# SYSOLUTION

# FPGA Receive Card D70-8

**Product Datasheet**

Version：Ver.1.0

## Statement

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# Update Record

| No. | Version | Details | Date |
|-----|---------|---------|------|
| 1 | Ver.1.0 | Initial | 2022.01.10 |

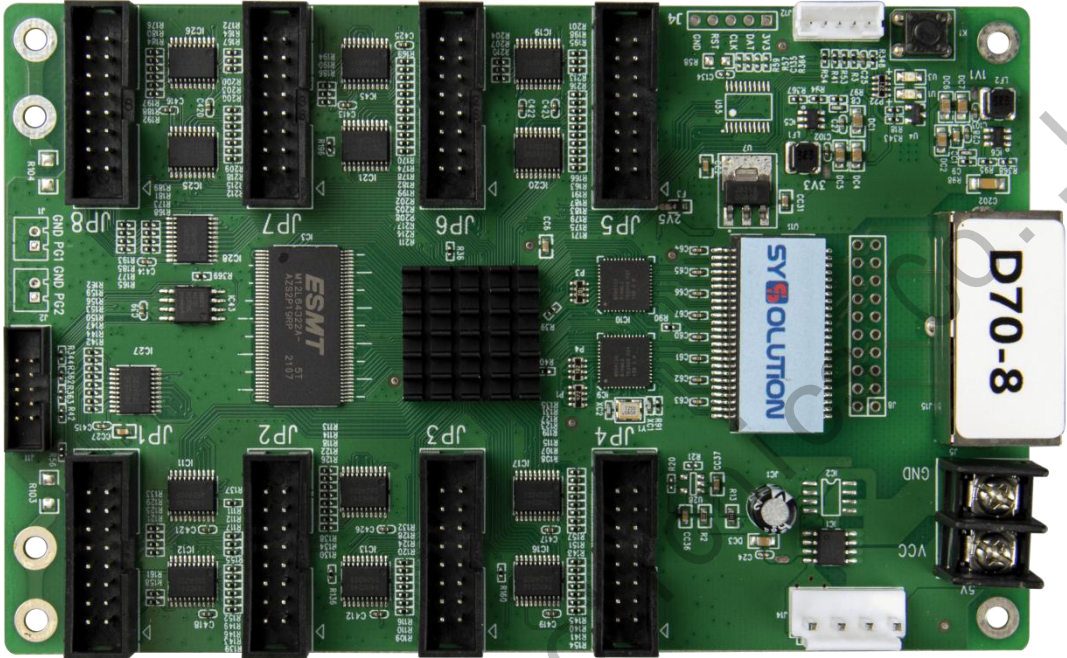Note: The document is subject to change without prior notice.

# Product Introduction

D70-8 is a standard receiving card independently developed and launched by Xixun Technology. It adopts 8 standard HUB75E interfaces and supports up to 16 groups of RGB parallel data; The load capacity is up to 256X512 pixels; It has strong processing capacity, super stable performance and high cost performance.

**Application Scenarios**

It can be widely used in high-end display fields with high requirements, and has significant advantages in application scenarios such as rental LED screens, TV live broadcasts, large-scale event LED screens, and high-end engineering channel projects.

