



FPGA Receiving Card BH 320

Product Specifications

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1. Product Overview

Product Introduction -

BH 320 is a receiving card that specially designed for small pixel pitch led display and is fully researched and developed by **METTA STAR**; it adopted 8x HUB320 (26PIN) interfaces; it can supports the maximum 32 groups of the parallel connection data; the maximum loading capacity could reach up to 512*640 pixels; with strong processing ability, supper reliability and high competitive price.

Product Features

- Ø It has the MCU design, which has improved the the flexibility of the product application.
- Ø It supports the hardware online reset function Ø With strong LED Driver IC compatibility.
- Ø It has the function to read the information of the module
- Ø It supports to monitor the power status and detect the temperature

Application Scenarios -

It could be widely used for high-end fine pixel pitch LED display area that requires high standards; and has significant advantages in application scenarios such as led rental display, TV Broadcast, LED display for respectable Event, High-end project, etc

2. Function Introduction

Displaying Effect

It supports pixel level brightness and Chroma Calibration -

Using it with the METTA STAR Calibration Software to calibrate each one of the pixels on its brightness and Chroma. It can effectively eliminate the Chromatic aberration so as to enhance its consistency of the brightness and Chroma to a high level and result in a better displayed effects.

Multiple Solutions of the Displayed Effects are Supported -

Using it with MS COMMANDER Software, the Refresh and Grey Scale performances are able to take the precedence over other settings.

The Images on the led screen can be rotated 90 degree in a factor of multiple times -

Using it with MS COMMANDER Software.

The images can be zoomed in or out -

Using it with MS COMMAMDER Software.

Enhanced Operability

The Receiving Card is Supported to detect its own Sequence number -

Using the Network Port testing function on MS COMMANDER Software, the receiving card serial number and the Network Port Information will be displayed on the target cabinet. Users will be able to get to know the locations of the receiving cards as well as its Connection diagram.

Data Port User-Defined is supported - Using it with the MS COMMANDER Software, you can detect and edit the output data of the receiving cards.

To build up a complicated cabinet is supported -

On MS COMMANDER Software, there is 'Advanced Setting', from here you can quickly arrange or structure the modules at your option.

To structure a complicated Led Screen is supported - On MS COMMANDER Software, there is a "Complicated Led Screen Connection", from here you can quickly arrange or structure the cabinet modules on your option.

Hardware Stability

Ethernet Cable Backup(Hot Backup) - The main cable will be having the loop connection. If there's one cable breaks then still there will have another one to make sure the led display work properly.

The receiving card can read the configuration data back from where it has been stored -

You will be able to do this on MS COMMANDER Software.

It supports to detect the error rates of the network cable - On the MS COMMANDER Software, you can detect the network cable connectivity in real time to tell the condition of the network cables, so that you can get rid of any errors immediately.

Dual Power Supplies Backup is supported - Two Power Supplies can be connected simultaneously and the working status can be detected. Whenever there's a power supply failure, it can be detected, the system then will automatically decrease the brightness of the led screen so that it can still keep working properly.

It supports to detect the voltage, Temperature and Power (customized) - It will detects the voltage status of the receiving cards .The operating temperature of the receiving cards could be detected. The power status of the power supplies could be detected.

