SalrayWorks

SalrayWorks Inc

NDI® | SW

NDI PTZ · NDI Motorized Head · NDI Switcher · NDI Lighting · Ultra Latency POV · Ultra Slim AOC

SW

SalrayWorks

High Bandwidth Full NDI PTZ Camera

SHARON 360

Visually loss True NDI, Replaceable SDI quality and full NDI PTZ that can rotate PAN 360°

Most advanced High bandwidth NDI® PTZ camera for 360° rotation view.
Sharon 360 incorporates SONY 30X Optical ZOOM and EXMOR RCMOS image sensor with Salrayworks NDI® Silicon, frame rates up to 1080P60, and capable of 360° rotation and ZOOM for a surround view.

Full HD image quality with 60fps frame rate
1920x1080/60p
See every presenter or conference partic ipant more clearly. The 1/2.8″–type superior sensitivity EXMOR R CMOS sensor captures smooth, crisply detailed, Full HD
(1920 x 1080 60p) images with extremely low noise - even in low light conditions where other cameras struggle. High reame rate (60fps) operation ensures smoother, more fluid reproduction of moving subjects.

Powerful 30x SONY optical zoom and fast Auto-Focus response
The amazing 30x SONY optical zoom range is complemented by 12x digital zoom for frame-filling close-ups with every detail seen clearly. Ultra Fast Responsive superior autofocus ensures that images stay clear and sharp, even at high zoom settings.

Multi-Connectivity output video
The SHARON 360 PTZ can simultaneously output 1080/60p baseband video
through 3G-SDI, HDMI, high bandwidth NDI® (PoE), CVBS

Ultra fast response and Multi Processing
Currently, 9 sockets are connected for real-time command processing, so it is possible to process multiple control commands at the same time, and it enables a faster and smoother response by operating with the control.
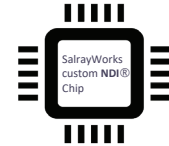
✔ **Smart Function**
Smart Flip
Swing
Pattern Recording
Group
Power Up Action
PAN/TILT with ZOOM speed

High Bandwidth Full NDI PTZ Camera

SHARON 360

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SalrayWorks Custom Design NDI Chip Mounted
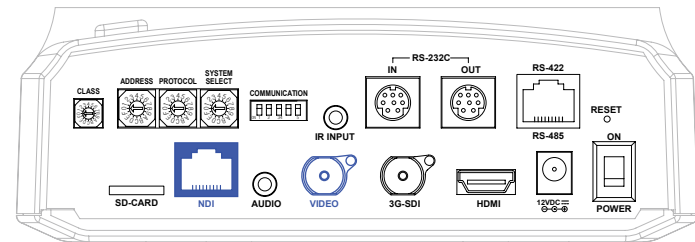
SalrayWorks custom **NDI**® Chip

General
Module: 1/2.8″ 'Exmor R' CMOS
Valid Pixels: 1920[H]x1080[V] (Approximately 2.38 million pixels)
Video output format: 1920x1080p60, 1920x1080i60, 1920x1080p30, 1280x720p60, 1280x720p30, 720x576i50(CVBS only), 1920x1080p59.94, 1920x1080i59.94, 1280x720p59.94, 1920x1080p50, 1920x1080i50, 1920x1080p25, 1280x720p50, 1280x720p25
Video output: High Bandwidth NDI, HD/3G-SDI(Level A/B), HDMI, CVBS(P-NA20, P-NA20S, P-NA30, P-NN30S only)
Zoom Scale: Optical zoom: 20/30x, Digital zoom: 12x
Lens: 20x Zoom Lens[f=4.7~94mm F1.6~F3.5] / 30x Zoom Lens[f=4.3~129mm F1.6~F4.7]
Viewing Angle: 63.7°(W), 3.3°(T) / 63.7°(W), 2.3°(T)
Tally LED: Red color
Audio: Stereo Audio
IR INPUT: Supported
Minimum Luminance: [Day]: 0.1lx (1/30 sec, High Sensitivity On), 0.4lx (1/30 sec, High Sensitivity Off), 0.02lx (1/4 sec, High Sensitivity On), 0.05lx (1/4 sec, High Sensitivity Off) / [Night]: 0.008lx (1/30 sec, High Sensitivity On), 1.4lx (1/30 sec, High Sensitivity Off), 0.001lx (1/4 sec, High Sensitivity On), 0.19lx (1/4 sec, High Sensitivity Off)

