

◆ SICP (Serial Interface Communication Protocol)



This document defines all the command and messages exchanged between the Master (a PC or the other controller) and the Slave (the displays). It also describes the ways to send or read the commands or the messages.

1. Protocol definition

SICP stands for “Serial Interface Communication Protocol”.

The protocol is specifically designed to allow data communication in half duplex multi-point environments, but it can also be used for half duplex point-to-point RS-232C communication.

2. Communication characteristics

A half duplex communication is implemented starting from the concept of a master-slave structure, where the display is supposed to be the slave.

The first action is always taken by the master, which can be either a PC or any controlling device (acting as server) interfaced to the monitor. After sending a command or a request in the appropriate format the master receives from the slave an acknowledgement, which tells the transmitter whether the command is not valid (or not executable, anyway) or it is accepted. In case of a request, the requested information is sent back, and it becomes the acknowledgement by itself.

3. How to connect external equipment

Female Pin number	Male Pin number
2 <----->	2
3 <----->	3
5 <----->	5

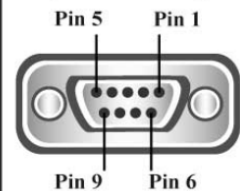
4. Hardware Protocol

Baud rate : 9600 bps
Data bits : 8 bit
Parity bits : None
Stop bits : 1 bit
Handshake : None

[Display side]

Pin 1	RI
Pin 2	TXD
Pin 3	RXD
Pin 4	DSR
Pin 5	GND
Pin 6	DTR
Pin 7	CTS
Pin 8	RTS
Pin 9	Power Input /DCD

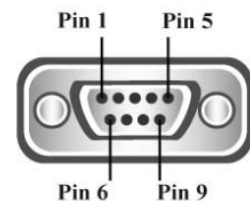
RS232 Pinout (9 Pin Female)



[Control Device side]

Pin 1	DCD
Pin 2	RXD
Pin 3	TXD
Pin 4	DTR
Pin 5	GND
Pin 6	DSR
Pin 7	RTS
Pin 8	CTS
Pin 9	RI

RS232 Pinout (9 Pin Male)



5. Transmission Formats

This is the format that the computer will send to the display to execute commands.

The format for this command transmission is as follows (total 13 byte):

ex) <STX>001PWRWOFF0<ETX> (Set ID : 1 , Power Off Send)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f	0	0	1	P	W	R	W	O	F	F	0	0x0d
Hex	ASCII (capital letter)										Hex	

- STX: Start of Text (0x0f)
- ID1 ~ ID3: Set ID (001~100)
- CM1 ~ CM3: Command (e.g. PWR, MIN, MUT)
- R/W: Read/Write (**Only use "Read"(R) or "Write" (W) as set forth in this document**)
- DA1 ~ DA3: Data (Values)
- IND: Index
- ETX: End of Text (0x0d)

6. OK Acknowledgement

An acknowledgement will be sent by the display to the computer to verify that the command has been successfully received and executed. This format for this acknowledgement is as follows:

ex) <STX>001PWR#OFF#<ETX> (Set ID: 1, Power Off Acknowledgement)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f	0	0	1	P	W	R	#	O	F	F	#	0x0d
Hex	ASCII (capital letter)										Hex	

7. Error Acknowledgement

The Error Values will be sent by the display to the computer to confirm that the command has not been successfully received and/or executed. The format for Error Values is as follows:

ex) <STX>001PWRERROR<ETX> (Set ID: 1, Power Off Error)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f	0	0	1	P	W	R	E	R	R	O	R	0x0d
Hex	ASCII (capital letter)										Hex	

8. How to choose display ID number

◆ Read Set ID Number

**Attention:* "Read Set ID" function requires serial connection to only one display (1 display : 1 control device; no serial daisy-chain or distribution)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f	F	F	F	S	I	D	R	0	0	0	0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: "FFF" (Set ID)
 - R/W: "R" (Read-only)
 - DA1 ~ DA3: "000" (Don't care)
- Ex) <STX>FFFSIDR0000<ETX> (Read Set ID)
 Acknowledge => <STX>001SID#001#<ETX> (Set ID: 1)

