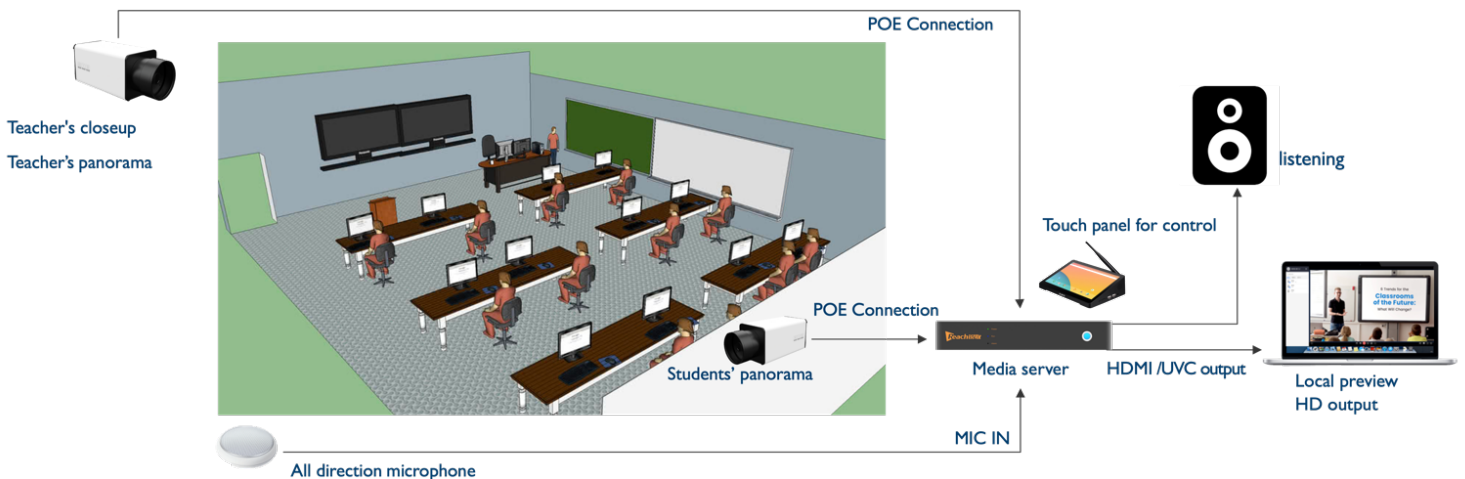# Bee4+U *Smart Switching System*

The Bee4+U specialized for classroom recording, is a great education market solution. It supports MAX 4 signal inputs and includes 3 HD video sources and 1 PC presentation. It's integrated auto-tracking, auto-switch & recording features can auto track teacher's movement, detect the signal source change, and auto-switch the video between all signals. Bee4+ also works with a video conference system to achieve distance learning.

Key Features

- ☑ Multiple video sources supported, up to 4 video sources

- ☑ Include teacher close-up, podium's panorama, student panorama and presentation from PC, total of 4 video sources.

- ☑ Advanced auto tracking technology

- ☑ With image recognition and multiple frames comparison technology, system can work out the position and detect teacher's motion, then can easily auto track teacher's movement without wearing any infrared device.

- ☑ Support 4K panoramic capture camera (IP)

- ☑ Exclusive video signal auto-switching technologies, switching between different signals, recording teaching activities naturally.

- ☑ UVC output makes it easier to integrate with 3rd devices and system.

- ☑ Support simultaneous recording of high and low bit rate video

- ☑ Generate standard MP4 format, high bit rate recorded videos are used for high-quality file saving, and low bit rate recorded videos are used for live streaming and video on-demand in mobile devices or low-bandwidth environments.
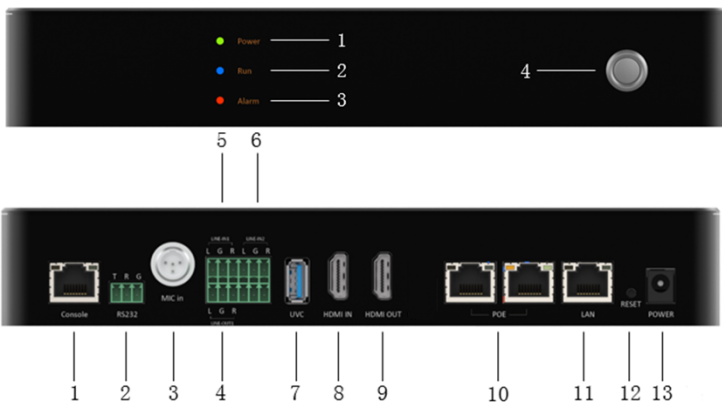
BEE4+U Smart Switching System

