

A10s Pro

Receiving Card



Specifications

Change History

Document Version	Release Date	Description
V2.0.0	2026-09-18	Updated the pins section.
V1.5.1	2026-01-19	• Updated the dimensions diagram. • Updated the physical dimensions.
V1.5.0	2025-09-15	• Updated image booster and multi-batch adjustment in product features. • Removed free image rotation from product features. • Updated the product introduction.
V1.4.0	2025-08-01	• Added frame rate adaptive 2.0, multi-batch adjustment, and detection of Ethernet cable disconnections to product features. • Added an installation diagram. • Added information on expansion features. • Added details about static protection. • Updated the load capacity information. • Updated the description for upload coefficients. • Updated the storage environment temperature range. • Updated the packing Information.
V1.3.0	2024-08-20	• Updated the product introduction. • Updated the description for the Mapping feature. • Updated the current and power consumption.

Introduction

The A10s Pro is a high-end full-featured small receiving card developed by NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). It supports the exclusive Adaptive Thermal Compensation, Dynamic Booster, Full-Grayscale Calibration, and LED Image Booster 3.0 technologies of NovaStar. With other various functions, such as Multi-Mode, Brightness Overdrive, Frame Rate Adaptive 3.0, Frame Rate Adaptive 2.0, Shutter Fit, HDR, Pixel Level Brightness and Chroma Calibration, Quick Adjustment of Dark or Bright Lines, 7-Color Multi-batch Adjustment, Low Latency, 3D, and 90° Image Rotation, this receiving card can greatly improve the brightness, grayscale and color performance from every aspect, offering users an ultimate visual experience with a uniform, smooth and lifelike image. The product uses NCP files

to enable users to conveniently and swiftly carry out tasks such as displaying content on the cabinets, upgrading firmware, and optimizing image quality.

The A10s Pro uses high-density connectors for communication to limit the effects of dust and vibration, resulting in high stability. It supports up to 32 groups of parallel RGB data or 64 groups of serial data (expandable to 128 groups of serial data). Its reserved pins allow for custom functions of users. Thanks to its EMC Class B compliant hardware design, the A10s Pro has improved electromagnetic compatibility and is suitable for various demanding on-site setups.

For PWM driver ICs, the maximum load capacity per card is:

- 512×512@60Hz (For 8bit and 10bit video sources)
- 512×384@60Hz (For 12bit video sources)



Note

For PWM driver ICs, when working with COEX controllers and 10bit video sources, the maximum load capacity per card is 512×512@60Hz. When working with other controllers and 10bit video sources, the maximum load capacity per card is 512×384@60Hz.

Certifications

RoHS, EMC Class B

If the product lacks the certifications required for sale in the destination country or region, please contact NovaStar promptly for confirmation or assistance. Otherwise, the customer shall bear any resulting legal risks and liabilities, and NovaStar reserves the right to seek compensation.

Features

Improvements to Display Effect

- Adaptive Thermal Compensation

Dynamically adjust the thermal compensation coefficients of the screen to address the issue of color cast caused by uneven heat dissipation across the screen.

- Dynamic Booster

Real-time analysis and dynamic adjustment are made to each frame to significantly improve the display contrast and image details for better visual experience, and effectively control and lower the display power consumption, extending the service life of the LED screen.

- Full-Grayscale Calibration

Work with NovaStar's high-precision calibration system and scientific-grade camera to generate unique calibration coefficients for each grayscale, ensuring uniformity of each grayscale and significantly improving the image quality.

- LED Image Booster 3.0 (Effects depend on driver IC)

- Color Management: Support standard (Rec.709 / DCI-P3 / Rec.2020) and custom color gamuts, enabling more precise colors on the screen.
- Precise Grayscale: Individually correct the 65,536 levels of grayscale (16bit) of the driver IC to fix the display problems at low grayscale conditions, such as brightness spikes, brightness dips, color cast and mottling. This function can also better assist other display technologies, such as 22bit+ and individual gamma adjustment for RGB, allowing for a smoother and uniform image.
- 22bit+: Improve LED screen grayscale by 64 times, with adjustable dithering range and low-grayscale dithering effect, preventing grayscale loss at low brightness and delivering richer details in dark areas for a more refined display.

- Multi-Mode

Apply different modes based on different display scenarios. This ensures that LED screens are able to achieve optimal display quality in various scenarios.

- Brightness Overdrive

Enhance the maximum brightness of the screen by balancing the uniformity, thus increasing the dynamic range and improving image contrast.