# Product Pictures

# Interface Annotation

Indicator Port

Test Button

Status Indicator

Power Indicator

HUB75E
interface × 8

Gigabit
Ethernet port

D70-8

Power Interface

Power Interface
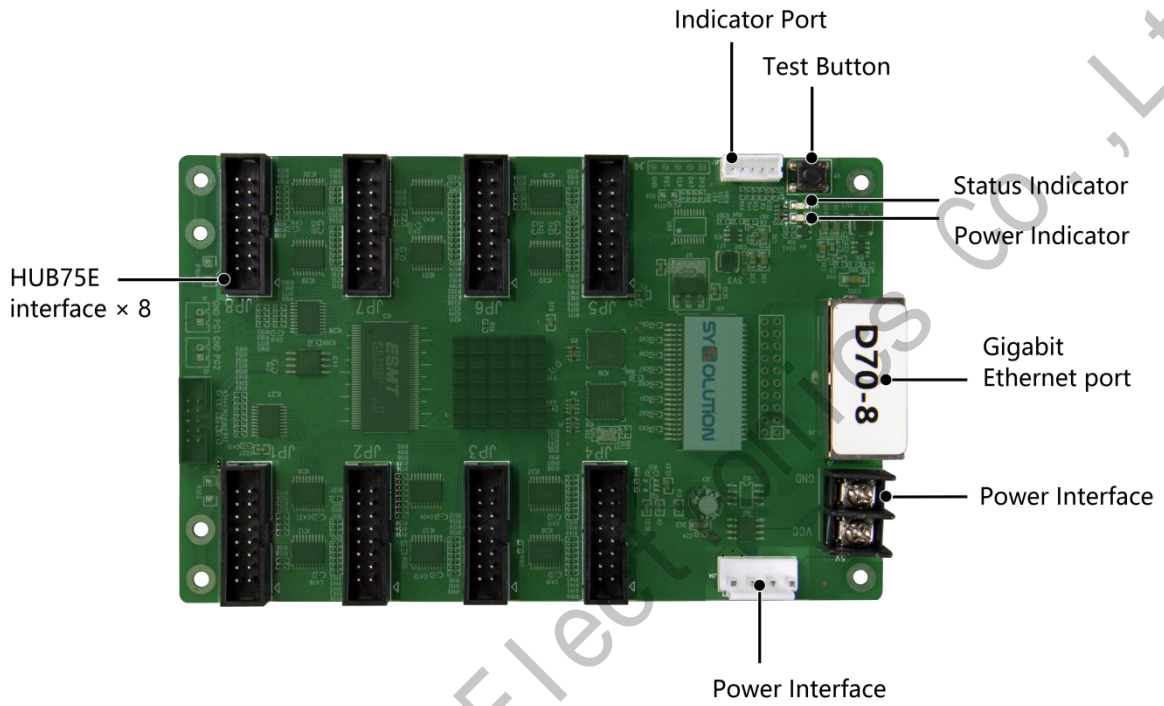
# Load Capacity

| Three parallel lines（RGB） | Maximum load （Pixel） | Brightness correction band load（Pixel） | Chromatic correction with load（Pixel） |
|---|---|---|---|
| 16 group | 512*256 | 512*256 | 512*160 |

| Number of cascade cards | Support scan line | | |
|---|---|---|---|
| ≤1000PCS | 1-64 scan | | |

# Function Definition

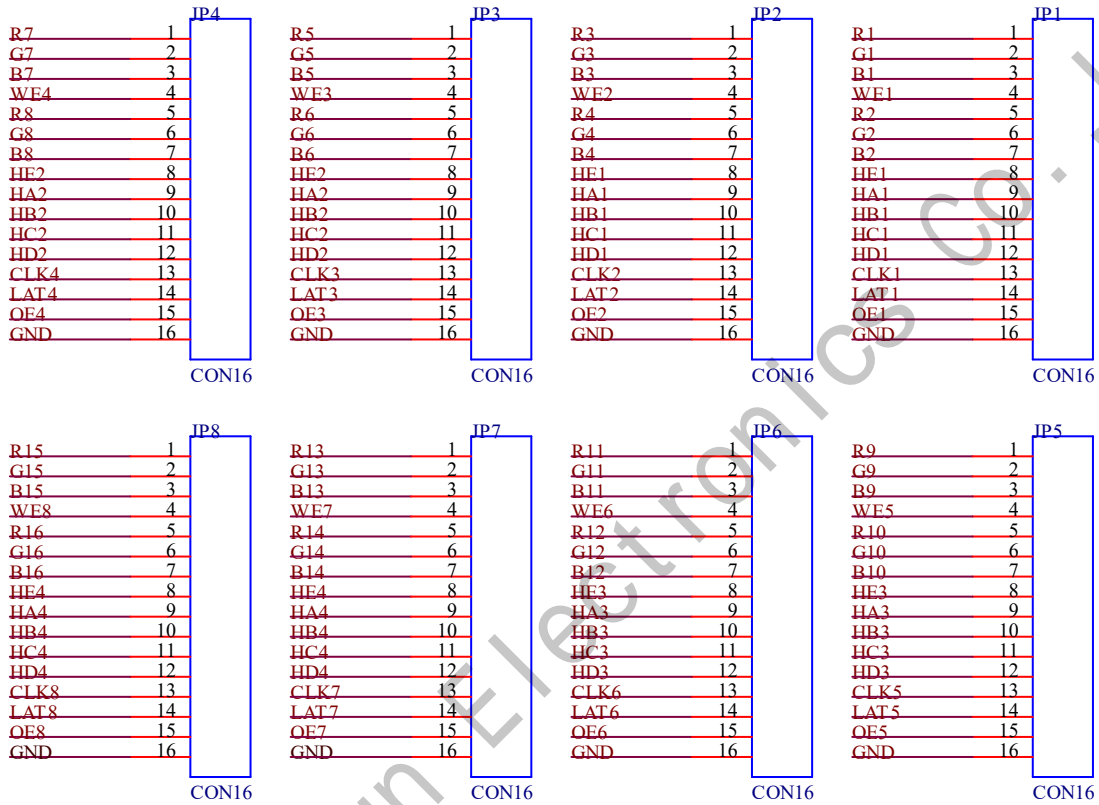| Function | Instructions |
|---|---|
| **Improve Display Effect** | 1. Support multiple display effects schemes：With LedSet3.0 software to achieve refresh priority and grayscale priority effects.<br><br>2. Support screen rotation by 90 degree times：With the LedSet3.0 software to realize, it can rotate the screen of the receiving card by 90 degree times.<br><br>3. Support screen zoom function: With LedSet3.0 software, the receiving card pixels can be scaled by multiples, and the screen can be enlarged and reduced. |
| | 1. Support receiving card serial number detection: Cooperate with the network debugging function of LedSet3.0 software, the receiving card number and network port information will be displayed on the target box, and the user can obtain the location number and connection line of the |