◆ Write Set ID Number

**Attention:* "Write Set ID" function requires serial connection to only one display (1 display : 1 control device; no serial daisy-chain or distribution)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f	F	F	F	S	I	D	W				0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: "FFF" (Set ID)
 - R/W: "W" (Write-only)
 - DA1 ~ DA3: "001" (Set ID Number)
- Ex) <STX>FFFSIDW0010<ETX> (Write Set ID: 1)
 Acknowledge => <STX>001SID#001#<ETX>

9. Command List

◆ Power On/Off (PWR)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				P	W	R					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID* (“001” ~ “100”)

* *NOTE: When sending a Power ON or OFF command, all displays in the RS-232 daisy-chain can be addressed by entering “000” as the Set ID value. No acknowledgement will be received when this “Wild Card” command is sent.*

- R/W: “W” (Write)

“R” (Read)

- DA1 ~ DA3 (Write): “-ON”: Power On / “OFF”: Power Off

- DA1 ~ DA3 (Read): “000”

- IND: “0”

Ex) <STX>001PWRW0FF0<ETX> (Write: ID: 001, Power Off)

Acknowledge => <STX>001PWR#OFF#<ETX>

Ex) <STX>001PWRR0000<ETX> (Read: ID: 001, Power Off)

Acknowledge => <STX>001PWR#OFF#<ETX>

◆ Source Change (MIN)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				M	I	N						0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID (“001” ~ “100”)

- R/W: “W” (Write)

“R” (Read)

- DA1 ~ DA3 (Write): “HD1”: HDMI1 / “HD2”: HDMI2 / “HD3”: HDMI3 / “DP1”: DP1 / “DP2”: DP2

- DA1 ~ DA3 (Read): “000”

- IND: “0”

Ex) <STX>001MINWHD10<ETX> (Write: ID: 001, Source HDMI1)

Acknowledge => <STX>001MIN#HD1#<ETX>

Ex) <STX>001MINR0000<ETX> (Read: ID: 001, Source HDMI1)

Acknowledge => <STX>001MIN#HD1#<ETX>

◆ Virtual Remote Control (RMT)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				R	M	T	W				0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write*)
**NOTE: This command is write-only*
- DA1 ~ DA3: "MEN" (Menu) / "SOU" (Source) / "LEF" (Left & reduce Volume)
"RIG" (Right & increase Volume) / "ENT" (Enter)
"-UP" (Up) / "DOW" (Down) / "EXI" (Exit)

Ex) <STX>001RMTWSOU0<ETX> (Write: ID: 001, Remote Source Button)
Acknowledge => <STX>001RMT#SOU#<ETX>

◆ Signal Status (SGS)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				S	G	S	R	0	0	0	0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID (001~100)
- R/W: "R" (Read*)
**NOTE: This command is read-only*
- DA1 ~ DA3: "000" (don't care)
- IND: "0" (don't care)

Ex) <STX>001SGSR0000<ETX> (ID: 001, Get Signal Status)
Acknowledge => <STX>001SGS#COM#<ETX>

- DA1 ~ DA3: "000": Power Off / "001": Normal / "002": No Signal / "003": DPMS / "004": Abnormal

◆ Volume State (VOL)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				V	O	L					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "000" ~ "100"
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001VOLW1000<ETX> (Write: ID: 001, Volume 100)

Acknowledge => <STX>001VOL#100#<ETX>

Ex) <STX>001VOLR0000<ETX> (Read: ID: 001, Volume 100)

Acknowledge => <STX>001VOL#100#<ETX>

◆ Volume Mute (MUT)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				M	U	T					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "-ON": Mute On / "OFF": Mute Off
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001MUTW-ON0<ETX> (Write: ID: 001, Mute On)

Acknowledge => <STX>001MUT#-ON#<ETX>

Ex) <STX>001MUTR0000<ETX> (Read: ID: 001, Mute On)