- Frame Rate Adaptive 3.0

Adjust the receiving card parameters in real time according to the input frame rate, so that the display effect at different frame rates (23 Hz to 240 Hz) is the best. This feature requires support from specific driver ICs.

- Frame Rate Adaptive 2.0

Adjust the receiving card parameters in real time according to the input frame rate, so that the display effect at specific frame rates is optimal.

- Shutter Fit

Automatically adjust the driver IC parameters according to the camera shutter angle to fix problems of black lines, grayscale addition, and grayscale loss during camera shooting in xR scenarios.

- HDR
 - Support HDR10 and comply with the SMPTE ST 2084 and SMPTE ST 2086 standards.
 - Support HLG.
- Pixel Level Brightness and Chroma Calibration

Work with NovaStar's calibration system to calibrate the brightness and chroma of each pixel, effectively eliminating differences and enabling high consistency for both brightness and chroma.
- Quick Adjustment of Dark or Bright Lines

The different brightness of seams caused by splicing of modules or cabinets can be corrected to improve the visual experience. The correction is easy and takes effect immediately.
- 7-Color Multi-batch Adjustment

Adjust the brightness and chroma of cabinets or modules across seven colors to reduce display discrepancies due to production batch variations.
- Low Latency

The latency of the video source at the receiving card end can be reduced to 1 frame (only when using modules with driver ICs with built-in RAM).
- 3D

Work with the controller that supports 3D function to enable 3D output.
- 90° Image Rotation

The display image can be rotated in multiples of 90° (0°/90°/180°/270°).

Improvements to Maintainability

- Calibration Coefficient Management

The calibration coefficients can be uploaded, read back, saved to hardware, and erased.
- Automatic Module Calibration

After a new module with flash memory is installed to replace the old one, the calibration coefficients stored in the flash memory can be automatically uploaded to the receiving card when it is powered on, which ensures unchanged uniform display brightness and chroma.
- Uploading Calibration Coefficients

Upload calibration coefficients to the receiving card quickly or in a stable manner, with acceleration support if needed.

- Module Flash Management

For modules with flash memory, the information stored can be managed, allowing for the storage and readback of calibration coefficients and module IDs.

- One-click to Apply Calibration Coefficients in Module Flash

For modules with flash memory, when the Ethernet cable is disconnected, users can hold down the self-test button on the cabinet to upload the calibration coefficients in the module Flash to the receiving card.

- Mapping 1.1

The cabinet displays the Ethernet port, receiving card, and controller numbers in different colors, clearly showing the physical locations and connection topology of receiving cards.

- Settings of a Stored Image in the Receiving Card

The image displayed during startup, or displayed when the Ethernet cable is disconnected or there is no video signal.

- Temperature and Voltage Monitoring

Real-time monitoring of the temperature and voltage of the receiving card, without the need for other external devices.

- Bit Error Detection

Monitor the number of erroneous packets in the Ethernet data transmission of the receiving card to help troubleshoot network communication problems.

- Detection of Ethernet Cable Disconnections

Monitor the number of times the Ethernet cable to the receiving card is disconnected, assisting in identifying potential communication link issues.

- Status Detection of Dual Power Supplies

When two power supplies are used, their working status can be detected.

- LVDS Transmission (dedicated firmware required)

Low-voltage differential signaling (LVDS) transmission is used to reduce the number of data cables from the hub board to module, increasing the transmission distance and improving the signal transmission quality.

Improvements to Reliability

- Dual Card Backup and Status Monitoring

In an application requiring high reliability, two receiving cards can be mounted onto a single hub board for backup. When the primary card fails, the backup card can serve immediately to ensure uninterrupted operation of the display.

The working status of the primary and backup receiving cards can be monitored in real-time.

- Loop Backup

The receiving card and controller form a loop via the primary and backup line connections. When a fault occurs at a location of the lines, the screen can still display the image normally.

- Dual Backup of Configuration Parameters

The receiving card configuration parameters are stored in both the application area and factory area of the receiving card at the same time. Users usually use the configuration parameters in the application area. If necessary, users can restore the configuration parameters in the factory area to the application area.

- Dual Program Backup

Two copies of the firmware program are stored in the receiving card at the factory to avoid the problem that the receiving card may get stuck abnormally during program update.

- Dual Backup of Calibration Coefficients

Brightness and chroma calibration coefficients are stored in the application area and factory area of the receiving card at the same time. Users usually use the calibration coefficients in the application area. If necessary, users can restore the calibration coefficients in the factory area to the application area.