| | |
|---|---|
| **Improve operation** | receiving card.<br><br>2. Support data interface customization : With LedSet3.0 software, the output data of the receiving card can be detected and edited.<br><br>3. Support the construction of complex cabinets: In the advanced layout of LedSet3.0 software, cabinet modules can be quickly arranged and constructed arbitrarily.<br><br>4. Support the construction of complex large screen: in the complex display connection of LedSet3.0 software, the cabinet can be quickly arranged and constructed arbitrarily. |
| **Improve Hardware Stability** | 1. Network cable loop backup: The network port is connected through the main and backup network cable loops to increase the reliability of receiving cards in series. In the main and standby series lines, when one of them fails, the other can ensure the normal display of the screen. |
| | 1. Support receiving card configuration parameter read back: The current receiving card configuration parameters can be read back on |

| | |
|---|---|
| **Intelligent Software Upgrade** | LedSet3.0.<br><br>2. Support network cable bit error rate detection: LedSet3.0 can monitor the quality of the network cable communication signal connected to the system hardware in real time, so as to quickly judge the quality of the network cable and eliminate faults.<br><br>3. Communication monitoring function: Real-time monitoring of the working status of the receiving card on LedSet3.0. |

# Output Interface Definition

## 16 Parallel Data Interface Definitions

**JP4 (CON16)**
| Pin | Signal | | Pin | Signal |
|-----|--------|---|-----|--------|
| 1 | R7 | | 9 | HA2 |
| 2 | G7 | | 10 | HB2 |
| 3 | B7 | | 11 | HC2 |
| 4 | WE4 | | 12 | HD2 |
| 5 | R8 | | 13 | CLK4 |
| 6 | G8 | | 14 | LAT4 |
| 7 | B8 | | 15 | OE4 |
| 8 | HE2 | | 16 | GND |

**JP3 (CON16)**
| Pin | Signal | | Pin | Signal |
|-----|--------|---|-----|--------|
| 1 | R5 | | 9 | HA2 |
| 2 | G5 | | 10 | HB2 |
| 3 | B5 | | 11 | HC2 |
| 4 | WE3 | | 12 | HD2 |
| 5 | R6 | | 13 | CLK3 |
| 6 | G6 | | 14 | LAT3 |
| 7 | B6 | | 15 | OE3 |
| 8 | HE2 | | 16 | GND |

**JP2 (CON16)**
| Pin | Signal | | Pin | Signal |
|-----|--------|---|-----|--------|
| 1 | R3 | | 9 | HA1 |
| 2 | G3 | | 10 | HB1 |
| 3 | B3 | | 11 | HC1 |
| 4 | WE2 | | 12 | HD1 |
| 5 | R4 | | 13 | CLK2 |
| 6 | G4 | | 14 | LAT2 |
| 7 | B4 | | 15 | OE2 |
| 8 | HE1 | | 16 | GND |