Acknowledge => <STX>001MUT#-ON#<ETX>

◆ Current Temperature (TPS)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				T	P	S	R	0	0	0	0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")

- R/W: "R" (Read*)

**NOTE: This command is read-only*

- DA1 ~ DA3: "000" (don't care)

- IND: "0" (don't care)

Ex) <STX>001TPSR0000<ETX> (Read: ID: 001, Read Current Temperature)

Acknowledge => <STX>001TPS#050#<ETX>

- DA1 ~ DA3: Temperature Value (Celsius)

◆ Fan Control (FAN)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				F	A	N					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")

- R/W: "W" (Write)

"R" (Read)

- DA1 ~ DA3 (Write): "AUT": Auto / "-ON": Fan On / "OFF": Fan Off

- DA1 ~ DA3 (Read): "000"

- IND: "0" (don't care)

Ex) <STX>001FANWAUTO<ETX> (Write: ID: 001, Fan Control Auto)

Acknowledge => <STX>001FAN#AUT#<ETX>

Ex) <STX>001FANR0000<ETX> (Read: ID: 001, Fan Control Auto)

Acknowledge => <STX>001FAN#AUT#<ETX>

◆ Active Temperature (TAT) - Fan Control (Auto)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				T	A	T					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): Temperature Value ("000" ~ "100")
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001TATW0500<ETX> (Write: ID: 001, Active Temperature 50)

Acknowledge => <STX>001TAT#050#<ETX>

Ex) <STX>001TATR0000<ETX> (Read: ID: 001, Active Temperature 50)

Acknowledge => <STX>001TAT#050#<ETX>

◆ Hysteresis Temperature (THY) - Fan Control (Auto)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				T	H	Y					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): Hysteresis Value ("000" ~ "100")
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001THYW0030<ETX> (Write: ID: 001, Hysteresis Temperature 3)

Acknowledge => <STX>001THY#003#<ETX>

Ex) <STX>001THYR0000<ETX> (Read: ID: 001, Hysteresis Temperature 3)

Acknowledge => <STX>001THY#003#<ETX>

◆ Shutdown Temperature (TSD)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				T	S	D					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): Shutdown Temperature Value ("070" ~ "100")
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001TSDW0800<ETX> (Write: ID: 001, Shutdown Temperature 80) NOTE: This is default value
Acknowledge => <STX>001TSD#080#<ETX>

Ex) <STX>001TSDR0000<ETX> (Read: ID: 001, Shutdown Temperature 80)
Acknowledge => <STX>001TSD#080#<ETX>

◆ Dimming Setting (DIM)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				D	I	M					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "000" ~ "100"
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001DIMW1000<ETX> (Write: ID: 001, Dimming 100)
Acknowledge =><STX>001DIM#100#<ETX>

Ex) <STX>001DIMR0000<ETX> (Read: ID: 001, Dimming 100)
Acknowledge =><STX>001DIM#100#<ETX>

◆ Auto Dimming Control (ADC)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				A	D	C					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "-ON": Auto Dimming On / "OFF": Auto Dimming Off
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001ADCW-ON0<ETX> (Write: ID: 001, Auto Dimming On)

Acknowledge => <STX>001ADC#-ON#<ETX>

Ex) <STX>001ADCR0000<ETX> (Read: ID: 001, Auto Dimming On)

Acknowledge => <STX>001ADC#-ON#<ETX>

◆ Max Ambient Setting (AMA) – Auto Dimming (On)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				A	M	A					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "0000" ~ "3000"
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001AMAW0400<ETX> (Write: ID: 001, Max Ambient 400)

Acknowledge => <STX>001AMA#0400<ETX>

Ex) <STX>001AMAR0000<ETX> (Read: ID: 001, Max Ambient 400)

Acknowledge => <STX>001AMA#0400<ETX>

◆ Min Ambient Setting (ANA) – Auto Dimming (On)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				A	N	A					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID (“001” ~ “100”)
- R/W: “W” (Write)
“R” (Read)
- DA1 ~ DA3 (Write): : “000” ~ “300”
- DA1 ~ DA3 (Read): “000”
- IND: “0” (don’t care)