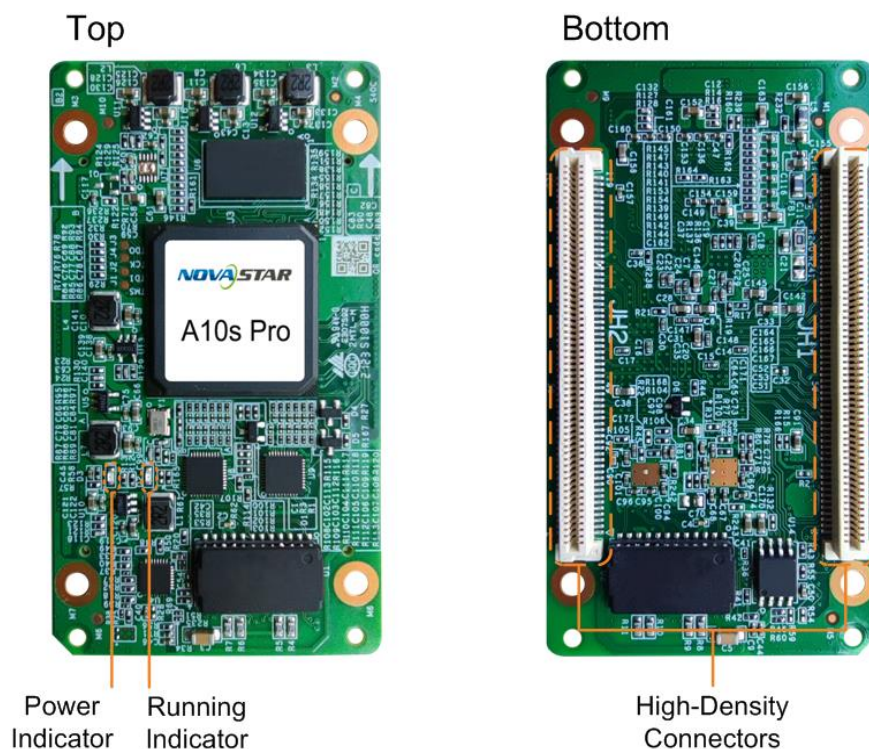
- One-click Firmware Program Learning

The cabinet firmware program and configuration parameters can be copied to other cabinets with one click in VMP to help quickly complete cabinet configuration.

 Note

Full grayscale calibration is supported by the following devices: MX series, MCTRL4K, MCTRL1600, MCTRL600, H15, H9, H5, H2, and V1260.

Appearance



Product images are for reference only. The actual product may vary.

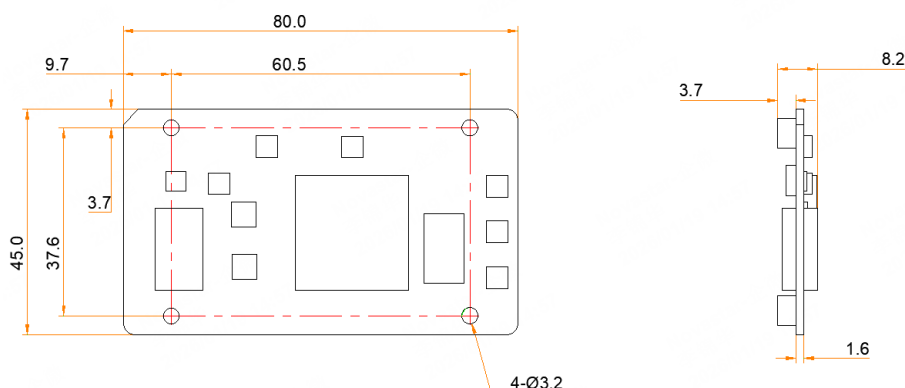
Indicators

Indicators	Color	Status	Description
Running indicator	Green	Flashing once every 1s	The receiving card is functioning normally. Ethernet cable connection is normal, and video source input is available.
		Flashing once every 3s	Ethernet cable connection is abnormal.
		Flashing 3 times every 0.5s	Ethernet cable connection is normal, but video source input is unavailable.
		Flashing once every 0.2s	The receiving card failed to load the program in the application area and is now using the backup program.
		Flashing 8 times every 0.5s	A redundancy switchover occurred on the Ethernet port and the loop backup has taken effect.
Power	Red	Always on	The power input is normal.

Indicators	Color	Status	Description
indicator			

Dimensions

The board thickness is not greater than 2.0 mm, and the total thickness (board thickness + thickness of components on the top and bottom sides) is not greater than 9.0 mm. Ground connection (GND) is enabled for mounting holes.



