SYSOLUTION

FPGA Receiving Card

D60-12

Product specification

Version：Ver.1.0

Statement

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Update Record

NO.	Version No.	Upadates	Revision Date
1	Ver.1.0	Initial issue	2022.11.09

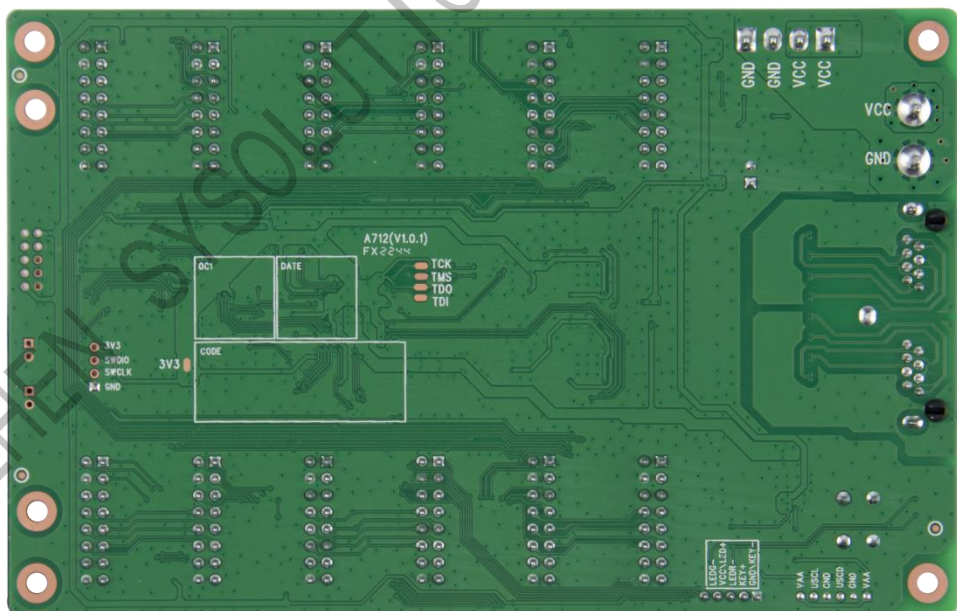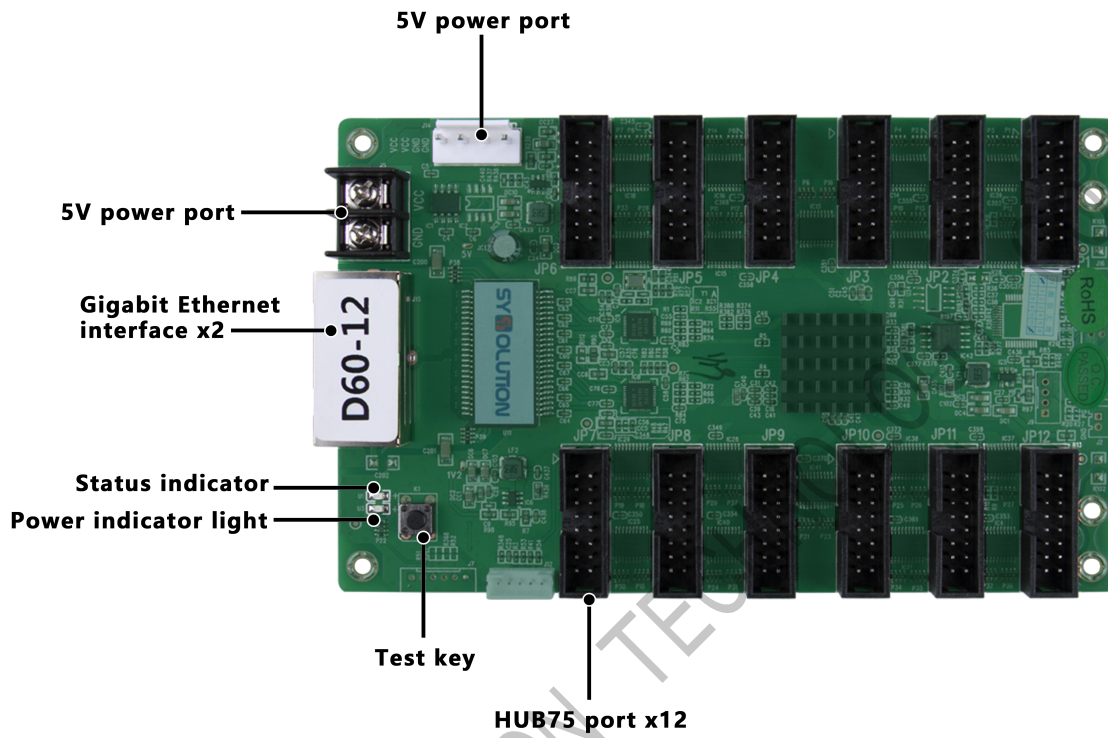The document is subject to change without prior notice.