Function
Day & Night: AGC, TDN(ICR)
Focus: Semiauto/ Auto/ Manual
Image Flip: On/ Off
Zoom Speed: 0~7
Focus Near Limit: 0.8m/ 30cm/ 11cm/ 1cm/ Over Inf/ 20m/ 10m/ 6m/ 4.2m/ 3.1m/ 2.5m/ 2.0m/ 1.65m/ 1.4m/ 1.2m
AF Sensitivity: Normal/ Low
Defog Mode: Off/ Low/ Mid/ High
High Sensitivity: Off/ On
Noise Reduction: Off/ 1~5
Aperture: 10, 0~15
White Balance: Auto/ Indoor/ Outdoor/ One Push/ ATW/ Manual/ Outdoor Auto/ Sodium Auto/ Sodium/ Sodium Out Auto
Program AE: Full Auto/ Bright/ Shutter Pri/ Iris Pri/ Manual
WDR: Off/ On/ VE
BLC: On/ Off

Physics
Cam ID: PELCO: 1~14, VISCA: 1~14 setting
Communication: RS-422/485, RS-232C, IR Remote, VISCA over IP, High-bandwidth NDI
Protocol: PELCO-D/P, VISCA
OSD: Menu, Position, etc.
Power: POE, DC 12V ±10% (Max 1A)
Dimension: 181 x 198 x 206mm (W x D x H)
Weight: Approximately 1.95kg
Operating temperature: 0℃ ~ 40℃ (32℉~104℉)

CLASS ADDRESS PROTOCOL SYSTEM SELECT COMMUNICATION RS-232C IN OUT RS-422 RESET ON
SD-CARD NDI AUDIO VIDEO 3G-SDI HDMI 12VDC RS-485 POWER IR INPUT

High Bandwidth Full NDI PTZ Camera

SHARON 30

Perfect High bandwidth NDI® PTZ camera for any project

The perfect high bandwidth NDI® PTZ for any Live Event
The ultra fast response superior auto-focus that images stay clear and sharp, even at high zoom setting through harmony with the full NDI chip designed by Salrayworks.

Full HD image quality with 60fps frame rate
1920×1080/60p
See every presenter or conference participant more clearly. The 1/3-type CMOS image sensor captures smooth, crisply detailed, Full HD (1920 x 1080 60p) images with extremely low noise - even in low light conditions where other cameras struggle. High frame rate (60fps) operation ensures smoother, more fluid reproduction of moving subjects.

Simultaneously Multiple output video
SHARON 30 simultaneously output 1080/60p baseband video through NDI, 3G-SDI, HDMI, CVBS, stream, and capability makes the camera ideal for webcasting and simultaneous recording of conferences, lectures, house of worship and other live events.

Ultra fast response and Multi Processing
Currently, 9 sockets are connected for real-time command processing, so it is possible to process multiple control commands at the same time, and it enables a faster and smoother response by operating with the control.
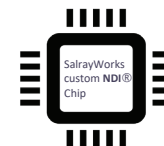
✔ **Smart Function**
Smart Flip
Swing
Pattern Recording
Group
Power Up Action
PAN/TILT with ZOOM speed

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High Bandwidth Full NDI PTZ Camera
SHARON 30

