



Nanolumens[®]

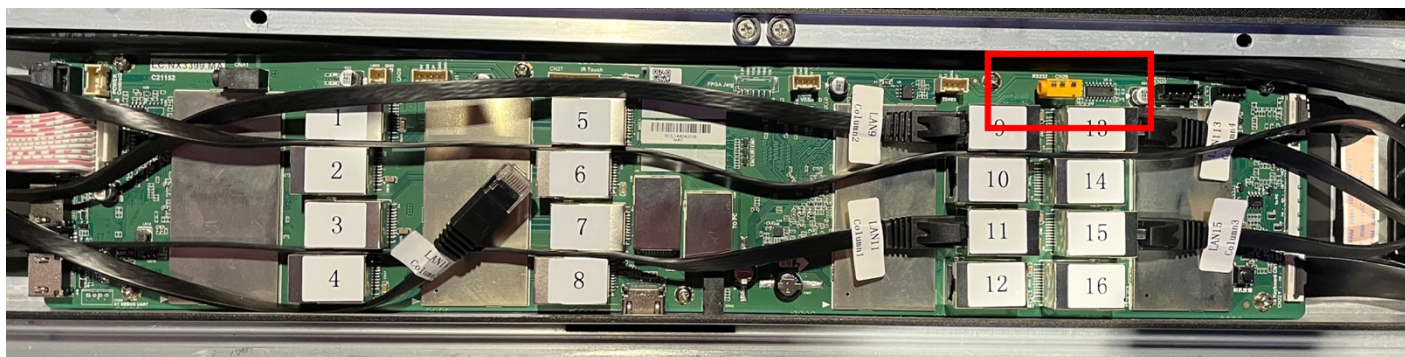
Captivate Series

RS232 Setup and
Command Guide

Hardware Setup

Install DB9 Cable

- 1) Locate and remove the right sound bar cover to expose the control board. To remove the cover, pull the top of the cover out and rotate it downwards.
NOTE: The cover is attached to the structure with safety cables, be sure to not damage the ribbon cables between the control board and processor.
- 2) Locate the yellow female Mini Jack RS232 receptacle on the central processing board, highlighted in red.



- 3) Insert the Male end of the Mini Jack to DB9 cable included in the Hardware and Accessories kit provided



- 4) For external connection, direct the cable through the adjacent grommet.

Command Table

Baud Rate: 115200

| Function | Instruction | External device requester code (hexadecimal bytes) | |
|---------------------------|-------------------------------|--|--|
| Request device status | Idle | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 01 C0 | |
| | Busy | 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 56 | |
| | Abnormal | | |
| Startup and shutdown | Shutdown (standby) | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C0 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 5F B8 | |
| | Startup | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C0 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 5E B7 | |
| Volume setting | 0 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 5B | |
| | 10 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 0A 65 | |
| | 20 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 14 6F | |
| | 30 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 1E 79 | |
| | 40 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 28 83 | |
| | 50 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 32 8D | |
| | 60 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 3C 97 | |
| | 70 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 46 A1 | |
| | 80 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 50 AB | |
| | 90 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 5A B5 | |
| | 100 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 03 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 64 BF | |
| Querying the Volume Value | Gets the current volume value | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 01 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 58 | |

| Function | Instruction | External device requester code (hexadecimal bytes) | |
|-------------------------------|-----------------------------------|--|--|
| Brightness setting | 0 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 77 | |
| | 10 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 0A 81 | |
| | 20 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 14 8B | |
| | 30 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 1E 95 | |
| | 40 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 28 9F | |
| | 50 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 32 A9 | |
| | 60 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 3C B3 | |
| | 70 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 46 BD | |
| | 80 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 50 C7 | |
| | 90 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 5A D1 | |
| | 100 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 64 DB | |
| Querying the Brightness Value | Gets the current brightness value | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1D C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 74 | |
| Video source setting | 0(ANDROID) | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 13 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 6B | |
| | 1(pc prestored) | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 13 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 01 6C | |
| | 2(HDMI1) | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 13 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 02 6D | |
| | 3(HDMI2) | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 13 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 03 6E | |
| | 4(HDMI3) | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 13 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 04 6F | |

