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# X20-3D

## Controller

### Specification V2.0

Colorlight Cloud Tech Ltd

## Overview

X20-3D is a controller possessing powerful video signal input and processing capacity. It supports 4K inputs with DP 1.4 and HDMI 2.0 connectors, and 2K inputs with HDMI 1.4 and DVI connectors, and the multiple signals can be seamlessly switched. A single unit features a loading capacity of 13 million pixels, with 16384 pixels in maximum width or 8192 pixels in maximum height. Equipped with 20 Gigabit Ethernet ports and 2 10G optical fiber ports, X20-3D is able to meet the need of different clients. Additionally, X20-3D boasts abundant practical functions that enable flexible screen control and high-quality image display.

## Features

- Input connectors: 1×DP 1.4, 1×HDMI 2.0, 2×HDMI 1.4, 2×DVI
- Loading capacity: 13 million pixels, maximum width: 16384 pixels, or maximum height: 8192 pixels
- Input resolution: up to 4096×2160@60Hz, supporting customized setting
- Output connectors: 20×Gigabit Ethernet port, 2×10G optical fiber port
- Supports video source switching, cropping, splicing and scaling
- Supports up to 6 windows, of which the location and size can be freely adjusted
- Supports precise color management and display gamut adjustment
- Supports video sync
- Separate audio input and output
- Support analyzing and outputting the audio signals of HDMI and DP inputs
- Support LAN control
- Support control via hand-held terminal (app)
- Support RS232 protocol control
- Support 3D
- Support HDCP
- Support brightness and color temperature adjustment

## Hardware

### Front Panel



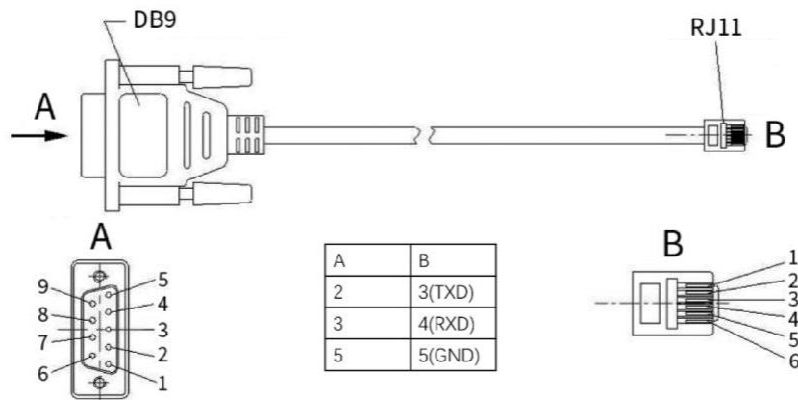
No.	Item	Function
1	LCD	Display the operation menu and system information
2	Knob	Turn the knob to select an item or adjust the parameter; press the knob to confirm your selection or adjustment
3	Function Key	OK: Enter key Bright: Brightness adjustment ESC: Exit the current menu or operation Black: Blackout Lock: Lock all the keys of the front panel Freeze: Freeze the image
4	Mode Key	HDMI 1/DP/3/HDMI 2/HDMI 3/DVI1/DVI2: Video source selection keys, which function as number selection keys in mode selection Signal: View the signals Mode: Output mode selection
5	Power Switch	Switch the device on or off

## Back Panel



Input Connector		
1	HDMI1(2.0)	1×HDMI 2.0
2	DP 1.4	1×DP 1.4
3	HDMI2, HDMI3	2×HDMI 1.4
4	DVI1, DVI2	2×DVI
Output Connector		
1	Port 1-20	RJ45, 20×Gigabit Ethernet port
2	Fiber1 Fiber2	Dual LC, 2×10G optical fiber port
Control Connector		
1	LAN	Network control (communication with PC, or access network)
2	RS232	RJ11(6P6C)*, connect to the third party device
3	USB OUT	USB output, for cascading with the controller
4	USB IN	USB input, connecting to PC for debugging
5	3D sync	Connect to the 3D emitter
Audio Connector		
1	AUDIO IN	Audio input, for inputting audio signals from the computer or other devices
2	AUDIO OUT	Audio output, for outputting audio signals to the speaker (Support outputting the audio signals of HDMI and DP)
Power Connector		
1	AC 100~240V	AC power connector, containing a built-in fuse