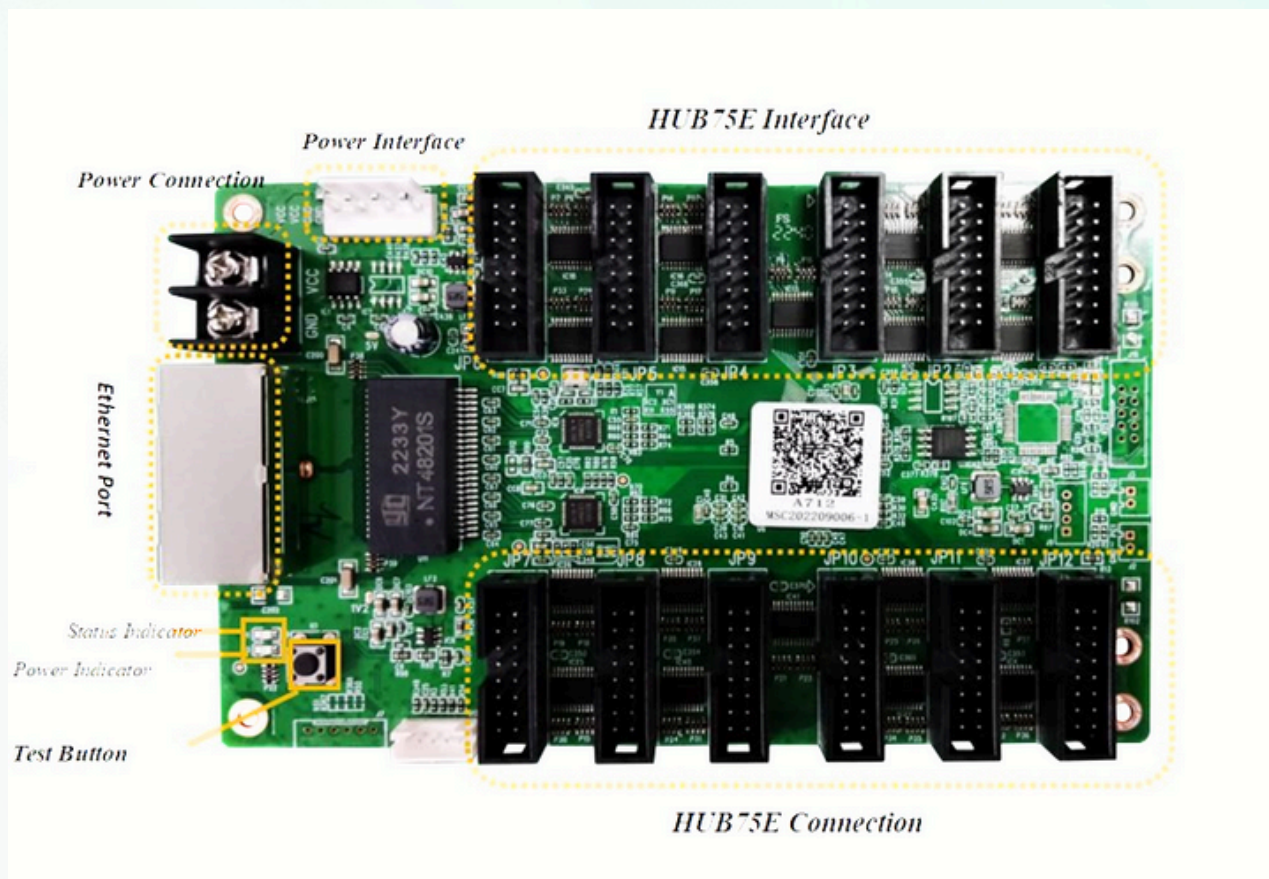
3. Product Parameters

RGB Parallel	Data Ports/Interfaces/QTY	Driver IC	The Maximum Loading Capacity (Pixels)	Loading Capacity After lightness Calibrating (Pixels)	Loading Capacity after Color Calibrating (Pixels)
24 Groups	HUB75E/12	Conventional	512*320	512*256	256*320
		PWM	512*384	512*256	256*320

Basic Parameters -

- Single Network Pot Cascading Quantity - ≤1000PCS
- Scanning Lines Supported - 1-64 Scan