Tolerance: ± 0.3 Unit: mm



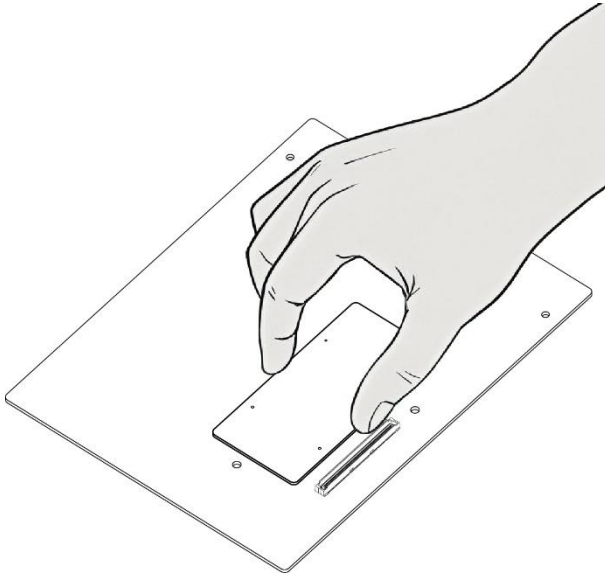
Note

The distance between outer surfaces of the product and hub boards after their high-density connectors fit together is 5.0 mm. A 5.0 mm copper pillar is recommended.

For molding or installation cutouts, please contact NovaStar for a higher-precision structural drawing.

Installation

Please refer to the diagram below. Hold the product securely from the sides (long edges) near the center, and press it into the HUB board to install.

 **Caution**

The product's static resistance is 2 kV. Be mindful of static protection during handling.

32 Groups of Parallel RGB Data



JH1					
Ground	GND	1	2	GND	Ground
LCD CS signal	EXT_LCD_CS	3	4	MCU_nRST	/
LCD RS signal	EXT_LCD_RS	5	6	Input_MUART_TXD	Burn signal
LCD clock signal	EXT_LCD_SCL	7	8	Output_MUART_RXD	Burn signal
LCD data signal	EXT_LCD_SDA	9	10	Input_SPI_CLK	Burn signal
LCD backlight signal 1	EXT_LCD_BL0	11	12	Output_SPI_MISO	Burn signal

JH1						
LCD backlight signal 2	EXT_LCD_BL1	13	14	Input_SPI_MOSI	Burn signal	
LCD control button	EXT_KEY	15	16	Flash_SPI_CS	Burn signal	
Reserved	RFU1	17	18	BOOT0	/	
Reserved	RFU2	19	20	NC	/	
Ground	GND	21	22	NC	/	
/	NC	23	24	NC	/	
Ground	GND	25	26	GND	Ground	
/	G17	27	28	R17	/	
/	R18	29	30	B17	/	
/	B18	31	32	G18	/	
/	G19	33	34	R19	/	
/	R20	35	36	B19	/	
/	B20	37	38	G20	/	
Ground	GND	39	40	GND	Ground	
/	G21	41	42	R21	/	
/	R22	43	44	B21	/	
/	B22	45	46	G22	/	
/	G23	47	48	R23	/	
/	R24	49	50	B23	/	
/	B24	51	52	G24	/	
Ground	GND	53	54	GND	Ground	
/	G25	55	56	R25	/	
/	R26	57	58	B25	/	
/	B26	59	60	G26	/	
/	G27	61	62	R27	/	
/	R28	63	64	B27	/	

