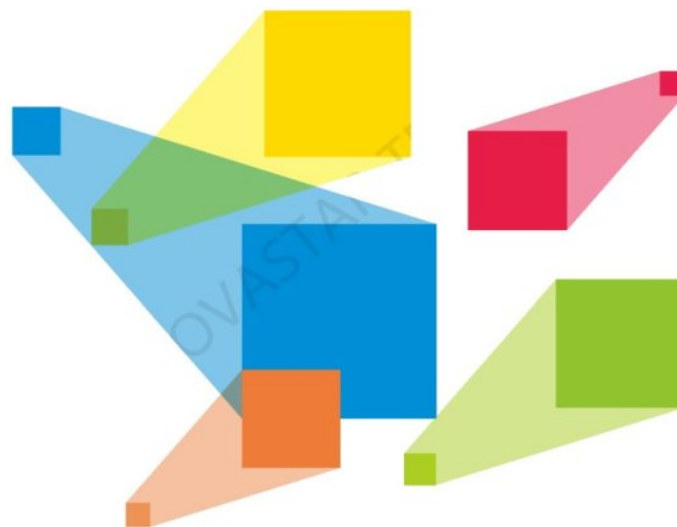




**VX Pro Series  
Control Protocol  
V1.0.0**



**Instructions**

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## Change History

Version	Modified By	Description	Date
V1.0.0	Zhang Fan	Initialized the VX Pro series control protocol and added TCP communication and RS 232 serial communication protocols.	2024-12-14

## Privacy Statement

- a) This protocol is strictly confidential, and shall not be distributed outside Nova Star or uploaded to the Internet. Anyone who breaks these rules and therefore causes any loss to the company shall be investigated according to law.
- b) Developers must strictly follow the instructions in this document for related development.

## Overview

The communication protocol for Nova Star video processors is divided into request frames and response frames, with each request packet corresponding to exactly one response packet, thereby creating a closed-loop communication. For Ethernet communication based on the TCP/IP protocol, relevant control data frames need to be added after the TCP/IP protocol frame before being sent to the device to execute the intended functions. This protocol is applicable to the VX2000 Pro, VX1000 Pro, VX600 Pro and VX400 Pro models.

## Communication Settings

### 3.1 Network Port and Communication Format

#### 3.1.1 TCP Searching

The communication between the software and the device uses the standard TCP protocol.

1. TCP port: 15200
2. Reconnecting device and reading the device ID Command to read Mode ID of the device:

55 aa 00 00 fe 00 00 00 00 00 00 00 02 00 00 00 02 00 57 56

### 3.1.2 RS232 Serial Communication Protocol

RS232 serial communication protocol:

#### 1. Configuration

- a) Baud rate: 115200
- b) Data bits: 8
- c) Parity: None
- d) Stop bits: 1
- e) Data stream: Hexadecimal data

#### 2. Command to read Mode ID of the device:

55 aa 00 14 fe 00 00 00 00 00 00 00 00 02 02 02 00 6d 56 TECH CO.,

## 3.2 System Parameters

### 3.2.1 Control Screen Brightness

#### 1 Command to adjust screen brightness

Set the brightness value to XX:

55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 XX SUM\_L SUM\_H

The command data is in hexadecimal format and XX stands for the desired screen brightness value (range: 0-255). “SUM\_L”and “SUM\_H”constitute the checksum of this command frame, which is the sum of the underlined data and 0x5555. The calculation formula is as below.

$$\text{SUM} = 0x00 + 0x00 + 0xFE + 0xFF + 0x01 + 0xFF + 0xFF + 0xFF + 0x01 + 0x00 + 0x01$$
$$+ 0x00 + 0x00 + 0x02 + 0x01 + 0x00 + XX + 0x5555, \text{SUM} = \text{SUM\_H} \ll 8 + \text{SUM\_L}$$

(“SUM\_L” stands for the lower 8 bits of SUM, while “SUM\_H” stands for the higher 8 bits of SUM.)

The commonly used brightness command data is shown in the following table.

Brightness Value	Data
------------------	------

0%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 00 55 5a
10%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 19 6e 5a
20%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 33 88 5a
30%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 4c a1 5a
40%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 66 bb 5a
50%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 7f d4 5a
60%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 99 ee 5a
70%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 b2 07 5b
80%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 cc 21 5b
90%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 e5 3a 5b
100%	55 aa 00 00 fe ff 01 ff ff ff 01 00 01 00 00 02 01 00 ff 54 5b

## (2) Response packet

After the brightness adjustment command is sent, if the response packet is in the following format, it represents the screen brightness is successfully adjusted.

aa 55 00 00 ff fe 01 ff ff ff 01 00 01 00 00 02 00 00 54 5a

## 3.3 Preset

### 3.3.1 Load Presets

#### (1) Command to load a preset

Load preset XX:

55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 XX SUM\_L SUM\_H

The command data is in hexadecimal format and XX stands for the preset number. The number range is 0x00-0x09 which represent Preset 1-10. For the detailed preset numbers, see Appendix 6. "SUM\_L" and "SUM\_H" constitute the checksum of this command frame, which is the sum of the underlined data and 0x5555. The calculation formula is as below.

SUM = 0x00 + 0x00 + 0xfe + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x01 + 0x00 + 0x00  
+  
0x01 + 0x51 + 0x13 + 0x01 + 0x00 + XX + 0x5555 SUM = SUM\_H<<8 + SUM\_L  
("SUM\_L" stands for the lower 8 bits of SUM, while "SUM\_H" stands for the higher 8 bits  
of SUM.)

The commonly used preset loading command data is shown in the following table.

Preset Number	NOVASTAR
1	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 00 ba 56
2	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 01 bb 56
3	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 02 bc 56
4	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 03 bd 56
5	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 04 be 56
6	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 05 bf 56
7	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 06 c0 56
8	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 07 c1 56
9	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 08 c2 56
10	55 aa 00 00 fe 00 00 00 00 00 01 00 00 01 51 13 01 00 09 c3 56


## (2) Response packet

If the response packet is in the following format, the preset is successfully loaded.  
aa 55 00 00 00 fe 00 00 00 00 01 00 00 01 51 13 00 00 b9 56

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## Documents / Resources




[NOVASTAR VX Pro Series Control Protocol \[pdf\]](#) Instructions  
VX Pro Series Control Protocol, VX Pro Series, Control Protocol, Protocol

## References

- [User Manual](#)

 Control Protocol, NOVASTAR, PROTOCOL, VX Pro Series, VX Pro Series Control

 NOVASTAR   Protocol

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