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SalrayWorks Custom Design NDI Chip Mounted
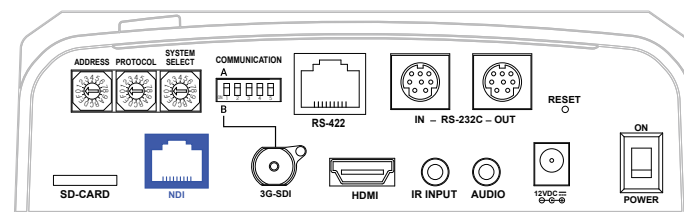
SalrayWorks custom **NDI**® Chip

General
Module : (12x) 1/2.8" Exmor CMOS,
Valid Pixels : 1920[H]x1080[V] (Approximately 2.1 million pixels)
Video output format :1920x1080p60, 1920x1080i60, 1920x1080p30,
1280x720p60, 1280x720p30, 720x576i50(CVBS only), 1920x1080p59.94,
1920x1080i59.94, 1280x720p59.94, 1920x1080p50, 1920x1080i50, 1920x1080p25,
1280x720p50, 1280x720p25
Video output : HD/3G-SDI, HDMI, DVI, CVBS
Zoom Scale : SONY Optical zoom: 30x, Digital zoom: 12x
Lens : 12x Zoom Lens[f=4.7~56.4 mm F1.6~F3.5] / 20x Zoom Lens[f=4.7~94 mm F1.6~F4.7]
Viewing Angle : 57.4°(W), 3.2°(T)
Minimum Luminance : 0.2lx (Day)/ 0.1lx (Night)/ 0.005lx (DSS on)

Physics
Cam ID : PELCO: 1~14, VISCA: 1~14 setting
Communication : RS-422/485, RS-232C, IR Remote, VISCA over IP, High-bandwidth NDI
Protocol : PELCO-D/P, VISCA
OSD : Menu, Position, etc.
Power : POE, DC 12V ± 10% (Max 1A)
Dimension : 181 x 198 x 206 mm(W x D x H)
Weight : Approximately 1.95kg
Operating temperature : 0˚C ~ 40˚C(32˚F~104˚F)

Function
Day & Night : AGC, TDN(ICR)
Focus : Semiauto/ Auto/ Manual
Image Flip : On/ Off
Zoom Speed : 0~7
Focus Near Limit :0.8m/ 30cm/ 11cm/ 1cm/ Over Inf/ 20m/ 10m/ 6m/ 4.2m/ 3.1m/ 2.5m/ 2.0m/ 1.65m/ 1.4m/ 1.2m
AF Sensitivity : Normal/ Low
Defog Mode : Off/ Low/ Mid/ High
High Sensitivity : Off/ On
Noise Reduction : Off/ 1~5
Aperture : 10, 0~15
White Balance : Auto/ Indoor/ Outdoor/ One Push/ ATW/ Manual/ Outdoor Auto/ Sodium Auto/ Sodium/ Sodium Out Auto
Program AE : Full Auto/ Bright/ Shutter Pri/ Iris Pri/ Manual
WDR : Off/ On/ VE
BLC : On/ Off

High Bandwidth Full NDI PTZ Camera

SHARON 20

Enough Performance and Cost-Effective High bandwidth NDI® PTZ camera for everyone

Best Value High Bandwidth full NDI PTZ
Excellent cost performance and full coverage of small and medium-sized Live events through Korea-made 20 x ZOOM through custom full NDI chip designed by Salrayworks.

Full HD image quality with 60fps frame rate
1920×1080/60p
See every presenter or conference participant more clearly. The 1/3-type CMOS image sensor captures smooth, crisply detailed, Full HD (1920 x 1080 60p) images with extremely low noise - even in low light conditions where other cameras struggle. High frame rate (60fps) operation ensures smoother, more fluid reproduction of moving subjects.

20 x optical ZOOM with enough for medium and small live event
The 12/20x optical zoom range is complemented by 12x digital zoom for frame-filling close-ups with every detail seen clearly. Responsive autofocus ensures that images stay clear and sharp, even at high zoom settings.

Simultaneously Multiple output video
SHARON 20 simultaneously output 1080/60p baseband video through NDI, 3G-SDI, HDMI, CVBS, stream, and capability makes the camera ideal for webcasting and simultaneous recording of conferences, lectures, house of worship and other live events.