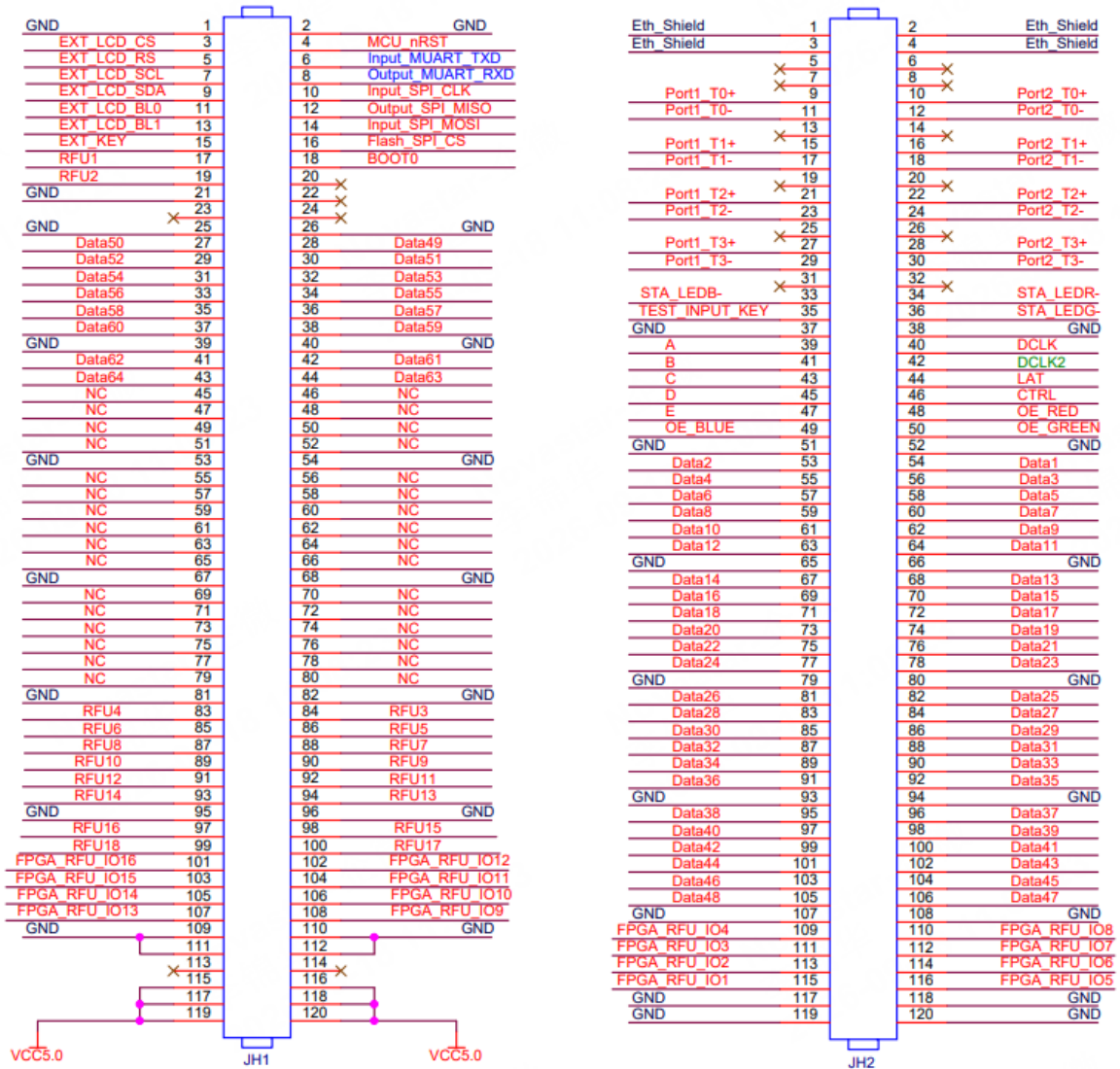
JH1					
/	B28	65	66	G28	/
Ground	GND	67	68	GND	Ground
/	G29	69	70	R29	/
/	R30	71	72	B29	/
/	B30	73	74	G30	/
/	G31	75	76	R31	/
/	R32	77	78	B31	/
/	B32	79	80	G32	/
Ground	GND	81	82	GND	Ground
Reserved	RFU4	83	84	RFU3	Reserved
Reserved	RFU6	85	86	RFU5	Reserved
Reserved	RFU8	87	88	RFU7	Reserved
Reserved	RFU10	89	90	RFU9	Reserved
Reserved	RFU12	91	92	RFU11	Reserved
Reserved	RFU14	93	94	RFU13	Reserved
Ground	GND	95	96	GND	Ground
Reserved	RFU16	97	98	RFU15	Reserved
Reserved	RFU18	99	100	RFU17	Reserved
Reserved	FPGA_RFU_IO16	101	102	FPGA_RFU_IO12	Reserved
Reserved	FPGA_RFU_IO15	103	104	FPGA_RFU_IO11	Reserved
Reserved	FPGA_RFU_IO14	105	106	FPGA_RFU_IO10	Reserved
Reserved	FPGA_RFU_IO13	107	108	FPGA_RFU_IO9	Reserved
Ground	GND	109	110	GND	Ground
Ground	GND	111	112	GND	Ground
/	NC	113	114	NC	/
5 V	VCC5.0	115	116	VCC5.0	5 V
5 V	VCC5.0	117	118	VCC5.0	5 V
5 V	VCC5.0	119	120	VCC5.0	5 V