Specifications

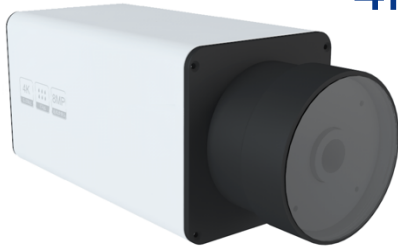|	
Product Name	Bee 4+U (Model R412U)
Operation System	Linux OS
Video Input Mode	REACH/RTSP/ONVIF protocol, HDMI In
Video Input Resolution	1024x768, 1280x720, 1366x768, 1440x900, 1920x1080
Video Output Mode	HDMI Out, UVC, Media Stream
HDMI Out Resolution	1080P@60
UVC Out Resolution	MAX support 720P output (work with Windows 10 OS and USB3.0 port)
Video Resolution	1920x1080, 1280x720, 960x540, 640x360, 480x270, 320x180
Video Encoding	H.264 High Profile
Frame Rate	30fps
Audio Encoding	AAC-LC
Audio Bit Rate	128Kbps
Audio Sample Rate	48KHz
Stream Mode	RTSP/RTMP/HTTP
Recording File Size	HD: 256 MB/h, 512 MB/h, 1000 MB/h, 1500 MB/h, 2000 MB/h, 2500 MB/h, 3000 MB/h, 3600MB/h SD: 32 MB/h, 64 MB/h, 128 MB/h, 256 MB/h, 512 MB/h, 1024 MB/h, 2048 MB/h
File Format	Mp4
Tracking Way	Build-in auxiliary positioning camera in 4K panoramic capture camera
Video Auto Switch	Support
Language	English, Chinese
Storage	128GB
Power	DC 48V
Dimensions (WxHxD)	9.64" x 5.9" x 1.61" inches / 245mm×150mm×41mm
Weight	3.31 lbs / 1.5Kg
Relative Humidity	10% to 80%
Working Temperature	14°F to 122°F / -10°C to 50°C
Storage Temperature	-4°F to 140°F / -20°C to 60°C

Front Panel

No.	Component	Statement
1	Power	Power status light
2	Run	System running status light.
3	Alarm	System alarm status light
4	Power button	Power switch

Rear Panel

No.	Connector	Statement
1	Console	Control port, for CL-X4 control panel
2	RS232	RS232 for 3rd central control system
3	MIC IN	MIC in
4	LINE OUT	Line out
5	LINE IN 1	Line in 1
6	LINE IN 2	Reserved
7	UVC	UVC out for 3rd devices or systems
8	HDMI IN	HDMI input, for PC signal input
9	HDMI OUT	HDMI output
10	POE	RJ45 POE port for 4K camera connection
11	LAN	LAN network port
12	Reset	System reset button
13	Power	DC power input

4K Panorama Camera - HD-953LWP

(Build-in auxiliary positioning feature)

Port Information	
Connector	**Statement**
POE	RJ45 POE network port
DC 12V	DC 12V power in
Reset	Reset button
Pilot light	Power pilot light
Audio IN	Audio IN, Reserved port
Audio OUT	Audio OUT, Reserved port

Specifications:

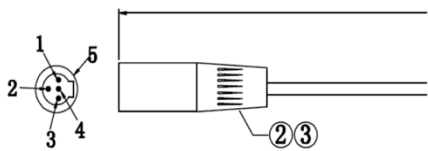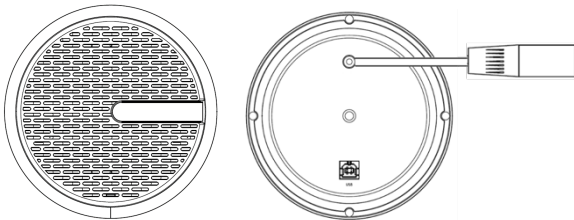|	
Image sensor	1/1.8" Progressive Scan CMOS
CMOS MAX resolution	3840 × 2160
Effective pixels	800W
Video format	4K@30 (3840 x 2160) , 1080P@30, 720P@30
Video output resolution	Default 1080P@30
Variable gain	Digital gain -30dB-23.9dB
Minimum illumination	Multicolor: 0.001 Lux @(F1.2,AGC ON)
ISO mode	ISO100、ISO200、ISO400、ISO800、ISO1600、ISO3200
Local length	Lecturer camera: 6mm, Listener camera: 4mm
Video encoding	H.264/H.265
Bit rate	256kbps ~ 20Mbps adjustable
Auto tracking	Support, build-in auxiliary positioning feature
Video out	RJ45 network port
Power input	DC 12V, 1A (POE)
Power dissipation	9W Max
Working temperature	14°F ~ 122°F / -10°C ~ 50°
Working humidity	<85%, No condensation

CL-X4 Control Panel

Specifications:

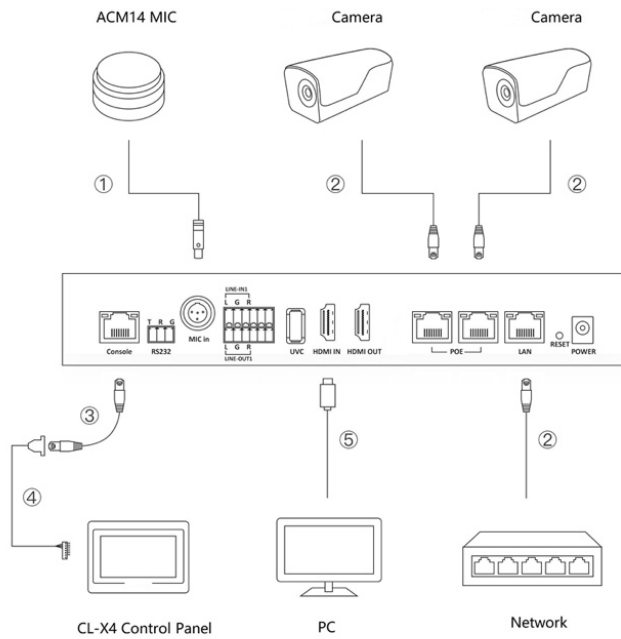| Specifications:	
Product Name	CL-X4
Resolution	800x480
Backlight mode	LED
brightness	250nit
Protection level	IP65
Connector	8 Pin_3.81mm phoenix port
SD card slot	Micro SDHC（TF） card / FAT32 format
Serial port	RS485/RS232
Dimensions	8.27"(W) x 5.90"(H) x 1.06"(D) inches or 210mm(W)×150mm(H)×26.9mm(D)
Weight	1.1lbs / 500g
Power input	7-36V / 80-230mA
Relative Humidity	10% to 85%
Working Temperature	14°F to 131°F / -10°C to 55°C
Storage Temperature	-4°F to 158°F / -20°C to 70°C

ACM19 Omnidirectional Microphone

No.	Connector	Statement
1 Pin	VCC_12V	DC 12V power in
2 Pin	GND	Power reference ground
3 Pin	LINE OUT	Audio OUT
4 Pin	GND	Audio signal reference ground

Specifications:

Specifications:	
Product Name	ACM19
Directivity	Omnidirectional
Voice pick up distance	16.4ft / 5m
Frequency response	100Hz-16kHz
Sensitivity	-37dBFS
Signal to noise ratio	65dB
Echo cancellation amplitude	70dB
Noise suppression	18dB
Automatic gain control	± 6dB
Output connector/cable	4-pin mini canon female head
Power input	DC 12V
Size	5.9"x1.18" inches / 150x30mm
Relative Humidity	5% ~ 95% R.H.
Working Temperature	32°F to 122°F 0°C to 50°C
Storage Temperature	-4°F to 140°F / -20°C to 60°C

Connection

ACM14 MIC

Camera

Camera

CL-X4 Control Panel

PC

Network

Description

①	Audio cable	
②	Network cable	
③	Network cable	
④	Control cable	
⑤	HDMI cable	

UVC

RTMP/RTSP

RTMP/RTSP

POE camera   IPC   Control panel   Microphone   Content

Smart switched content to remote viewers

Publish contents
Live streaming /VOD

Reach Media center Pro
Archive & publish content

06242023