Ultra fast response and Multi Processing
Currently, 9 sockets are connected for real-time command processing, so it is possible to process multiple control commands at the same time, and it enables a faster and smoother response by operating with the control.
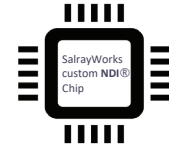
✔ **Smart Function**
Smart Flip
Swing
Pattern Recording
Group
Power Up Action
PAN/TILT with ZOOM speed

High Bandwidth Full NDI PTZ Camera

SHARON 20

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Enough Performance and Cost-Effective High bandwidth NDI® PTZ camera for everyone
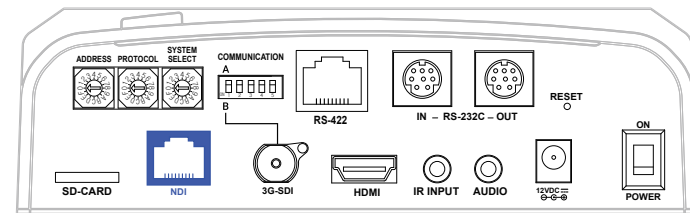
SalrayWorks
custom NDI®
Chip

General
Module : (20x) 1/2.8" Exmor CMOS,
Valid Pixels : 1920[H]x1080[V] (Approximately 2.1 million pixels)
Video output format :1920x1080p60, 1920x1080i60, 1920x1080p30,
1280x720p60, 1280x720p30, 720x576i50(CVBS only), 1920x1080p59.94,
1920x1080i59.94, 1280x720p59.94, 1920x1080p50, 1920x1080i50, 1920x1080p25,
1280x720p50, 1280x720p25
Video output : HD/3G-SDI, HDMI
Zoom Scale : Optical zoom: 20x, Digital zoom: 12x
Lens : 12x Zoom Lens[f=4.7~56.4 mm F1.6~F3.5] / 20x Zoom Lens[f=4.7~94 mm F1.6~F4.7]
Viewing Angle : 57.4°(W), 3.2°(T)
Minimum Luminance : 0.2lx (Day)/ 0.1lx (Night)/ 0.005lx (DSS on)

Physics
Cam ID : PELCO: 1~14, VISCA: 1~14 setting
Communication : RS-422/485, RS-232C, IR Remote, VISCA over IP, High-bandwidth NDI
Protocol : PELCO-D/P, VISCA
OSD : Menu, Position, etc.
Power : POE, DC 12V ± 10% (Max 1A)
Dimension : 181 x 198 x 206 mm(W x D x H)
Weight : Approximately 1.95kg
Operating temperature : 0˚C ~ 40˚C(32˚F~104˚F)

Function
Day & Night : AGC, TDN(ICR)
Focus : Semiauto/ Auto/ Manual
Image Flip : On/ Off
Zoom Speed : 0~7
Focus Near Limit :0.8m/ 30cm/ 11cm/ 1cm/ Over Inf/ 20m/ 10m/ 6m/ 4.2m/ 3.1m/
2.5m/ 2.0m/ 1.65m/ 1.4m/ 1.2m
AF Sensitivity : Normal/ Low
Defog Mode : Off/ Low/ Mid/ High
High Sensitivity : Off/ On
Noise Reduction : Off/ 1~5
Aperture : 10, 0~15
White Balance : Auto/ Indoor/ Outdoor/ One Push/ ATW/ Manual/ Outdoor Auto/
Sodium Auto/ Sodium/ Sodium Out Auto
Program AE : Full Auto/ Bright/ Shutter Pri/ Iris Pri/ Manual
WDR : Off/ On/ VE
BLC : On/ Off

Only in SHARON

SWING
Swing function allows you to make camera move between 2 preset positions repeatedly.

PATTERN
Pattern operation is a function that saves Pan, Tilt, and Zoom operations performed for a certain period and executes them again.

GROUP
Group function is a function that repeatedly activates preset combinations of the preset, swing, and pattern functions.