JH2					
Chassis ground	Eth_Shield	1	2	Eth_Shield	Chassis ground
Chassis ground	Eth_Shield	3	4	Eth_Shield	Chassis ground
/	NC	5	6	NC	/
/	NC	7	8	NC	/
Input Gigabit Ethernet port	Port1_T0+	9	10	Port2_T0+	Output Gigabit Ethernet port
Input Gigabit Ethernet port	Port1_T0-	11	12	Port2_T0-	Output Gigabit Ethernet port
/	NC	13	14	NC	/
Input Gigabit Ethernet port	Port1_T1+	15	16	Port2_T1+	Output Gigabit Ethernet port
Input Gigabit Ethernet port	Port1_T1-	17	18	Port2_T1-	Output Gigabit Ethernet port
/	NC	19	20	NC	/
Input Gigabit Ethernet port	Port1_T2+	21	22	Port2_T2+	Output Gigabit Ethernet port
Input Gigabit Ethernet port	Port1_T2-	23	24	Port2_T2-	Output Gigabit Ethernet port
/	NC	25	26	NC	/
Gigabit Ethernet port	Port1_T3+	27	28	Port2_T3+	Output Gigabit Ethernet port
Input Gigabit Ethernet port	Port1_T3-	29	30	Port2_T3-	Output Gigabit Ethernet port
/	NC	31	32	NC	/
Tri-color LED	STA_LEDB-	33	34	STA_LEDR-	Tri-color LED
Test button	TEST_INPUT_KEY	35	36	STA_LEDG-	Running indicator
Ground	GND	37	38	GND	Ground
Row decoding signal	A	39	40	DCLK	Shift clock signal
Row decoding	B	41	42	DCLK2	Shift clock signal

JH2					
signal					
Row decoding signal	C	43	44	LAT	Latch output signal
Row decoding signal	D	45	46	CTRL	Afterglow control signal
Row decoding signal	E	47	48	OE_RED	Display enable signal
Display enable signal	OE_BLUE	49	50	OE_GREEN	Display enable signal
Ground	GND	51	52	GND	Ground
/	G1	53	54	R1	/
/	R2	55	56	B1	/
/	B2	57	58	G2	/
/	G3	59	60	R3	/
/	R4	61	62	B3	/
/	B4	63	64	G4	/
Ground	GND	65	66	GND	Ground
/	G5	67	68	R5	/
/	R6	69	70	B5	/
/	B6	71	72	G6	/
/	G7	73	74	R7	/
/	R8	75	76	B7	/
/	B8	77	78	G8	/
Ground	GND	79	80	GND	Ground
/	G9	81	82	R9	/
/	R10	83	84	B9	/
/	B10	85	86	G10	/
/	G11	87	88	R11	/
/	R12	89	90	B11	/

JH2					
/	B12	91	92	G12	/
Ground	GND	93	94	GND	Ground
/	G13	95	96	R13	/
/	R14	97	98	B13	/
/	B14	99	100	G14	/
/	G15	101	102	R15	/
/	R16	103	104	B15	/
/	B16	105	106	G16	/
Ground	GND	107	108	GND	Ground
Reserved	FPGA_RFU_IO4	109	110	FPGA_RFU_IO8	Reserved
Reserved	FPGA_RFU_IO3	111	112	FPGA_RFU_IO7	Reserved
Reserved	FPGA_RFU_IO2	113	114	FPGA_RFU_IO6	Reserved
Reserved	FPGA_RFU_IO1	115	116	FPGA_RFU_IO5	Reserved
Ground	GND	117	118	GND	Ground
Ground	GND	119	120	GND	Ground

64 Groups of Serial Data



JH1					
Ground	GND	1	2	GND	Ground
LCD CS signal	EXT_LCD_CS	3	4	MCU_nRST	/
LCD RS signal	EXT_LCD_RS	5	6	Input_MUART_TXD	Burn signal
LCD clock signal	EXT_LCD_SCL	7	8	Output_MUART_RXD	Burn signal
LCD data signal	EXT_LCD_SDA	9	10	Input_SPI_CLK	Burn signal
LCD backlight signal 1	EXT_LCD_BL0	11	12	Output_SPI_MISO	Burn signal
LCD backlight signal 2	EXT_LCD_BL1	13	14	Input_SPI_MOSI	Burn signal