Hardware Introduction



Output Port Definition

Port Definition of the 24 Groups of parallel connection data -

IP4 R7 1 G7 2 B7 3 WE4 4 R8 5 G8 6 B8 7 HE2 8 HA2 9 HB2 10 HC2 11 HD2 12 CLK4 13 LAT4 14 OE4 15 GND 16 CON16	IP3 R5 1 G5 2 B5 3 WE3 4 R6 5 G6 6 B6 7 HE2 8 HA2 9 HB2 10 HC2 11 HD2 12 CLK3 13 LAT3 14 OE3 15 GND 16 CON16	IP2 R3 1 G3 2 B3 3 WE2 4 R4 5 G4 6 B4 7 HE1 8 HA1 9 HB1 10 HC1 11 HD1 12 CLK2 13 LAT2 14 OE2 15 GND 16 CON16	IP1 R1 1 G1 2 B1 3 WE1 4 R2 5 G2 6 B2 7 HE1 8 HA1 9 HB1 10 HC1 11 HD1 12 CLK1 13 LAT1 14 OE1 15 GND 16 CON16
IP8 R15 1 G15 2 B15 3 WE8 4 R16 5 G16 6 B16 7 HE4 8 HA4 9 HB4 10 HC4 11 HD4 12 CLK8 13 LAT8 14 OE8 15 GND 16 CON16	IP7 R13 1 G13 2 B13 3 WE7 4 R14 5 G14 6 B14 7 HE4 8 HA4 9 HB4 10 HC4 11 HD4 12 CLK7 13 LAT7 14 OE7 15 GND 16 CON16	IP6 R11 1 G11 2 B11 3 WE6 4 R12 5 G12 6 B12 7 HE3 8 HA3 9 HB3 10 HC3 11 HD3 12 CLK6 13 LAT6 14 OE6 15 GND 16 CON16	IP5 R9 1 G9 2 B9 3 WE5 4 R10 5 G10 6 B10 7 HE3 8 HA3 9 HB3 10 HC3 11 HD3 12 CLK5 13 LAT5 14 OE5 15 GND 16 CON16
IP9 R17 1 G17 2 B17 3 WE9 4 R18 5 G18 6 B18 7 HE5 8 HA5 9 HB5 10 HC5 11 HD5 12 CLK9 13 LAT9 14 OE9 15 GND 16 CON16	IP10 R19 1 G19 2 B19 3 WE10 4 R20 5 G20 6 B20 7 HE5 8 HA5 9 HB5 10 HC5 11 HD5 12 CLK10 13 LAT10 14 OE10 15 GND 16 CON16	IP11 R21 1 G21 2 B21 3 WE11 4 R22 5 G22 6 B22 7 HE6 8 HA6 9 HB6 10 HC6 11 HD6 12 CLK11 13 LAT11 14 OE11 15 GND 16 CON16	IP12 R23 1 G23 2 B23 3 WE12 4 R24 5 G24 6 B24 7 HE6 8 HA6 9 HB6 10 HC6 11 HD6 12 CLK12 13 LAT12 14 OE12 15 GND 16 CON16

JP1-JP12 PIN Definition -

Illustration	Definition	PIN#	PIN#	Definition	Illustration
RGB Data Output	R	1	2	G	RGB Data Output
	B	3	4	GND	GND
	R	5	6	G	RGB Data Output
	B	7	8	HE	Line Decoding Signal
Line Decoding Signal	HA	9	10	HB	
	HC	11	12	HD	
Shift Clock Output	CLK	13	14	LAT	Latch Signal
Display Enable (Remarks 1)	OE	15	16	GND	GND

Remarks 1:

Pin # 15 is the display enable pin. And When using the PWM chip it will be the GCLK Signal.

• **JP11 PIN Definition -**

Definition	PIN#	PIN#	Definition
+5V	1	2	GND
FLS_CS	3	4	FLS_DO
FLS_CLK	5	6	FLS_DI
PROGRAM_B	7	8	mCONF_DONE
GND	9	10	+5V