Power Up Action
This function enables to resume the last action executed before power down.

Smart Flip
If the tilt angle exceeds 90°, this function will automatically flip the image.

Home Position
To set the Home position, move to desired Pan / Tilt, Zoom position and press the SET button or the button on the Joystick to save.

Comparison Sharon High Bandwidth PTZ series

	SHARON 360	SHARON30	SHARON20
Optical ZOOM	30X (SONY)	30 X (SONY)	20 x (Korea Made)
Digital ZOOM	SONY EXMOR R CMOS 12 x	SONY EXMOR R CMOS12 x	SONY EXMOR R CMOS 12 x
Pan/Tile	±360°/ 220	±172°/ 220	±172°/ 220
POE	YES	YES	YES
Interface	3G-SDI, HDMI, Full NDI, CVBS	3G-SDI, HDMI, Full NDI	3G-SDI, HDMI, Full NDI
Tally Light	Yes	No	No
Control	VISCA RS422, VISCA IP, NDI	VISCA RS422, VISCA IP, NDI	VISCA RS422, VISCA IP, NDI
Smart Feature	Home Position Setup Smart Flip Swing Pattern Recording Group Power UP Action PAN TILT with ZOOM speed RGB Color Matrix 255 step	Home Position Setup Smart Flip Swing Pattern Recording Group Power UP Action PAN TILT with ZOOM speed RGB Color Matrix 255 step	Home Position Setup Smart Flip Swing Pattern Recording Group Power UP Action PAN TILT with ZOOM speed RGB Color Matrix 255 step
Color	Black, White, Gray	Black	Black
Color Matrix	0-255 steps	0-255 steps	No

SHARON Finder App on Desktop PC / MAC

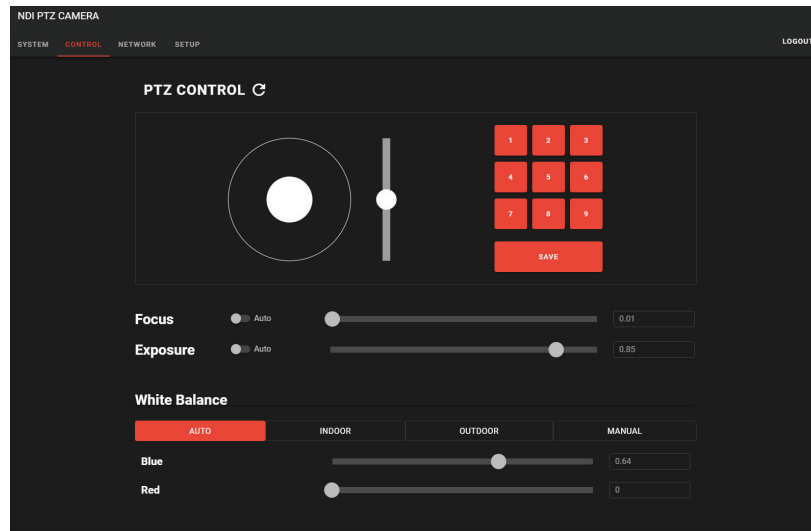## Discover all SHARON NDI PTZs under local Network on your Desktop