\*DB9 female to RJ11(6P6C) cable:



## Device Specifications

Model		X20-3D
Size		2U
Electrical Specifications	Input Voltage	AC100~240V, 50/60Hz
	Power Consumption	50W
Communication Distance	Ethernet Cable	Recommended: CAT5e≤100m
	Optical Fiber	Single-mode optical transceiver (optional): 2km, 20km
Operating Environment	Temperature	-20°C~70°C/-4°F~158°F
	Humidity	0%RH~80%RH, non-condensing
Storage Environment	Temperature	-30°C~80°C/-22°F~176°F
	Humidity	0%RH~90%RH, non-condensing
Device Specifications	Dimensions	W×H×L/482.6mm×88.0mm×414.1mm/19"×3.5"×16.3"
	Net Weight	4.8kg/10.58lbs
Packing Specifications	Dimensions	W×H×L/525.0×150.0×495.0mm <sup>3</sup> /20.7"×5.9"×19.5"
	Net Weight	6.6kg/14.55lbs

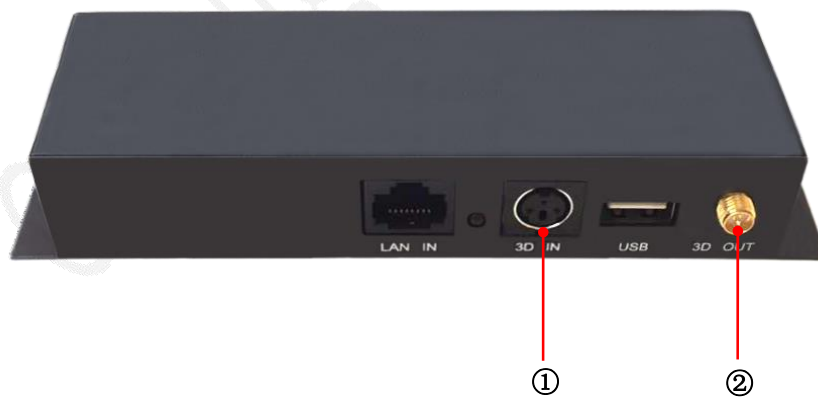
## Technical Specifications

HDMI 2.0(A)		
Standard	HDMI 2.0 specification, EIA/CEA-861 standard Backward compatible with HDMI 1.4 and HDMI 1.3	
Input	Format	
	8bit	RGB444
		YCbCr444
		YCbCr422
	Frame Rate	23.98/24/25/29.97/30/50/59.97/60/120/144Hz
Support audio input		
DP 1.4		
Standard	DP 1.4 specification, support EDID	
Input	Format	
	8bit	RGB444
		YCbCr444
		YCbCr422
	Frame Rate	23.98/24/25/29.97/30/50/59.97/60/120/144Hz
Support audio input		
HDMI 1.4		
Standard	HDMI 1.4 specification, HDCP1.4 compliant	
Input	Format	
	8bit	RGB444
		YCbCr444
		YCbCr422
	Frame Rate	23.98/24/25/29.97/30/50/59.97/60Hz
Support audio input		
DVI		
Standard	Support HDCP	
Input	Format	
	8bit	RGB444
		YCbCr444
		YCbCr422
Frame Rate	23.98/24/25/29.97/30/50/59.97/60Hz	

## System Connection Diagram



## 3D Emitter



No.	Name	Function	Remarks
1	3D IN	Connect to 3D sender to synchronize signals	Connected through VESA Cable
2	3D OUT	Connect to 3D transmitting antenna	

Specification	
Working Frequency	2.45G +- 500 MHz
Transmission Speed	100K Hz
Transmission Radius	80m (Unobstructed)
Transmit Power	0.1W MAX
Antenna Gain	2DB
Transmission Viewpoint	360°
Synchronous Mode	Time-Sync with Interval Sweep Mode
Working Temperature	-10°C~70°C
Working Humidity	10%~90% RH
Interface Supported	DIN3 3D synchronous interface
Working Voltage	DC 4.5V~5.5V
Working Current	40mA~100mA
Weight	0.17KG
Dimensions	151mm×50mm×25mm