**JP1 (CON16)**
| Pin | Signal | | Pin | Signal |
|-----|--------|---|-----|--------|
| 1 | R1 | | 9 | HA1 |
| 2 | G1 | | 10 | HB1 |
| 3 | B1 | | 11 | HC1 |
| 4 | WE1 | | 12 | HD1 |
| 5 | R2 | | 13 | CLK1 |
| 6 | G2 | | 14 | LAT1 |
| 7 | B2 | | 15 | OE1 |
| 8 | HE1 | | 16 | GND |

**JP8 (CON16)**
| Pin | Signal | | Pin | Signal |
|-----|--------|---|-----|--------|
| 1 | R15 | | 9 | HA4 |
| 2 | G15 | | 10 | HB4 |
| 3 | B15 | | 11 | HC4 |
| 4 | WE8 | | 12 | HD4 |
| 5 | R16 | | 13 | CLK8 |
| 6 | G16 | | 14 | LAT8 |
| 7 | B16 | | 15 | OE8 |
| 8 | HE4 | | 16 | GND |

**JP7 (CON16)**
| Pin | Signal | | Pin | Signal |
|-----|--------|---|-----|--------|
| 1 | R13 | | 9 | HA4 |
| 2 | G13 | | 10 | HB4 |
| 3 | B13 | | 11 | HC4 |
| 4 | WE7 | | 12 | HD4 |
| 5 | R14 | | 13 | CLK7 |
| 6 | G14 | | 14 | LAT7 |
| 7 | B14 | | 15 | OE7 |
| 8 | HE4 | | 16 | GND |

**JP6 (CON16)**
| Pin | Signal | | Pin | Signal |
|-----|--------|---|-----|--------|
| 1 | R11 | | 9 | HA3 |
| 2 | G11 | | 10 | HB3 |
| 3 | B11 | | 11 | HC3 |
| 4 | WE6 | | 12 | HD3 |
| 5 | R12 | | 13 | CLK6 |
| 6 | G12 | | 14 | LAT6 |
| 7 | B12 | | 15 | OE6 |
| 8 | HE3 | | 16 | GND |

**JP5 (CON16)**
| Pin | Signal | | Pin | Signal |
|-----|--------|---|-----|--------|
| 1 | R9 | | 9 | HA3 |
| 2 | G9 | | 10 | HB3 |
| 3 | B9 | | 11 | HC3 |
| 4 | WE5 | | 12 | HD3 |
| 5 | R10 | | 13 | CLK5 |
| 6 | G10 | | 14 | LAT5 |
| 7 | B10 | | 15 | OE5 |
| 8 | HE3 | | 16 | GND |

## JP1—JP8 Data Interface Definition

| Definition | Pin | Pin | Definition |
|------------|-----|-----|------------|
| R | 1 | 2 | G |
| B | 3 | 4 | GND |
| R | 5 | 6 | G |
| B | 7 | 8 | GND |
| R | 9 | 10 | G |
| B | 11 | 12 | GND |

| R | 13 | 14 | G |
|---|---|---|---|
| B | 15 | 16 | GND |
| OUT_A1 | 17 | 18 | OUT_B1 |
| OUT_C1 | 19 | 20 | OUT_D1 |
| OUT_E1 | 21 | 22 | GND |
| OUT_CLK1 | 23 | 24 | OUT_LA1 |
| OUT_OE1 | 25 | 26 | GND |

### J6 Interface Definition

| Pin | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Definition | GND | SWCLK | SWDIO | +3.3V |

### J11Interface Definition

| Definition | VBB | GND | FLS_CS | FLS_DO | FLS_CLK |
|---|---|---|---|---|---|
| Pin | 1 | 2 | 3 | 4 | 5 |
| Pin | 10 | 9 | 8 | 7 | 6 |
| Definition | VBB | GND | mCONF_DONE | PROGRAM_B | FLS_DI |

### J12 Indicator Port Definition

| Pin | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Definition | GND/KEY- | KEY+ | LEDR- | VCC/LED+ | LEDG- |

### J13 Power Socket Definition

| Pin | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Definition | VCC | VCC | GND | GND |