Forgot the PW or IP address? No problem, Find all Sharon PTZs' IP addresses and reset PW!
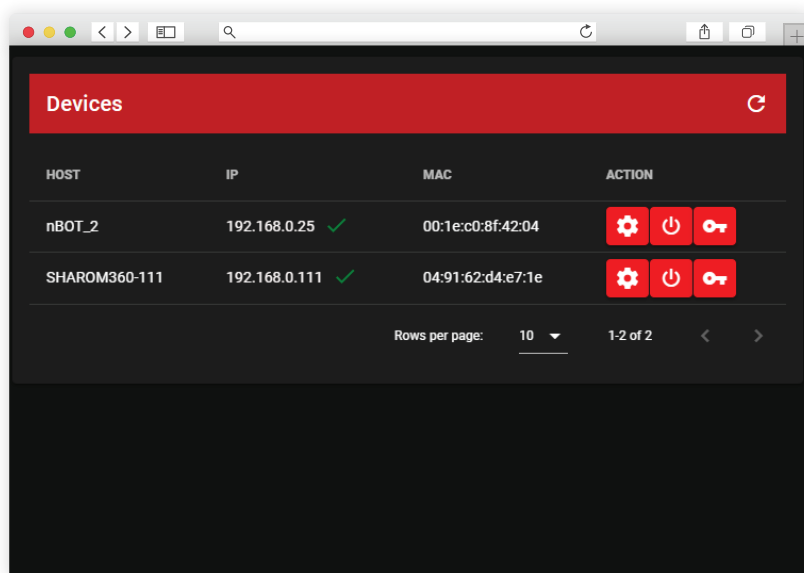
SHARON WEB SERVER

SHARON Webserver

After Accessing SHARON PTZ camera thru Web, you can monitor current status, change setting, and control /preset PTZ .

PTZ Controlling
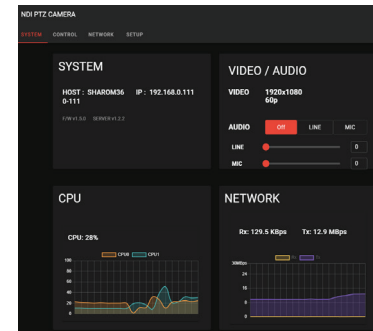
SHARON System Monitoring
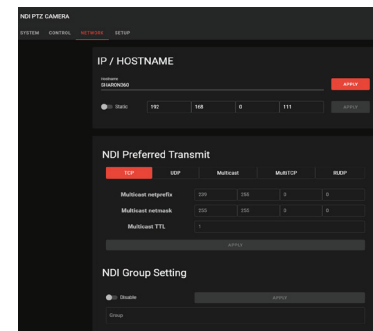
IP and NDI Configuration

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SHARON MANAGER on Desktop PC / MAC

SHARON Manager on Desktop PC & MAC

You can find all SHARON PTZ on the same Network on your Desktop and adjust all OSD settings, Color Matrix, and PTZ/ZOOM/FOCUS While viewing the screen.
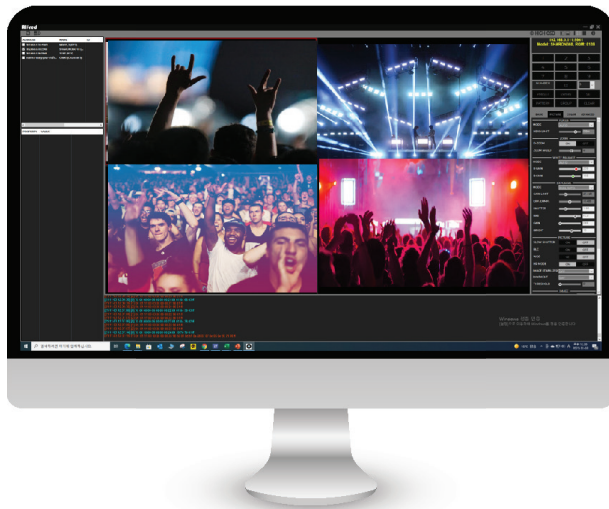
You can fully control multiple Sharon cameras over the network from your desktop include Red, Green, Blue, Cyan, Yellow and Magenta, with 255 levels of Controls.
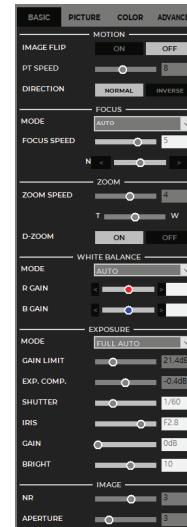
Basic Mode
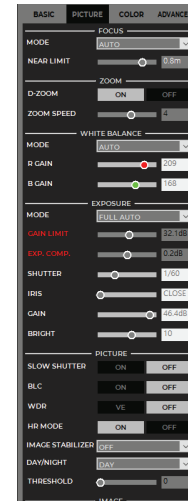
Picture Mode