## Active Shutter 3D Glasses



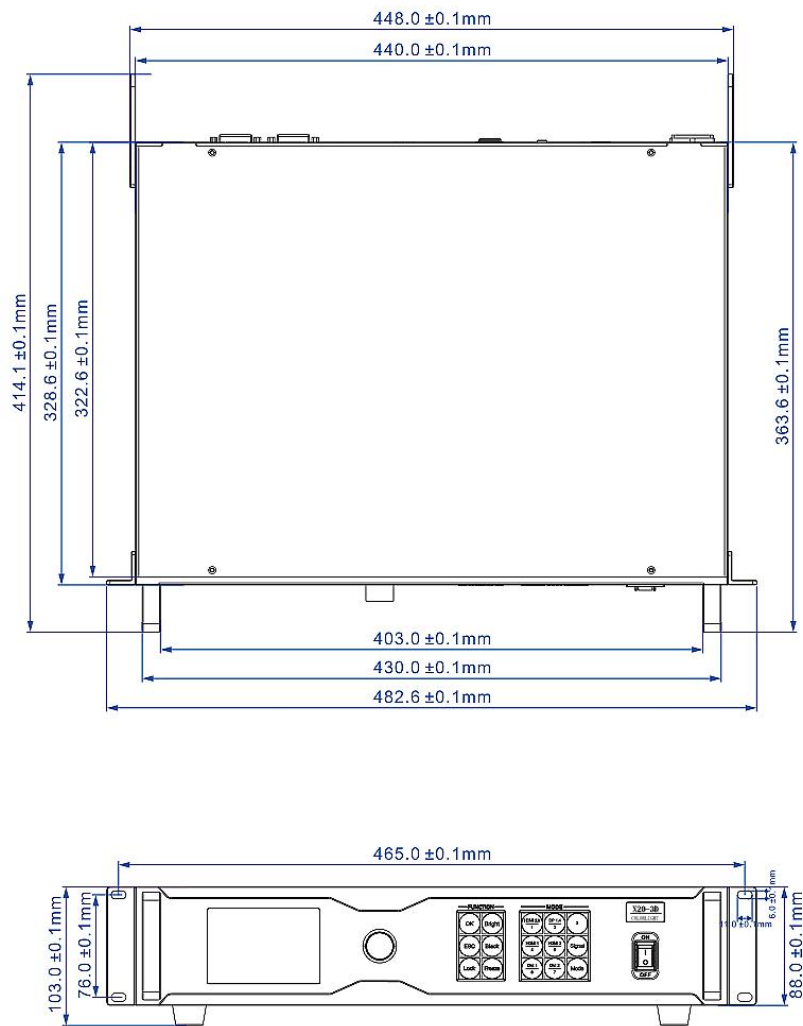
No.	Name	Function	Remarks
1	Switch	ON/OFF	Place switch "OFF" position if it is in "ON" position at the beginning
2	Indicator light	Working indicator light	The green light flashes when the glasses work normally. The red light is always on when the glasses are charging.

Specifications	
<b>Optical Parameters</b>	
Contrast	1000:1
LCD Screen Refresh Rate	120Hz (Standard), 48Hz/50Hz/60Hz/72Hz (Self-adaption for sync signal)
Light Transmittance	35%, $\pm 2\%$
Response Time	2.0ms at room temperature
Viewing Angle	80°
<b>Electric Parameters</b>	
Lithium Battery	80mAH
Charge Time	2.5Hr
Charge Current	50mA
Rated Working Voltage	3.7V
Rated Working Current	0.7mA, $\pm 0.1mA$
Shutdown Current	12uA, $\pm 1.0uA$
Sync Mode	RF
Received Frequency	2.4G
Receiving Sensitivity	-94.5dBm
<b>Basic Parameters</b>	

Weight	40g, $\pm 1g$
Continuous Working Time	48Hr
Working Distance	15m
<b>Working Environment</b>	
Operating Temperature	0°C-40°C
Storage Temperature	-20°C-60°C
Working Humidity	20%-80%RH
Atmospheric Pressure	86kPa-106kPa

## Dimensions

Unit: mm



## Statement

Thank you for purchasing the product of Colorlight Cloud Tech Ltd. If you encounter any problems during use or have any suggestions, please contact us through official channels. We will do our best to provide support and listen to your valuable suggestions. We will constantly make improvements on technical specifications but without notice. You can visit [www.colorlightinside.com](http://www.colorlightinside.com) to get more updated information.

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