

Serial Interface Communication Protocol

NEX-series LCD Video Wall Displays
DK-series Commercial 4K Monitors (≥40")
TS-series Touch Screens (≥40")
DU-series InteracTables (≥40")

RS232

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)

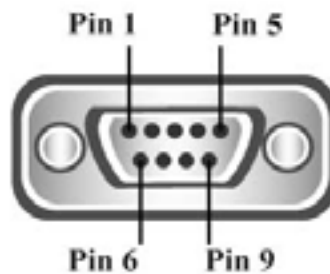


Table of Contents



Serial Interface Communication Protocol **3**

Protocol definition	3
Communication characteristics	3
How to connect external equipment	3
Hardware Protocol	3

Serial Command Protocol **4**

Transmission Formats	4
OK Acknowledgment	4
Error Acknowledgment	4
How to choose display ID number	5
<i>Read Set ID Number</i>	5
<i>Write Set ID Number</i>	5
Command List	6
<i>Power On/Off (PWR)</i>	6
<i>Source Change (MIN)</i>	6
<i>Virtual Remote Control (RMT)</i>	7
<i>Signal Status (SGS)</i>	7
<i>Volume State (VOL)</i>	8
<i>Volume Mute (MUT)</i>	8
<i>Current Temperature (TPS)</i>	9
<i>Fan Control (FAN)</i>	9
<i>Active Temperature (TAT)</i>	10
<i>Hysteresis Temperature (THY)</i>	10
<i>Shutdown Temperature (TSD)</i>	11
<i>Dimming Setting (DIM)</i>	11
<i>Auto Dimming Control (ADC)</i>	12
<i>Max Ambient Setting (AMA)</i>	12
<i>Min Ambient Setting (ANA)</i>	13
<i>Current Lux (LUX)**</i>	13
<i>Current Time Setting (CTM)*</i>	14
<i>Off Time Active (FTA)</i>	14
<i>Off Time Setting (FTM)*</i>	15

Table of contents, cont.



<i>On Time Active (NTA)</i>	15
<i>On Time Setting (NTM)*</i>	16
<i>Video Wall Enable (VDW)</i>	16
<i>Horizontal Set Count (HSC)</i>	17
<i>Vertical Set Count (VSC)</i>	17
<i>Display Sequence (SDS)</i>	18
<i>Horizontal Edge Adjust (HEG)</i>	18
<i>Vertical Edge Adjust (VEG)</i>	19
<i>DP Speed (DPS)</i>	19

Network Config Tools **20**

1. Installing NetworkConfigTool	20
2. Running NetworkConfigTool and Structure	21

Serial Interface Communication Protocol

This document defines all the command and messages exchanged between the Primary (a PC or the other controller) and the Secondary (the displays).

It also describes the ways to send or read the commands or the messages.

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.

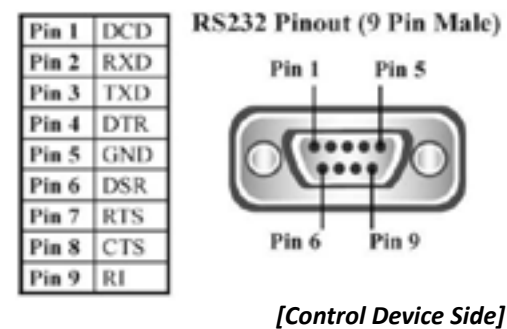
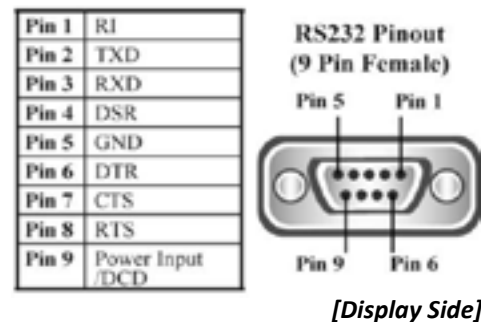
Communication characteristics

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

The first action is always taken by the Primary, 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 Primary receives from the Secondary an acknowledgment, 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 acknowledgment by itself.

How to connect external equipment

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



Hardware Protocol

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

Serial Command Protocol

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>001PWRW0FF0<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)

OK Acknowledgment

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

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

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	

Error Acknowledgment

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	

Serial Command Protocol, cont.

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	0	0	1	P	W	R	W	O	F	F	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	0	0	1	P	W	R	W	O	F	F	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>

Serial Command Protocol, cont.

