report its current Backlight level.
CMD Code	0x62 = Backlight level		
Data [0]	Fix 0x00		Fix 0x00

Example: Get Backlight level (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x67	0x62	0x00	0x0D

3.6.3 Message – Get Report

Bytes	Bytes Description	Bits	Description
CMD Type	0x20 -- Report		Command reports Backlight level
CMD Code	0x62 = Backlight		
Data [0]	Backlight level		Range : 0 ~ 100 Hex (0x00 ~ 0x64)

Example Return: The current Backlight level is 50 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x20	0x62	0x35	0x0D

3.7 Sharpness

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

3.7.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the **Sharpness** of the display.
CMD Code	0x6A = **Sharpness**		
Data [0]	**Sharpness** level		Range : 0 ~ 100 Hex (0x00 ~ 0x64)

Example: The **Sharpness** is set to 50 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0x6A	0x32	0x0D

3.7.2 Message – Get

Bytes	Bytes Description	Bits	Description
CMD Type	0x67 -- Get		Command requests the display to report its current **Sharpness** level.
CMD Code	0x6A = **Sharpness**		
Data [0]	Fix 0x00		Fix 0x00

Example: Get **Sharpness** level (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x67	0x6A	0x00	0x0D

3.7.3 Message – Get Report

Bytes	Bytes Description	Bits	Description
CMD Type	0x20 -- Report		Command reports **Sharpness** level
CMD Code	0x6A = **Sharpness**		
Data [0]	**Sharpness** level		Range : 0 ~ 100 Hex (0x00 ~ 0x64)

Example Return: The current **Sharpness** level is 50 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x20	0x6A	0x32	0x0D

3.8 Color Temperature

This command is used to set/get the **Color Temperature** setting it is defined as below.

3.8.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the **Color Temperature** of the display.
CMD Code	0xCF = **Color**		
Data [0]	**Color Temperature**		0x: Standard 0x01: Warm 0x02: Cool 0x03: User

Example: The **Color Temperature** is set to Cool (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0xCF	0x02	0x0D

No support get command

3.9 Color Temper RED Gain

This command is used to set/get the **Color Temperature RED Gain** as it is defined as below.

3.9.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the User Color Temperature **red gain** of the display.
CMD Code	0x64 = Color RED gain		
Data [0]	RED gain level		Range : 0 ~ 255 Hex (0x00 ~ 0xFF) ,

Example: The **RED gain** is set to 255 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0x64	0xFF	0x0D

3.9.2 Message – Get

Bytes	Bytes Description	Bits	Description
CMD Type	0x67 -- Get		Command requests the display to report its current c**olor red gain** level.
CMD Code	0x64 = Color **RED gain**		
Data [0]	Fix 0x00		Fix 0x00

Example: Get **RED gain** level (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x67	0x64	0x00	0x0D

3.9.3 Message – Get Report

Bytes	Bytes Description	Bits	Description
CMD Type	0x20 -- Report		Command reports c**olor red gain** level
CMD Code	0x64 = Color **RED gain**		
Data [0]	**RED gain** level		Range : 0 ~ 255 Hex (0x00 ~ 0xFF) ,

Example Return: The current **Color Red gain** level is 255 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x20	0x64	0xFF	0x0D

3.10 Color Temper Gain

This command is used to set/get the **Color Tempera GREEN Gain** as it is defined as below.

3.10.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the User Color Temperature **green gain** of the display.
CMD Code	0x65 = Color GREEN gain		
Data [0]	GREEN gain level		Range : 0 ~ 255 Hex (0x00 ~ 0xFF) ,

Example: The **GREEN gain** is set to 255 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x73	0x65	0xFF	0x0D

3.10.2 Message – Get

Bytes	Bytes Description	Bits	Description
CMD Type	0x67 -- Get		Command requests the display to report its current c**olor green gain** level.
CMD Code	0x65 = Color **GREEN gain**		
Data [0]	Fix 0x00		Fix 0x00

Example: Get **GREEN gain** level (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x67	0x65	0x00	0x0D

3.10.3 Message – Get Report

Bytes	Bytes Description	Bits	Description
CMD Type	0x20 -- Report		Command reports c**olor green gain** level
CMD Code	0x65 = Color **green gain**		
Data [0]	**GREEN gain** level		Range : 0 ~ 255 Hex (0x00 ~ 0xFF) ,

Example Return: The current **Color Green gain** level is 255 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x20	0x65	0xFF	0x0D

3.11 Color Temper Gain

This command is used to set/get the **Color Tempera BLUE Gain** as it is defined as below.

3.11.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to change the User Color Temperature **blue gain** of the display.
CMD Code	0x66 = Color BLUE gain		
Data [0]	BLUE gain level		Range : 0 ~ 255 Hex (0x00 ~ 0xFF) ,

Example: The **BLUE gain** is set to 255 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code		Data[0]	CR
0xEA	0x07	0x01	0x73	0x66		0xFF	0x0D

3.11.2 Message – Get

Bytes	Bytes Description	Bits	Description
CMD Type	0x67 -- Get		Command requests the display to report its current c**olor blue gain** level.
CMD Code	0x66 = Color **BLUE gain**		
Data [0]	Fix 0x00		Fix 0x00

Example: Get **BLUE gain** level (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x67	0x66	0x00	0x0D

3.11.3 Message – Get Report

Bytes	Bytes Description	Bits	Description
CMD Type	0x20 -- Report		Command reports c**olor blue gain** level
CMD Code	0x66 = Color **BLUE gain**		
Data [0]	**BLUE gain** level		Range : 0 ~ 255 Hex (0x00 ~ 0xFF) ,

Example Return: The current **Color BLUE gain** level is 255 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	0x01	0x20	0x66	0xFF	0x0D

3.12 Monitor ID

This command is used to show the **Monitor ID** as it is defined as below.

3.12.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to show Monitor ID of the display.
CMD Code	0x21 = ID		
Data [0]	Monitor ID State		0x00 : Disable 0x01 : Show ID at Screen

Example: Show Monitor ID show at Screen

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	**0xFD**	0x73	0x21	0x01	0x0D

3.12 IR Control

This command is used to IR Control as it is defined as below.

3.12.1 Message – Set

Bytes	Bytes Description	Bits	Description
CMD Type	0x73 -- Set		Command to IR Command Control of the display.
CMD Code	0xnn = IR Command		0xB6 : Source menu 0xB1 : OSD Main menu 0xB0 : OK 0xB2 : UP 0xB3 : DOWN 0xB4 : LEFT 0xB5 : RIGHT 0xDB : EXIT 0x73 : BACKLIGHT ON 0x72 : BACKLIGHT OFF
Data [0]			Fix 0x00

Example: The **BLUE gain** is set to 255 (Display address 01)

Header	Length	Monitor ID	CMD Type	CMD Code	Data[0]	CR
0xEA	0x07	**0xFD**	0x73	0x21	0x00	0x0D

Command Summary

Command Name	Set	Get	Command Code	Remark
Power State Set	V		AE	
Power State Get		V	AD	
Input Source	V	V	50	
Picture Mode	V		A1	
Brightness	V		60	
Contrast	V	V	61	
Backlight	V	V	62	
Sharpness	V	V	6A	
Color Temperature	V		CF	
Color Temp. Red Gain	V	V	64	
Color Temp. Green Gain	V	V	65	
Color Temp. BLUE Gain	V	V	66	
Monitor ID (show)	V		21	
IR Control	V		B0 ~ B6	

Revision History

Date	Version	Description
2021/11/24	1.0	Preliminary