Novastar A5s

Novastar A5s Receiving Card User Manual

Model: A5s

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the Novastar A5s Receiving Card. The A5s is a high-performance LED display receiving card designed for various indoor and outdoor LED video wall applications. It offers advanced features for pixel-level calibration, robust backup, and smart module support to ensure stable and high-quality display performance.

2. Safety Information

- Always disconnect power before installing or servicing the device.
- Ensure proper grounding to prevent electrical shock.
- Do not expose the card to moisture or extreme temperatures.
- Handle the card with care to avoid damage to components. Use anti-static precautions.
- Only qualified personnel should perform installation and maintenance.

3. Product Overview

The Novastar A5s Receiving Card is a compact and powerful component for LED display systems. It is designed to receive data from a sending card and distribute it to the LED modules, ensuring accurate and vibrant image reproduction.

3.1 Key Features

- **High-Performance LED Receiver Card:** Supports up to 320×256@60Hz resolution, offering pixel-level brightness and chroma calibration for superior display quality.
- **Reliable Dual Backup & Smart Monitoring:** Features dual card and firmware backup, voltage/temperature monitoring, and bit error detection for uninterrupted operation.
- **Advanced Calibration & Display Controls:** Includes individual gamma adjustment for RGB, quick dark/bright line correction, and pre-stored image settings.
- **Comprehensive Smart Module Support:** Manages module ID, flash memory control, and auto calibration coefficient upload, simplifying setup and maintenance.

- **Compact & EMC Certified Design:** Durable form factor (70x45mm) with EMC Class B compliance and efficient 2.5W power consumption.
- **Flexible Output Architecture:** Offers up to 32 groups of parallel RGB data or 64/128 serial data channels.
- **Real-Time Monitoring:** Track card voltage, temperature, screen status, and runtime through NovaStar's ecosystem.

3.2 Product Components

The A5s receiving card features various connectors and components for integration into an LED display system.

Figure 1: Top view of the Novastar A5s Receiving Card, showing the "NOVASTAR A5s" label and a QR code with identifier MEPC31A22U1120609932.

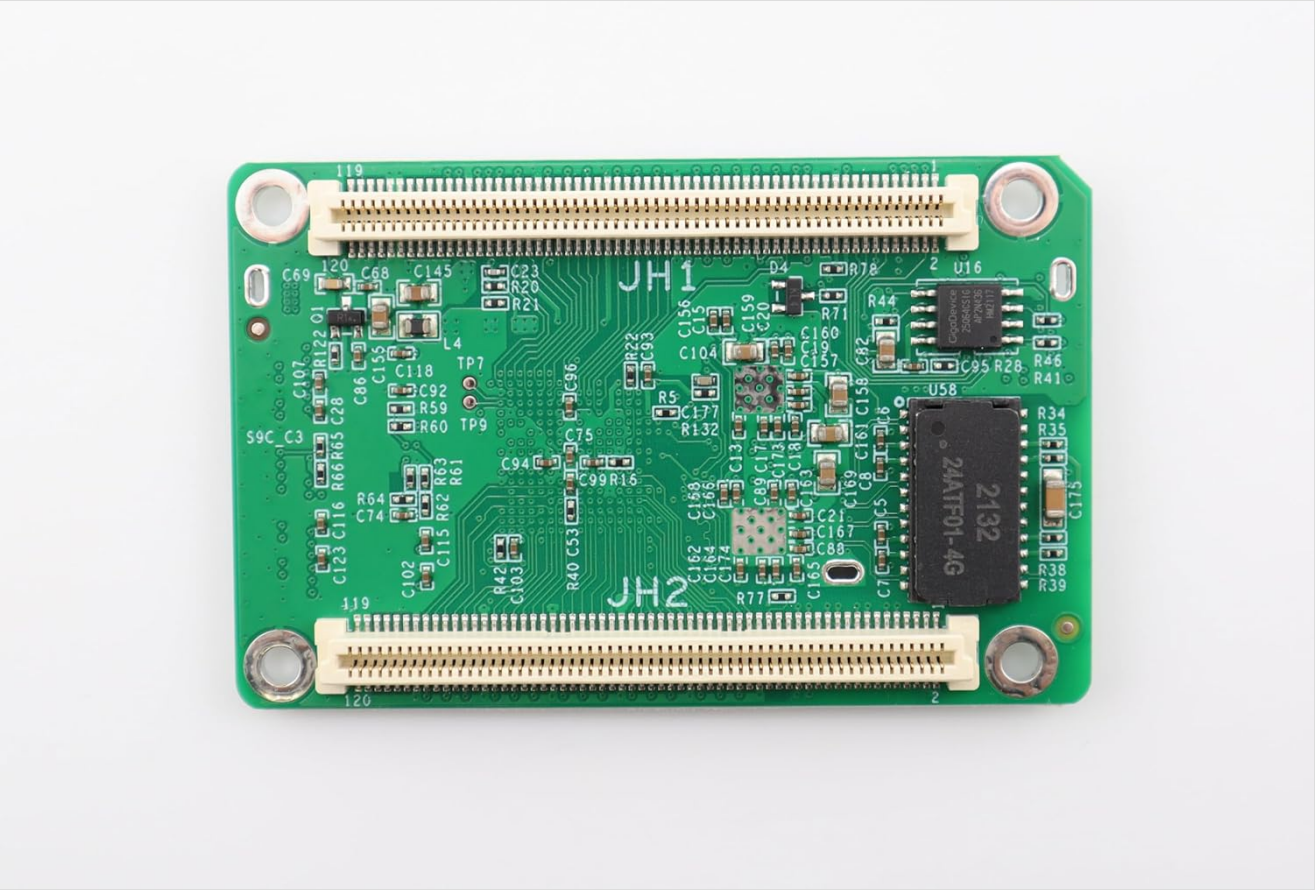

Figure 2: Bottom view of the Novastar A5s Receiving Card, highlighting the JH1 and JH2 data connectors for module integration.