Ex) <STX>001ANAW0200<ETX> (Write: ID: 001, Min Ambient 200)

Acknowledge => <STX>001ANA#0200<ETX>

Ex) <STX>001ANAR0000<ETX> (Read: ID: 001, Min Ambient 200)

Acknowledge => <STX>001ANA#0200<ETX>

◆ Current Lux (LUX)**

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				L	U	X	R	0	0	0	0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID (“001” ~ “100”)
- R/W: “R” (Read*)
**NOTE: This command is read-only*
- DA1 ~ DA3: “000”
- IND: “0”

Ex) <STX>001LUXR0000<ETX> (Read: ID: 001, Read Current Lux)

Acknowledge => <STX>001LUX#0650<ETX> (650 Lux)

**If a lux sensor is not connected, the Lux value will be read as zero. Lux sensors are optional and sold separately from displays.

◆ Current Time Setting (CTM)*

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				C	T	M					0	0x0d
Hex	ASCII (capital letter)							Hex			ASCII	Hex

*NOTE: The DA-DA3 bytes for this command are listed in Hex

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 (Write): "00~17" (Hour)
- DA2 (Write): "00~3B" (Minute)
- DA3 (Write): "00~3B" (Second)
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001CTMW<0A><0C><0C>0<ETX> (Write: ID: 001, 10 Hours / 12 Minutes / 12 Seconds)

Acknowledge => <STX>001CTM#<0A><0C><0C>0<ETX>

Ex) <STX>001CTMR0000<ETX> (Read: ID: 001, Current Time)

Acknowledge => <STX>001CTM#<05><0F><1E>0<ETX> (05: 15: 30)

◆ Off Time Active (FTA)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				F	T	A					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "-ON": On / "OFF": Off
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001FTAW-ON0<ETX> (Write: ID: 001, Off Time Active On)

Acknowledge => <STX>001FTA#-ON#ETX>

Ex) <STX>001FTAR0000<ETX> (Read: ID: 001, Off Time Active On)

Acknowledge => <STX>001FTA#-ON#ETX>

◆ Off Time Setting (FTM)*

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				F	T	M					0	0x0d
Hex	ASCII (capital letter)							Hex	ASCII	Hex		

*NOTE: The DA-DA3 bytes for this command are listed in Hex

- ID1 ~ ID3: Set ID ("001" ~ "100")

- R/W: "W" (Write)

"R" (Read)

- DA1 (Write): "00~17" (Hour)

- DA2 (Write): "00~3B" (Minute)

- DA3 (Write): "00~3B" (Sec)

- DA1 ~ DA3 (Read): "000"

- IND: "0"

Ex) <STX>001FTMW<12><1E><01>0<ETX> (Write: ID: 001, 18: 30: 01)

Acknowledge => <STX>001FTM#<12><1E><01>#<ETX>

Ex) <STX>001FTMR0000<ETX> (Read: ID: 001, 18: 30: 01)

Acknowledge => <STX>001FTM#<12><1E><01>#<ETX>

◆ On Time Active (NTA)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				N	T	A					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")

- R/W: "W" (Write)

"R" (Read)

- DA1 ~ DA3 (Write): "-ON": On / "OFF": Off

- DA1 ~ DA3 (Read): "000"

- IND: "0"

Ex) <STX>001NTAW-ON0<ETX> (Write: ID: 001, Off Time Active On)

Acknowledge => <STX>001FTA#-ON#ETX>

Ex) <STX>001NTAR0000<ETX> (Read: ID: 001, Off Time Active On)

Acknowledge => <STX>001FTA#-ON#ETX>

◆ On Time Setting (NTM)*

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				N	T	M					0	0x0d
Hex	ASCII (capital letter)							Hex			ASCII	Hex