Product Introduction

D60-12 is a standard receiving card launched by Xixun Technology. It adopts 12standard

HUB75E interfaces and supports up to 24 groups of RGB parallel data. Load up to 512X384

pixels; It has strong processing capacity, super stable performance and high cost performance.

Application scenarios

It can be widely used in the high-end display field with high requirements, and has

significant advantages in the application scenarios such as LED screen rental, TV live broadcast,

LED screen for large-scale activities, and high-end engineering channel projects.

Product Picture

5V power port

5V power port

Gigabit Ethernet interface x2

Status indicator

Power indicator light

Test key

HUB75 port x12

Load Capacity

Three parallel lines (RGB)	Data interface/quantity	Drive	Maximum load (Pixels)	Brightness correction band load (Pixel)	Chromaticity correction with load (Pixels)
24 group	HUB75E/12	Routine	512*320	512*256	256*320
		PWM	512*384	512*256	256*320

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

Function Definition

Function	Instructions
Improved Display Effect	1. Support by lighting chrominance correction: with the correction software, the brightness and chrominance of each light point on the large screen can be corrected, effectively eliminating color difference, so that the brightness and chrominance of the display can reach a high degree of consistency, and improve the picture quality of the display. 2. Support multiple display effects schemes：With LedSet4.0 software to achieve refresh priority and grayscale priority effects. 3. Support screen rotation by 90° multiple：With the LedSet4.0 software to realize, it can rotate the screen of the receiving card by 90° multiple. 4. Support screen zoom function：With LedSet4.0 software, the receiving card pixelscan be scaled by multiples, and the screen can be enlarged and reduced.

Improved Operability	1. Support receiving card serial number detection：Cooperate with the network debugging function of LedSet4.0 software, thereceiving card number and network portinformation will be displayed on the target box, and the user can obtain the location number andconnection line of thereceiving card.
	2. Support data interface customization： With LedSet 3.0 software, the output data of the receiving card can be detected and edited.
	3. Supports the construction of complex box： With the advanced layout of LedSet4.0 software, you can quickly arrange andstructure the box modules.
	4. Supports the construction of complex large screens：In the complex display connection with LedSet4.0 software, the boxes can be quickly arranged and structured arbitrarily.
Improved Hardware Stability	1. Network port hot backup：Network ports increase the reliability of serial connectionof the receiving card through the loop connection of the main and standby network cables. When one

	of the main and standby series lines fails, the other can ensure the normal display of the screen.
	2. Support hardware reset function：The receiving card can restart the online hardware by itself after the hardware online upgrade is completed.
Intelligent Software Upgrade	1. Support receiving card configuration parameter readback：Can read back the current receiving card configuration parameters on LedSet 3.0.
	2. Support network cable bit error rate detection：On LedSet 3.0, the quality of the network cable communication signal connected to the system hardware can be monitored in real time to quickly judge the quality of the network cable and troubleshoot.
	3. Communication monitoring function：Monitor the working status of the receiving card in real time on LedSet 3.0.