| Function | Instruction | External device requester code (hexadecimal bytes) | |
|---|---------------------------------|---|--|
| Dual-screen mode switching (two screens splicing) | Full screen mode | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 49 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 A1 | |
| | Central mode | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 49 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 01 A2 | |
| | Dual-screen mode | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 49 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 02 A3 | |
| | Custom mode | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 49 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 20 C1 | |
| Querying the video source | Gets the current video source | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 11 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 68 | |
| Contrast ratio setting | 0 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 17 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 6F | |
| | 25 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 17 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 19 88 | |
| | 50 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 17 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 32 A1 | |
| | 75 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 17 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 4B BA | |
| | 100 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 17 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 64 D3 | |
| Querying the contrast ratio | Gets the current contrast ratio | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 15 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 6C | |
| Display setting | Ratio : 4:3 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 0F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 01 68 | |
| | Ratio : 16:9 | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 0F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 02 69 | |
| | Full screen | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 0F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 03 6A | |
| | Original | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 0F C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 04 6B | |
| Querying the display | Gets the current display ratio | 55 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 0D C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 64 | |

| Function | Instruction | External device requester code (hexadecimal bytes) | |
|-----------------------------------|------------------------------------|--|--|
| Color temperature mode setting | Standard 0x01 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1B C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 01 74 | |
| | Warm color 0x02 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1B C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 02 75 | |
| | Cool color 0x03 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1B C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 03 76 | |
| | User 0x04 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 1B C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 04 77 | |
| Get video combination information | | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 c2 41 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 89 | |
| Scene mode setting | Meeting mode | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 45 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 9D | |
| | Presentation mode | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 45 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 01 9E | |
| | Power-saving mode | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 45 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 02 9F | |
| | User mode | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 45 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 03 a0 | |
| Querying the scene mode | | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 43 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 9A | |
| Querying the value of Red Gain | Gets the current value of Red Gain | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 21 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 78 | |
| Set the value of Green Gain | 0 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 27 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 7F | |
| | 25 | | |
| | 50 | | |
| | 75 | | |
| | 100 | | |
| Querying the value of Green Gain | | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 25 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 7C | |

| Function | Instruction | External device requester code (hexadecimal bytes) | |
|--------------------------------------|-------------|--|---|
| Set the value of Blue Gain | 0 | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 2B C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 83 | |
| | 25 | | |
| | 50 | | |
| | 75 | | |
| | 100 | | |
| Querying the value of Blue Gain | | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 29 C2 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 80 | |
| Obtain screen monitoring information | | 55 55 55 55 55 55 55 C0 01 03 01 D0 00 D1 31 C1 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 01 00 00 88 | 55 55 55 55 55 55 55 C0 01 03 00 D1 01 D0 32 C1 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 76 00 01 00 00 10 10 00 04 04 04 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 01 25 4C 01 00 01 01 2C 4D 01 00 02 01 2C 4C 01 00 03 01 2A 4B 01 01 00 01 2D 4B 01 01 01 01 2F 4D 01 01 02 01 2E 4A 01 01 03 01 2C 4B 01 02 00 01 2F 4C 01 02 01 01 2E 4B 01 02 02 01 2E 4E 01 02 03 01 2E 4B 01 03 00 01 2A 4B 01 03 01 01 2E 4D 01 03 02 01 2E 4C 01 03 03 01 30 4C 01 08 |



About Nanolumens

Working with leading Fortune 500 clients on five continents, Nanolumens continues to pioneer visualization solutions. The company is creating a market where clients can have leading-edge technology, and access to choices that include managed, brilliant content, current information streams and even interactive customer experiences tailored to a specific industry. This innovation is driven by increasing customer demand. Nanolumens provides an immersive experience that shatters any previous modes of customer engagement. All Nanolumens solutions are designed and made in the United States of America.

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