# Indicator Description

| Indicator | Location | State | Description |
|---|---|---|---|
| Status indicator (green) | U6 | Flashes evenly and slowly | The receiving card works normally, the network cable is connected normally, and there is no DVI signal input. |
| | | Flashes evenly and quickly | The receiving card works normally, the network cable is connected normally, and there is no DVI signal input. |
| | | Off | No Gigabit network signal |
| | | Flash 3 times at intervals | The receiving card works normally, the network cable loop is connected, and there is DVI signal input. |
| Status indicator (red) | U5 | On | Normal power supply |

# Dimensions
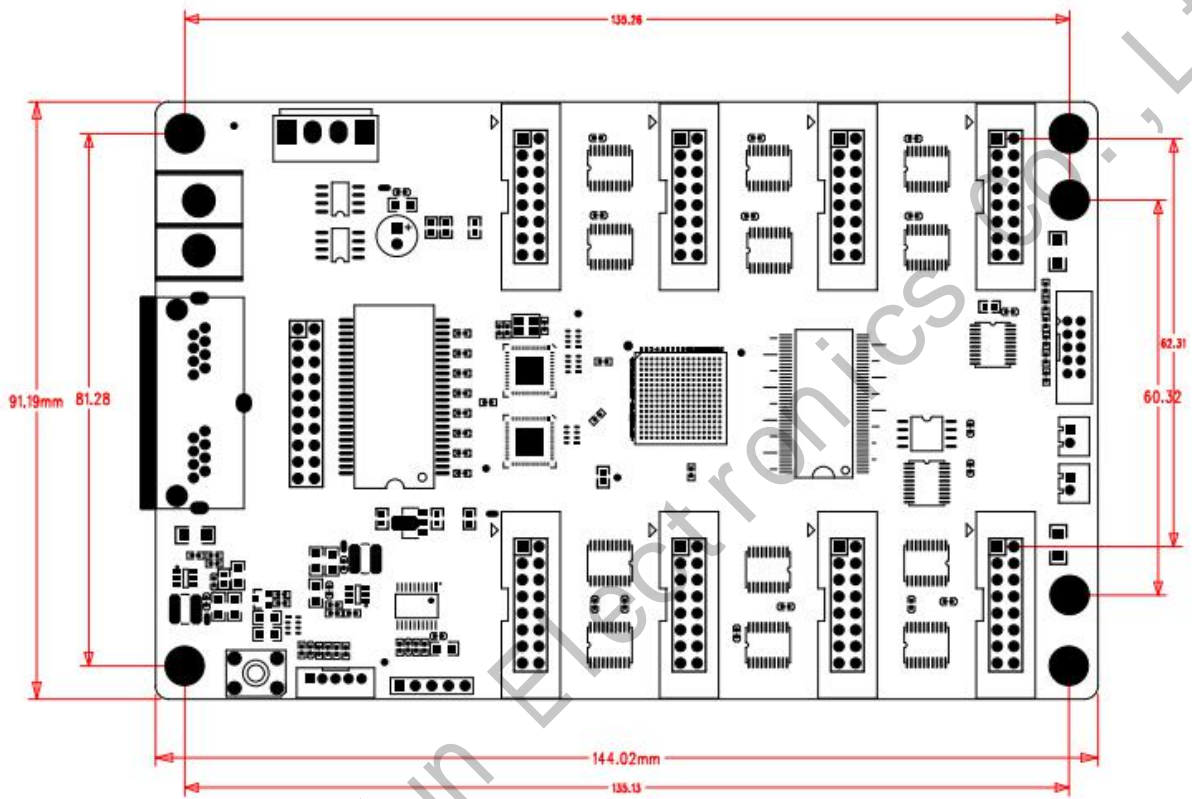


Unit：mm

# Working Parameters

| | | |
|---|---|---|
| Electrical parameters | Input voltage | DC3.5-5.5V |
| | Rated current | 0.6A |
| | Rated power | 3W |
| Working environment | Working temperature | -20℃ - 70℃ |
| | Working humidity | 10%RH-90%RH |
| Storage environment | Temperature | -25℃ ~ 125℃ |
| Board size | 144.02mmX91.19mm | |
| Net weight | 82.1g | |
| Certification Information | RoHS , CE-EMC | |

# Note

1．The installation process must be completed by professionals.

2．Must prevent static electricity.

3．Please pay attention to waterproof and dust removal.