Output Interface Definition

24 parallel data interface definitions

JP4		JP3		JP2		JP1	
R7	1	R5	1	R3	1	R1	1
G7	2	G5	2	G3	2	G1	2
B7	3	B5	3	B3	3	B1	3
WE4	4	WE3	4	WE2	4	WE1	4
R8	5	R6	5	R4	5	R2	5
G8	6	G6	6	G4	6	G2	6
B8	7	B6	7	B4	7	B2	7
HE2	8	HE2	8	HE1	8	HE1	8
HA2	9	HA2	9	HA1	9	HA1	9
HB2	10	HB2	10	HB1	10	HB1	10
HC2	11	HC2	11	HC1	11	HC1	11
HD2	12	HD2	12	HD1	12	HD1	12
CLK4	13	CLK3	13	CLK2	13	CLK1	13
LAT4	14	LAT3	14	LAT2	14	LAT1	14
OE4	15	OE3	15	OE2	15	OE1	15
GND	16	GND	16	GND	16	GND	16
CON16		CON16		CON16		CON16	

JP8		JP7		JP6		JP5	
R15	1	R13	1	R11	1	R9	1
G15	2	G13	2	G11	2	G9	2
B15	3	B13	3	B11	3	B9	3
WE8	4	WE7	4	WE6	4	WE5	4
R16	5	R14	5	R12	5	R10	5
G16	6	G14	6	G12	6	G10	6
B16	7	B14	7	B12	7	B10	7
HE4	8	HE4	8	HE3	8	HE3	8
HA4	9	HA4	9	HA3	9	HA3	9
HB4	10	HB4	10	HB3	10	HB3	10
HC4	11	HC4	11	HC3	11	HC3	11
HD4	12	HD4	12	HD3	12	HD3	12
CLK8	13	CLK7	13	CLK6	13	CLK5	13
LAT8	14	LAT7	14	LAT6	14	LAT5	14
OE8	15	OE7	15	OE6	15	OE5	15
GND	16	GND	16	GND	16	GND	16
CON16		CON16		CON16		CON16	

JP9		JP10		JP11		JP12	
R17	1	R19	1	R21	1	R23	1
G17	2	G19	2	G21	2	G23	2
B17	3	B19	3	B21	3	B23	3
WE9	4	WE10	4	WE11	4	WE12	4
R18	5	R20	5	R22	5	R24	5
G18	6	G20	6	G22	6	G24	6
B18	7	B20	7	B22	7	B24	7
HE5	8	HE5	8	HE6	8	HE6	8
HA5	9	HA5	9	HA6	9	HA6	9
HB5	10	HB5	10	HB6	10	HB6	10
HC5	11	HC5	11	HC6	11	HC6	11
HD5	12	HD5	12	HD6	12	HD6	12
CLK9	13	CLK10	13	CLK11	13	CLK12	13
LAT9	14	LAT10	14	LAT11	14	LAT12	14
OE9	15	OE10	15	OE11	15	OE12	15
GND	16	GND	16	GND	16	GND	16
CON16		CON16		CON16		CON16	

JP1——JP12 Data Interface Definition

Description	Definition	Pin	Pin	Definition	Description
RGB Data output	R	1	2	G	RGB Data output
	B	3	4	GND	ground
	R	5	6	G	RGB Data output

	B	7	8	HE	
Line decoding signal	HA	9	10	HB	Line decoding signal
	HC	11	12	HD	
Shift clock output	CLK	13	14	LAT	Latch signal output
Display enabl（remarks1）	OE	15	16	GND	ground

Note 1: Pin 15 is the display enable pin. When PWM chip is used, it is GCLK signal.