JH1					
LCD control button	EXT_KEY	15	16	Flash_SPI_CS	Burn signal
Reserved	RFU1	17	18	BOOT0	/
Reserved	RFU2	19	20	NC	/
Ground	GND	21	22	NC	/
/	NC	23	24	NC	/
Ground	GND	25	26	GND	Ground
/	Data50	27	28	Data49	/
/	Data52	29	30	Data51	/
/	Data54	31	32	Data53	/
/	Data56	33	34	Data55	/
/	Data58	35	36	Data57	/
/	Data60	37	38	Data59	/
Ground	GND	39	40	GND	Ground
/	Data62	41	42	Data61	/
/	Data64	43	44	Data63	/
/	NC	45	46	NC	/
/	NC	47	48	NC	/
/	NC	49	50	NC	/
/	NC	51	52	NC	/
Ground	GND	53	54	GND	Ground
/	NC	55	56	NC	/
/	NC	57	58	NC	/
/	NC	59	60	NC	/
/	NC	61	62	NC	/
/	NC	63	64	NC	/
/	NC	65	66	NC	/
Ground	GND	67	68	GND	Ground

JH1					
/	NC	69	70	NC	/
/	NC	71	72	NC	/
/	NC	73	74	NC	/
/	NC	75	76	NC	/
/	NC	77	78	NC	/
/	NC	79	80	NC	/
Ground	GND	81	82	GND	Ground
Reserved	RFU4	83	84	RFU3	Reserved
Reserved	RFU6	85	86	RFU5	Reserved
Reserved	RFU8	87	88	RFU7	Reserved
Reserved	RFU10	89	90	RFU9	Reserved
Reserved	RFU12	91	92	RFU11	Reserved
Reserved	RFU14	93	94	RFU13	Reserved
Ground	GND	95	96	GND	Ground
Reserved	RFU16	97	98	RFU15	Reserved
Reserved	RFU18	99	100	RFU17	Reserved
Reserved	FPGA_RFU_IO16	101	102	FPGA_RFU_IO12	Reserved
Reserved	FPGA_RFU_IO15	103	104	FPGA_RFU_IO11	Reserved
Reserved	FPGA_RFU_IO14	105	106	FPGA_RFU_IO10	Reserved
Reserved	FPGA_RFU_IO13	107	108	FPGA_RFU_IO9	Reserved
Ground	GND	109	110	GND	Ground
Ground	GND	111	112	GND	Ground
/	NC	113	114	NC	/
5 V	VCC5.0	115	116	VCC5.0	5 V
5 V	VCC5.0	117	118	VCC5.0	5 V
5 V	VCC5.0	119	120	VCC5.0	5 V

JH2					
Chassis ground	Eth_Shield	1	2	Eth_Shield	Chassis ground
Chassis ground	Eth_Shield	3	4	Eth_Shield	Chassis ground
/	NC	5	6	NC	/
/	NC	7	8	NC	/
Input Gigabit Ethernet port	Port1_T0+	9	10	Port2_T0+	Output Gigabit Ethernet port
Input Gigabit Ethernet port	Port1_T0-	11	12	Port2_T0-	Output Gigabit Ethernet port
/	NC	13	14	NC	/
Input Gigabit Ethernet port	Port1_T1+	15	16	Port2_T1+	Output Gigabit Ethernet port
Input Gigabit Ethernet port	Port1_T1-	17	18	Port2_T1-	Output Gigabit Ethernet port
/	NC	19	20	NC	/
Input Gigabit Ethernet port	Port1_T2+	21	22	Port2_T2+	Output Gigabit Ethernet port
Input Gigabit Ethernet port	Port1_T2-	23	24	Port2_T2-	Output Gigabit Ethernet port
/	NC	25	26	NC	/
Gigabit Ethernet port	Port1_T3+	27	28	Port2_T3+	Output Gigabit Ethernet port
Input Gigabit Ethernet port	Port1_T3-	29	30	Port2_T3-	Output Gigabit Ethernet port
/	NC	31	32	NC	/
Tri-color LED	STA_LEDB-	33	34	STA_LEDR-	Tri-color LED
Test button	TEST_INPUT_KEY	35	36	STA_LEDG-	Running indicator
Ground	GND	37	38	GND	Ground
Row decoding signal	A	39	40	DCLK	Shift clock signal
Row decoding signal	B	41	42	DCLK2	Shift clock signal

