



Command Code

DR-2202

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 RS-232 Physical Specification

- a. Baud Rate: 9600
- b. Data bits: 8
- c. Parity: None
- d. Stop Bit: 1
- e. Flow Control: None

1.3 Monitor Setting

MONITOR ID Set 1~255

1.4 Communication Timing

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

2. Command Format

The Command packet format:

Prefix	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Data[n]	Delimiter
0xA8	0x07	0x01	0x00	s = 0x73	0x20	0x32	depends on function	0x0D
0x25	0x06	0x01	0x00	+ = 0x2B	0x20	x	x	0x0D
0x25	0x07	0x01	0x00	- = 0x2D	0x20	error code : 0x01 = no this command (NACK) 0x02 = parameter error (NAV) 0x03 = Length error 0x04 = CR / Delimiter error	x	0x0D

0xA8	0x06	0x01	0x00	g = 0x67	0x20	x	x	0x0D
0x25	0x07	0x01	0x00	r = 0x72	0x20	0x32	x	0x0D
0x25	0x07	0x01	0x00	- = 0x2D	0x20	0x01: no this command (NACK)	x	0x0D

Set / Get in detail:

Number of Field	Name of Field	Description
Byte 1	Header	Header = 0x A8 (Host Send) Header = 0x25 (Monitor Reply)
Byte 2	Length	Indicates the total number of bytes of the command (excluding the first code, but including the ending delimiter)
Byte3	Monitor ID	Monitor ID Range : 1 ~ 255
Byte4	Reserved	Fixed at 0x00, currently unused
Byte5	CMD Type	
Byte6	CMD Code	Objects that define specific operations
Byte7	Data[0]	Copy the received Command code.
Byte8~Byte8+(N-1)	Data[1]~Data[N]	Returned data associated with command code.
Byte 8+N	Delimiter	Fixed : 0x0D

Note: there is no reply message when the wrong ID or wrong Header Coed is being used.

3. Message General

3.1 Model Name

Example: Get Model Name

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter	
0xA8	0x06	0x01	0x00	0x67	0xA1	0x0D	

Example: Display Reply Model Name "DR-2202"

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Data[1]
0x25	0x0D	0x01	0x00	0x72	0xA1	44	52

Data[2]	Data[3]	Data[4]	Data[5]	Data[6]	Delimiter
2D	32	32	30	32	0x0D

3.2 Power State

Message – Set

Bytes	Bytes Description	Bits	Description
CMD Code	0x5D = Power State - Set		Command to change the Power State of the display.
Data [0]	Power State		0x00 = Power Off 0x01 = Power On

Example: Set Power On

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Delimiter
0xA8	0x07	0x01	0x00	0x73	0x5D	0x01	0x0D

Message - Set - ACK Reply

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter
0x25	0x06	0x01	0x00	0x2B	0x5D	0x0D

3.3 Brightness

Message – Set

Bytes	Bytes Description	Bits	Description
CMD Code	0x20 = Brightness - Set		Command to change the video brightness level of the display.
Data [0]	Video Brightness		0x00 ~ 0x64 (0 ~ 100) of the user selectable range of the display. OSD: 0 (0x00); OSD: 50 (0x32); OSD: 100 (0x64)

Example: Brightness – Set OSD 50 - 0x32 (Display address 01)

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Delimiter
0xA8	0x07	0x01	0x00	0x73	0x20	0x32	0x0D

Message - Set - ACK Reply

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter
0x25	0x06	0x01	0x00	0x2B	0x20	0x0D

3.4 Volume

Message – Set

Bytes	Bytes Description	Bits	Description
CMD Code	0x50 = Volume - Set		Command to change the audio volume level of the display.
Data [0]	Audio out volume level		0x00 ~ 0x64 (0 ~ 100) of the user selectable range of the display. OSD: 0 (0x00); OSD: 50 (0x32); OSD: 100 (0x64)

Example: Volume – Set OSD 50 – 0x32 (Display address 01)

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Delimiter
0xA8	0x07	0x01	0x00	0x73	0x50	0x32	0x0D