J16 Interface 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 interface definition

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

J14 Power socket definition

Pin	1	2	3	4
Definition	VCC	VCC	GND	GND

Indicator Description

Indicator	Location	State	Description
Status indicator (green)	U1	Flashes evenly and slowly	The receiving card works normally, the network cable is connected normally, and there is a DVI signal input.
		Flashes evenly and quickly	The receiving card works normally, the network cable is connected normally, and there is a DVI signal input.
		Off	No Gigabit signal
		3 flashes quickly at intervals	The receiving card works normally, the network cable circuit is in connection, and there is a DVI signal input.
Status indicator (red)	U3	On	Normal power supply

Dimensions
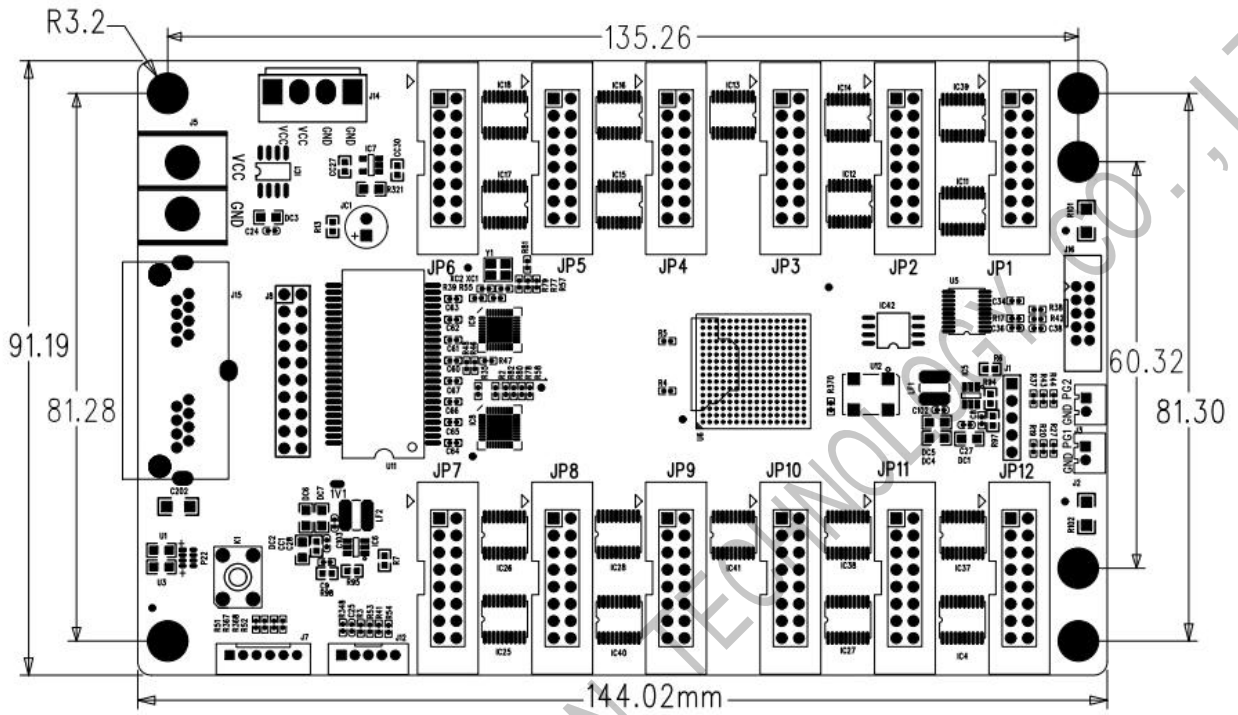
Unit：mm

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	Working temperature	-25℃～125℃
Board size	144.02mmX91.19mm	
Net weight	100.8g	
Certification Information	RoHS Compliant, CE-EMC Compliant	

Note

1. Must be used in accordance with this usage requirement.

2. Installation and commissioning must be done by professionals and must be anti-static.

3. Pay attention to waterproof and dust removal.