JH2					
Row decoding signal	C	43	44	LAT	Latch output signal
Row decoding signal	D	45	46	CTRL	Afterglow control signal
Row decoding signal	E	47	48	OE_RED	Display enable signal
Display enable signal	OE_BLUE	49	50	OE_GREEN	Display enable signal
Ground	GND	51	52	GND	Ground
/	Data2	53	54	Data1	/
/	Data4	55	56	Data3	/
/	Data6	57	58	Data5	/
/	Data8	59	60	Data7	/
/	Data10	61	62	Data9	/
/	Data12	63	64	Data11	/
Ground	GND	65	66	GND	Ground
/	Data14	67	68	Data13	/
/	Data16	69	70	Data15	/
/	Data18	71	72	Data17	/
/	Data20	73	74	Data19	/
/	Data22	75	76	Data21	/
/	Data24	77	78	Data23	/
Ground	GND	79	80	GND	Ground
/	Data26	81	82	Data25	/
/	Data28	83	84	Data27	/
/	Data30	85	86	Data29	/
/	Data32	87	88	Data31	/
/	Data34	89	90	Data33	/
/	Data36	91	92	Data35	/

JH2					
Ground	GND	93	94	GND	Ground
/	Data38	95	96	Data37	/
/	Data40	97	98	Data39	/
/	Data42	99	100	Data41	/
/	Data44	101	102	Data43	/
/	Data46	103	104	Data45	/
/	Data48	105	106	Data47	/
Ground	GND	107	108	GND	Ground
Reserved	FPGA_RFU_IO4	109	110	FPGA_RFU_IO8	Reserved
Reserved	FPGA_RFU_IO3	111	112	FPGA_RFU_IO7	Reserved
Reserved	FPGA_RFU_IO2	113	114	FPGA_RFU_IO6	Reserved
Reserved	FPGA_RFU_IO1	115	116	FPGA_RFU_IO5	Reserved
Ground	GND	117	118	GND	Ground
Ground	GND	119	120	GND	Ground

Note

The recommended power input is 5.0 V.

OE_R, OE_G and OE_B are display enable signals. When RGB are not controlled separately, use OE_R. When the PWM chip is used, those pins are used as GCLK pins.

In the mode of 128 groups of serial data, Data65–Data128 are multiplexed into Data1–Data64, respectively.

Reference Design for Extended Functions

Pins for Extended Functions			
Pin	Recommended Module Flash Pin	Recommended Smart Module Pin	Description
RFU4	HUB_SPI_CLK	(Reserved)	Clock signal of serial pin
RFU6	HUB_SPI_CS	(Reserved)	CS signal of serial pin
RFU8	HUB_SPI_MOSI	/	Module flash data storage input

Pins for Extended Functions			
	/	HUB_UART_TX	Smart module TX signal
RFU10	HUB_SPI_MISO	/	Module flash data storage output
	/	HUB_UART_RX	Smart module RX signal
RFU1	Reserved		A reserved pin for connection to MCU
RFU2	Reserved		A reserved pin for connection to MCU
RFU3	HUB_CODE0		Module Flash BUS control pin
RFU5	HUB_CODE1		
RFU7	HUB_CODE2		
RFU9	HUB_CODE3		
RFU11	HUB_H164_CSD		74HC164 data signal
RFU12	/		/
RFU13	HUB_H164_CLK		74HC164 clock signal
RFU14	POWER_STA1		Dual power supply detection signal 1
RFU15	MS_DATA		Dual card backup connection signal
RFU16	POWER_STA2		Dual power supply detection signal 2
RFU17	MS_ID		Dual card backup identifier signal
RFU18	HUB_CODE4		Flash control pin 5

Note

- The RFU8 and RFU10 are signal multiplex extension pins. Only one pin from either the Recommended Smart Module Pin or the Recommended Module Flash Pin can be selected at the same time.
- For hub design, please contact NovaStar for detailed reference designs.

Specifications

Maximum Resolution	For PWM driver ICs, the maximum load capacity per card is: • 512×512@60Hz (For 8bit and 10bit video sources) • 512×384@60Hz (For 12bit video sources)	
Electrical	Input voltage	DC 3.8 V to 5.5 V

Parameters	Rated current	0.8 A
	Rated power consumption	4.0 W
	Anti-static Protection	2 kV
Operating Environment	Temperature	-20°C to +70°C
	Humidity	10% RH to 90% RH, non-condensing
Storage Environment	Temperature	-40°C to +85°C
	Humidity	0% RH to 95% RH, non-condensing
Physical Specifications	Dimensions	80.0 mm × 45.0 mm × 8.2 mm
	Net weight	22.8 g Note: It is the weight of a single receiving card only.
Packing Information	Packaging	Each receiving card is packaged in a blister pack. Each packing box contains 80 receiving cards.
	Packing box	392.0 mm × 200.0 mm × 123.0 mm

Actual power consumption may vary depending on product settings, usage, environmental conditions, and other factors.

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