Message - Set - ACK Reply

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter
0x25	0x06	0x01	0x00	0x2B	0x50	0x0D

3.5 Mute

Message – Set

Bytes	Bytes Description	Bits	Description
CMD Code	0x51 = Audio Mute - Set		Command to change the audio mute parameters of the display.
Data [0]	Audio Mute		0x00 = Off 0x01 = On

Example: Set Sound Mute On

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Delimiter
0xA8	0x07	0x01	0x00	0x73	0x51	0x01	0x0D

Message - Set - ACK Reply

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter
0x25	0x06	0x01	0x00	0x2B	0x51	0x0D

3.6 Input Source Set

Message – Set

Bytes	Bytes Description	Bits	Description
CMD Code	0x5F = Video Source - Set		Command to change the video source parameters of the display.
Data [0]	Input Source		0x04 = VGA 0x06 = HDMI 0x07 = DisplayPort

Example: Set Input Source to HDMI

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Delimiter
0xA8	0x07	0x01	0x00	0x73	0x5F	0x06	0x0D

Message - Set - ACK Reply

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter
0x25	0x06	0x01	0x00	0x2B	0x5F	0x0D

3.7 Backlight Level

Message – Set

Bytes	Bytes Description	Bits	Description
CMD Code	0x2A = Backlight level - Set		Command to change the backlight level of the display.
Data [0]	Backlight level		0x00 ~ 0x64 (0 ~ 100) of the user selectable range of the display. OSD: 0 (0x00); OSD: 50 (0x32); OSD: 100 (0x64)

Example: Backlight level – Set OSD 50 – 0x32 (Display address 01)

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Delimiter
0xA8	0x07	0x01	0x00	0x73	0x2A	0x32	0x0D

Message - Set - ACK Reply

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter
0x25	0x06	0x01	0x00	0x2B	0x2A	0x0D

3.8 Picture Mode

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

Bytes	Bytes Description	Bits	Description
CMD Code	0x2E = Picture Mode - Set		Command to change the Picture mode parameters of the display.
Data [0]	Picture Mode		0x00 = Standard 0x01 = DICOM

Message – Set

Example: Set Picture mode to DICOM

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Delimiter
0xA8	0x07	0x01	0x00	0x73	0x2E	0x07	0x0D

Message - Set - ACK Reply

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter
0x25	0x06	0x01	0x00	0x2B	0x2E	0x0D

3.9 DICOM Compensate

Bytes	Bytes Description	Bits	Description
CMD Code	0x30 = DICOM Compensate - Set		Command to change the DICOM Compensate parameters of the display.
Data [0]	DICOM Compensate		0x00 = 0 0x01 = 1 0x02 = 2 0x03 = 3 0x04 = 4 0x05 = 5

Example: Set DICOM Compensate to 1

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Data[0]	Delimiter
0xA8	0x07	0x01	0x00	0x73	0x30	0x01	0x0D

Message - Set - ACK Reply

Header	Length	Monitor ID	reserved	CMD Type	CMD Code	Delimiter
0x25	0x06	0x01	0x00	0x2B	0x30	0x0D

4. Command Summary

Command Name	Set Command	Get Command	Command Code	Parameter / Data
Model Name		V	0xA1	DR-2202
Power State	V	V	0x5D	0x00 = Power Off 0x01 = Power On
Brightness	V	V	0x20	0~100 (0x00 ~ 0x64)
Volume	V	V	0x50	0~100 (0x00 ~ 0x64)
Mute	V	V	0x51	0x00 = Mute Off 0x01 = Mute On
Video Source	V	V	0x5F	0x04 = VGA 0x06 = HDMI 0x07 = DisplayPort
Backlight Level	V	V	0x2A	0 ~ 100 (0x00 ~ 0x64)
Picture Mode	V	V	0x2E	0x00 = Standard 0x07 = DICOM
DICOM Compensate	V	V	0x30	0x00 = 0 0x01 = 1 0x02 = 2 0x03 = 3 0x04 = 4 0x05 = 5

5. Revision History

Date	Revision	Description	Remark
2024/11/29	V1.0	Initial version	