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 RS232 daisy-chain can be addressed by entering "000" as the Set ID value. No acknowledgment 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>

Serial Command Protocol, cont.

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				R	M	T	W				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

Serial Command Protocol, cont.

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				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): "-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>

Serial Command Protocol, cont.

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>001FANW0000<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>

Serial Command Protocol, cont.

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	A	T					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>

Serial Command Protocol, cont.

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				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): "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>

Serial Command Protocol, cont.

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>

Serial Command Protocol, cont.

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.*

Serial Command Protocol, cont.

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	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>

Serial Command Protocol, cont.

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)							ASCII			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>

Serial Command Protocol, cont.

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)							ASCII			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>

Serial Command Protocol, cont.

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>

Serial Command Protocol, cont.

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>

Serial Command Protocol, cont.

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>

Network Config Tools

NEX-series displays and some DK, TS, and DU-series displays have an RJ45 input and TCP/IP control option.

Follow the instructions below to load the NetworkConfigTool necessary for network control. The commands listed in the serial commands list still apply when controlling via IP. Installation and setup of the Network Config Tool is necessary for the use of the displays' IP control option.

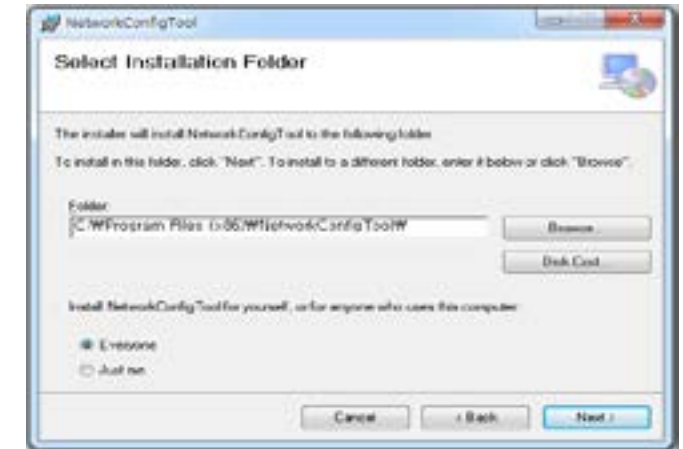
Follow the steps listed below and test network control using SICP software before removing your control PC (if using third-party control system).

1. Installing NetworkConfigTool

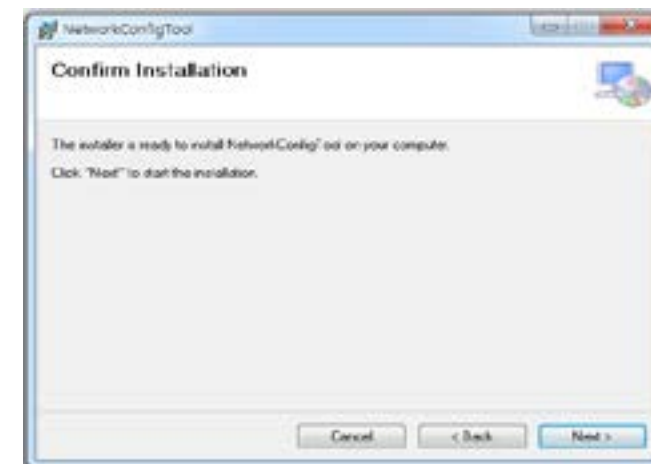
Step 1. Run the file named "Setup.exe" and follow the instruction below:



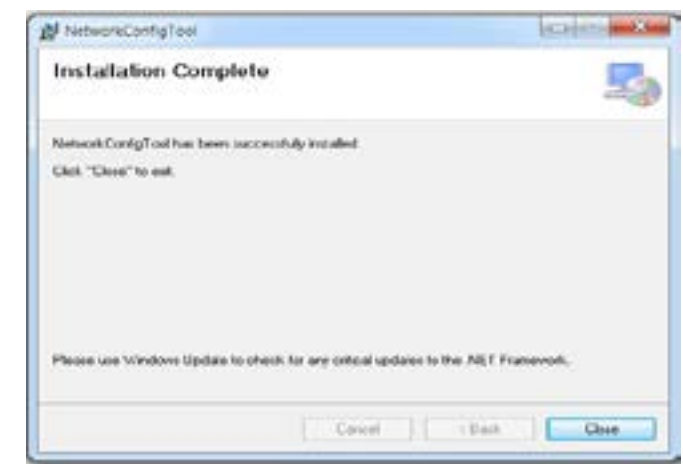
Step 2. Click "Next"



Step 2. Select the folder you wish to save the file in. Click "Install" if you are ok with the designated folder.