*NOTE: The DA-DA3 bytes for this command are listed in Hex

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 (Write): "00~17" (Hour)
- DA2 (Write): "00~3B"(Minute)
- DA3 (Write): "00~3B"(Sec)
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001NTMW<0C><1E><02>0<ETX> (Write: ID: 001, On Time 12: 30: 02)

Acknowledge => <STX>001NTM#<0C><1E><02>0<ETX>

Ex) <STX>001NTMR0000<ETX> (Read: ID: 001, On Time 12: 30: 02)

Acknowledge => <STX>001NTM#<0C><1E><02>0<ETX>

◆ Video Wall Enable (VDW)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				V	D	W					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "-ON": On / "OFF": Off
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001VDWW-ON0<ETX> (Write: ID: 001, Video Wall Enable On)

Acknowledge => <STX>001VDW#-ON#<ETX>

Ex) <STX>001VDWR0000<ETX> (Read: ID: 001, Video Wall Enable On)

Acknowledge => <STX>001VDW#-ON#<ETX>

◆ Horizontal Set Count (HSC)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				H	S	C					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "001" ~ "010"
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001HSCW0100<ETX> (Write: ID: 001, H-Set Count10)

Acknowledge => <STX>001HSC#010#<ETX>

Ex) <STX>001HSCR0000<ETX> (Read: ID: 001, H-Set Count10)

Acknowledge => <STX>001HSC#010#<ETX>

◆ Vertical Set Count (VSC)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				V	S	C					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "001" ~ "010"
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001VSCW0100<ETX> (Write: ID: 001, V-Set Count10)

Acknowledge => <STX>001VSC#010#<ETX>

Ex) <STX>001VSCR0000<ETX> (Read: ID: 001, V-Set Count10)

Acknowledge => <STX>001VSC#010#<ETX>

◆ Display Sequence (SDS)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				S	D	S					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "001" ~ "100" (Horizontal Set Count x Vertical Set Count ≥ Display Sequence)
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001SDSW0010<ETX> (Write: ID: 001, Display Sequence 1)

Acknowledge => <STX>001SDS#001#<ETX>

Ex) <STX>001SDSR0000<ETX> (Read: ID: 001, Display Sequence 1)

Acknowledge => <STX>001SDS#001#<ETX>

◆ Horizontal Edge Adjust (HEG)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				H	E	G					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "001" ~ "070"
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001HEGW0300<ETX> (Write: ID: 001, H-Edge Adjust 30)

Acknowledge => <STX>001HEG#030#<ETX>

Ex) <STX>001HEGR0000<ETX> (Read: ID: 001, H-Edge Adjust 30)

Acknowledge => <STX>001HEG#030#<ETX>

◆ Vertical Edge Adjust (VEG)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				V	E	G					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "001" ~ "070"
- DA1 ~ DA3 (Read): "000"
- IND: "0"

Ex) <STX>001VEGW0300<ETX> (Write: ID: 001, V-Edge Adjust 30)

Acknowledge => <STX>001VEG#030#<ETX>

Ex) <STX>001VEGR0000<ETX> (Read: ID: 001, V-Edge Adjust 30)

Acknowledge => <STX>001VEG#030#<ETX>

◆ DP Speed (DPS)

STX	ID1	ID2	ID3	CM1	CM2	CM3	R/W	DA1	DA2	DA3	IND	ETX
0x0f				D	P	S					0	0x0d
Hex	ASCII (capital letter)										Hex	

- ID1 ~ ID3: Set ID ("001" ~ "100")
- R/W: "W" (Write)
"R" (Read)
- DA1 ~ DA3 (Write): "027": 2.7G / "054": 5.4G
- DA1 ~ DA3 (Read): "000"
- IND: "0" (don't care)

Ex) <STX>001DPSW0270<ETX> (Write: ID: 001, DP Speed 2.7G)

Acknowledge => <STX>001DPS#027#<ETX>

Ex) <STX>001DPSR0000<ETX> (Read: ID: 001, DP Speed 2.7G)

Acknowledge => <STX>001DPS#027#<ETX>