Advanced Mode
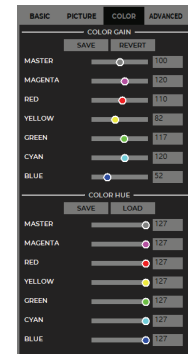
255 Level Colour Matrix

Controller
SHARON proSTICK controller

255
Preset

IRIS

Controllable up
to 14 SHARONs
RS422 / IP

Swing

POE+

Brightness

Patten
Group

Shutter

User Defined
Joy-Stick for ZOOM,
Focus Controlling

VISCA
IP
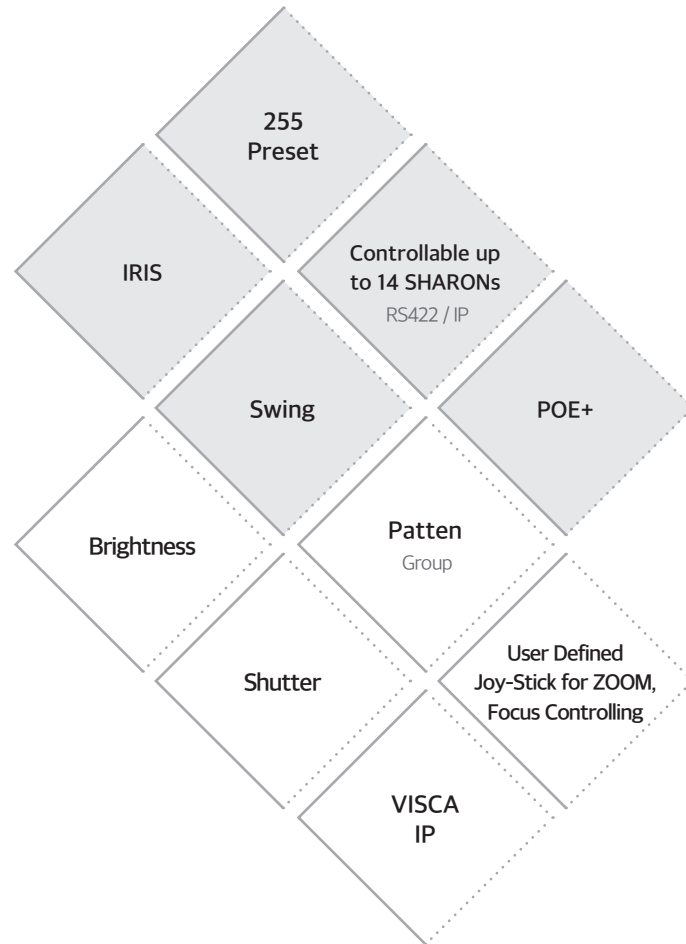
Controller
SHARON Controlling

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SHARON Manager as Desktop Apps

MAX 4 SHARON PTZ OSD Setting + Multi-Viewing
One click tour best setting to other SHARON PTZs
Color Matrix (White Balance, Hue and Color Gain)

NDI   NDI
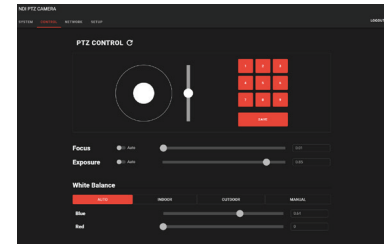
SHARON Web Server

PTZ Controlling/Monitoring/Setting/Preset

SHARON High Bandwidth
NDI PTZ

VISCA IP   NDI

SHARON proSTICK

Max 14 x SHARON Control
Direct Control SHARON's Smart functions
(Swing, Pattern, Group, Smart Flip)
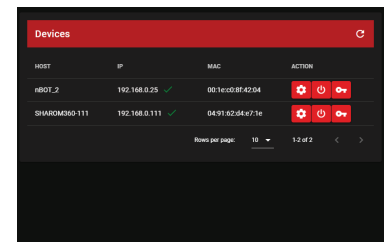
Free SHARON finder apps