• **J12 Indicator PIN Definition:**

PIN#	1	2	3	4	5
Definition	GND/KEY-	KEY+	LEDR-	VCC/LED+	LEDG-

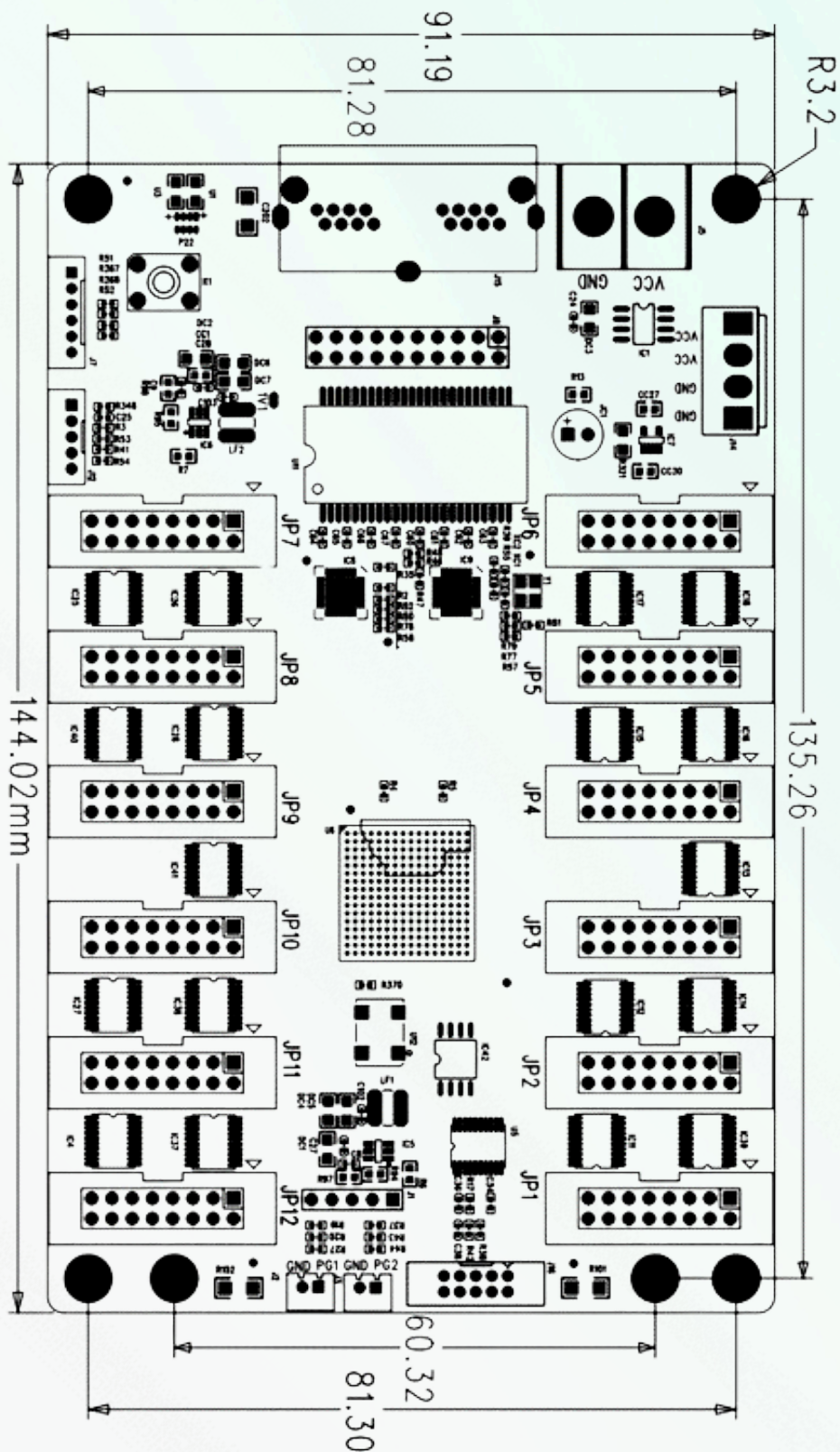
• **J14 Socket PIN Definition:**

PIN#	1	2	3	4
Definition	VCC	VCC	GND	GND

Indicator Illustration -

Indicator	Position	Status	Illustration
Status Indicator (Green)	U1	Flickering Slowly at a constant	The receiving card is working properly, The Ethernet Cable Connection is fine, No DVI Signal Input
		Flickering Fast at a constant	The receiving card is working properly, The Ethernet Cable Connection is fine, with DVI Signal Input.
		It goes out	No Gigabit Ethernet Signal
		Fast Flickering 3 Tunes	The receiving card is working properly, The Ethernet Cable Loop Connection is fine, DVI Signal Input
Status Indicator	U3	Long Lasting On	Power is On

Dimensions -



4.Product Specifications

Specifications

Electric Parameters	Input Voltage	DC3.5-5.5V
	Rated Current	0.6A
	Rated Power	3W
Operating Environment	Operating Temperature	-20°C - 70°C
	Operating Humidity	10%RH-90%RH
Storage Environment	Temperature	-25°C~125°C
Dimensions	144.02mmX91.19mm	
Net Weight	100.8g	
Certifications	It conforms to RoHS and CE-EMC standards.	

PRECAUTIONS -

- **Safety: Follow standard safety practices when working with electrical equipment, such as wearing appropriate protective gear and avoiding contact with exposed electrical connections.**
- **The testing (debugging) and installation should be done by the qualified professionals.**

THANK YOU FOR CHOOSING METTA STAR PRODUCT.