4. Setup

Proper installation is crucial for the optimal performance of the A5s receiving card. Follow these steps carefully:

1. **Preparation:** Ensure all power to the LED display cabinet is disconnected. Gather necessary tools, including anti-static wrist straps.
2. **Mounting:** Securely mount the A5s receiving card into the designated slot within the LED display cabinet. Ensure it is firmly seated to prevent vibration.
3. **Power Connection:** Connect the DC 3.8-5.5V power supply to the card's power input. Verify correct polarity.
4. **Data Connections:**
    - Connect the Ethernet cable from the sending card (or previous receiving card in a daisy chain) to one of the A5s's Ethernet ports (e.g., M1 or M2).
    - If daisy-chaining, connect an Ethernet cable from the other Ethernet port of the A5s to the next receiving card.
    - Connect the data cables from the A5s's JH1 and JH2 connectors to the LED modules. Refer to your LED module's documentation for correct pin assignments.
5. **Configuration:**
    - Once all physical connections are made, power on the LED display system.
    - Use NovaStar's NovaLCT software on a connected computer to configure the receiving card parameters. This includes screen resolution, module type, data mapping, and calibration settings.
    - Utilize the smart module support features for automatic calibration coefficient upload and module flash control.
6. **Testing:** After configuration, perform a test pattern display to verify correct operation and image quality. Adjust

settings as needed.

5. Operating Instructions

The A5s receiving card operates in conjunction with a NovaStar sending card and NovaLCT software. Most operational adjustments are made through the software interface.

- **Power On/Off:** The card powers on automatically with the LED display system. Ensure a stable power supply within the specified voltage range (DC 3.8-5.5V).
- **Display Control:** Use NovaLCT software to manage display parameters such as brightness, color temperature, gamma correction, and image scaling.
- **Monitoring:** Access real-time monitoring data (voltage, temperature, bit error rate) through NovaLCT to ensure system health.
- **Backup Functionality:** The dual card and firmware backup features operate automatically to maintain display integrity in case of a primary card failure.
- **Preloaded Images:** The card supports preloaded images and default settings, which can be configured via NovaLCT for quick startup or fallback display options.

6. Maintenance

Regular maintenance helps ensure the longevity and consistent performance of your A5s receiving card and LED display system.

- **Cleaning:** Periodically inspect the card for dust accumulation. Use a soft brush or compressed air to gently clean the surface. Ensure power is off before cleaning.
- **Connection Check:** Regularly verify that all power and data cables are securely connected. Loose connections can lead to intermittent display issues.
- **Firmware Updates:** Check the official Novastar website for any available firmware updates. Follow the provided instructions carefully for updating the card's firmware via NovaLCT software.
- **Environmental Control:** Ensure the operating environment remains within the specified temperature range (-20°C to +70°C) and humidity levels to prevent component stress.
- **System Logs:** Periodically review system logs in NovaLCT for any error messages or warnings that might indicate potential issues.

7. Troubleshooting

This section provides solutions to common issues you might encounter with the Novastar A5s Receiving Card.

Problem	Possible Cause	Solution
LED modules not displaying or displaying incorrectly.	◦ Incorrect data cable connection. ◦ Incorrect software configuration (e.g., resolution, data mapping). ◦ Power supply issue to the card or modules. ◦ Damaged receiving card or LED module.	◦ Verify all data cables are securely connected and in the correct order. ◦ Check NovaLCT software settings for correct screen configuration and data mapping. ◦ Ensure stable DC 3.8-5.5V power supply. ◦ Test with a known working card or module to isolate the fault.

Problem	Possible Cause	Solution
Flickering or unstable display.	◦ Loose Ethernet or data connections. ◦ Interference or poor signal quality. ◦ Overheating of the receiving card.	◦ Check and re-secure all cable connections. ◦ Ensure proper shielding for Ethernet cables. ◦ Monitor card temperature via NovaLCT; ensure adequate ventilation.
Card not detected by NovaLCT.	◦ No power to the card. ◦ Incorrect Ethernet connection to the sending card/PC. ◦ Network configuration issues on the PC.	◦ Verify power supply to the receiving card. ◦ Ensure Ethernet cable is connected to the correct port on the sending card and PC. ◦ Check PC network adapter settings and firewall.

8. Specifications

Feature	Detail
Model	A5s
Pixel Capacity	Up to 320×256 @60Hz
Data Output	32× RGB parallel / 64 or 128× serial
Voltage Range	DC 3.8–5.5V
Max Power Consumption	2.5W
Operating Temperature	-20°C to +70°C
Dimensions	70mm × 45mm (2.76 x 1.77 x 0.55 inches)
Item Weight	1.44 ounces
Certifications	RoHS compliant, EMC Class B

9. Warranty & Support

9.1 Warranty Information

The Novastar A5s Receiving Card is covered by a standard manufacturer's warranty. Please refer to the official Novastar website or your purchase documentation for specific warranty terms and conditions, including duration and coverage details. Keep your proof of purchase for warranty claims.

9.2 Technical Support

For technical assistance, troubleshooting beyond this manual, or inquiries regarding product functionality, please contact Novastar technical support. You can find contact information and additional resources on the official Novastar website: www.novastar.tech.
When contacting support, please have your product model (A5s) and any relevant error messages or system logs ready.