Step 3. Click "Next"

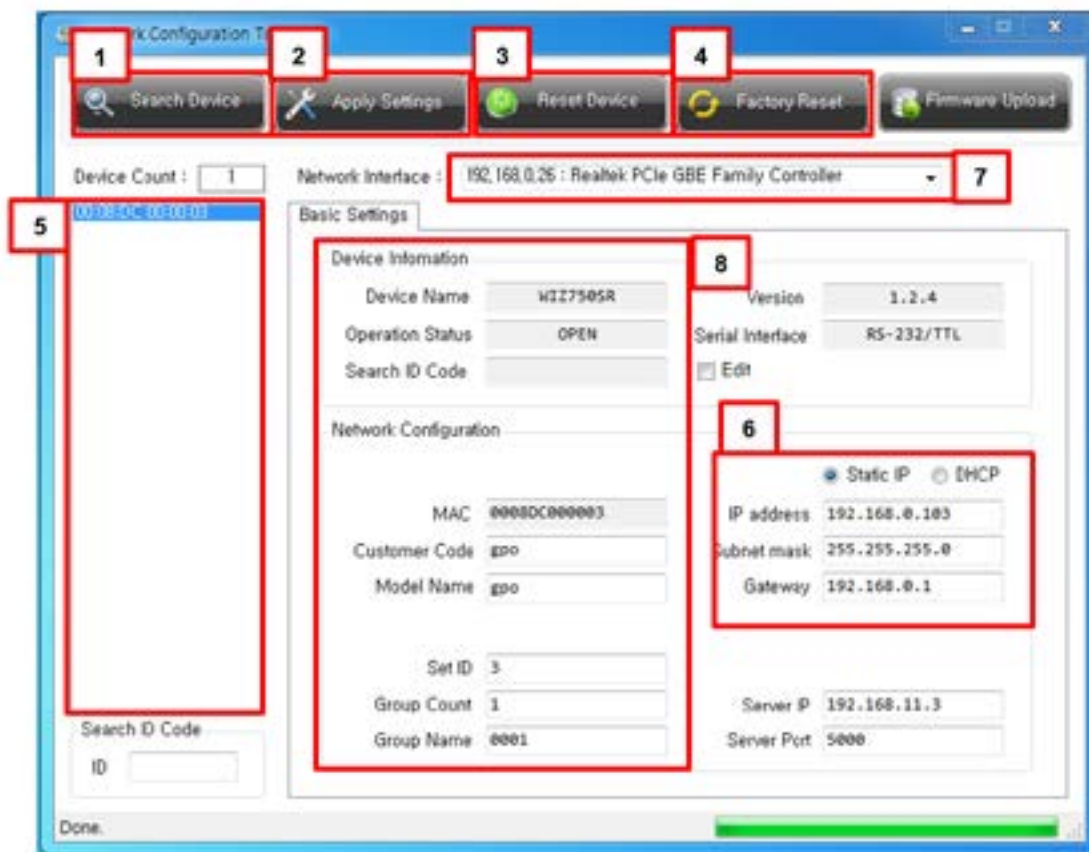


Step 4. Once installation is complete, click "Close" to exit.

Network Config Tools, cont.

2. Running NetworkConfigTool and Structure

Open Networkconfigtool application and you will see the window below:



1. Search Device: Search for connected Network devices button.
(Search after about 10 seconds when the product is turned on or the setting has been changed)
2. Apply Settings: Save device setting.
3. Reset Device: Network Device Restart button.
4. Factory Reset: Network Device setting initialization.
* The setting is initialized. Please be careful.
5. Device Count: List of discovered devices.
6. IP Setting: Select DHCP or Static IP, Can be set when Static IP
7. Network Interface: Network Device can only be used in the local network.
If not, check if the network interface, as it will be different.
8. Device Information & Network Configuration: Do not use as an extension
9. Open SICP and select TCP/IP control. Test control to verify it is functioning correctly.
10. Disconnect control PC and commence network control via 3rd party control system, if desired.
**IMPORTANT: If display is replaced or rearranged in array configuration, user must setup NetworkConfigTool again.*