Auto Sharon Device Discovering
Auto Discovering IP address / Reset
Reset PW

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NDI Switcher
SHARON NDI Switcher

Switching, Recording, Streaming at the same time

Function
Versatile Output : 3G-SDI, NDI, RTMP Streaming (Youtube, Facebook).
Max 6Ch Video Inputs (NDI or SDI/HDMI)
Real time Video/Audio Recording (MP4, MP3)
4/10View Multi-Viewer
Audio delay Control(PGM/NDI/Streaming/Recording each)
AVI, MOV, QT, WMW. MPG Video file format playback.
Media and Tilting, Logo Insertion (Position, Crop, Size control)
Customizable PGM Video Composition.
PIP as square pr round shape.
PGM split screen using 2 different Channels
External Multi-Viewer

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NDI Switcher
SHARON STUDIO for online lecturing

Anyone can easily stream Online lecturing and house of worship alone With a laptop without help of an expert

Function
Versatile Output : NDI, RTMP Streaming (Youtube, Facebook)
Anyone easily with intutive design.
2ch Input (NDI cam, Webcam, Screen-Share)
Share your PC screen (Lecture Notes)
Real time Video/Audio Recording (MP4, MP3)
Provides over 100 Graphic templates for subtitling
Audio delay Control(PGM/NDI/Streaming/Recording each)
AVI, MOV, QT, WMW. MPG Video file format playback.
Media and Tilting, Logo Insertion (Position, Crop, Size control)
Customizable PGM Video Composition.
PIP as square pr round shape.
Enables ZOOM/SKYPE/TEAM to be recognized as a webcam through NDI virtual input.
2nd Monitor Support for educational matrial writing (PPT)

2nd Monitor as your Lecturing Note
Chroma key
Audio Mixer/Level Meter
Support ZOOM

Min System Requirement
CPU : Intel I7
Storage : HDD/SDD 512GB
Graphic : GTX1650
LAN : 1000Mbps

zoom   Skype   Microsoft Teams

Ultra-latency POV Camera
wideSHOT Ultra Latency

Ultra-Low Latency (0-15 ms)
Live broadcasting, which is an increasing trend these days, requires viewers to participate and intervene in broadcasting in near real-time, such as e-Sports, Drone, Automotive, IOT, Stocks, etc. If the latency of 1 seconds as in existing broadcasting, people suffer from discomfort and will not even use it. So this service cannot keep going Zero Latency

Full HD image quality with 60fps frame rate
See every presenter or conference participant more clearly. The 1/2.8-type Exmor R CMOS image sensor captures smooth, crisply detailed, Full HD images with extremely low noise - even in low light conditions where other cameras struggle. High frame rate (60/59.94fps) operation ensures smoother, more fluid reproduction of moving subjects. 1920x1080p59.94, 1920x1080i59.94, 1920x1080p29.97, 1280x720p59.94, 1280x720p29.97, 1920x1080p50/60, 1920x1080i50/60, 1920x1080p25/30, 1280x720p50/60, 1280x720p25/30

Super Wide view 2.9mm lens
We provide a default lens that has an angle of view of 140°. However, in case any other type of lens is required, it can be supported(other lens should be additionally purchased). 140°(D) x 120°(H) x 65°(V)

3G-SDI,CVBS output video
The raySHOT UltraLateny can simultaneously output 1080/60p/50p or 59.94p baseband video through 3G-SDI Also, it supports CVBS so that our customers can easily set up with it. This capability makes the camera ideal for simultaneous recording of conferences, lectures, seminars and other live events. 3G-SDI, CVBS

Versatile connectivity options
Support for RS-422 and 485 communication allows easy connection with a wide range of peripheral products. The camera can also be controlled via VISCA, PELCO-D/P protocols.
*The zoom and focus can not be controlled. VISCA, PELCO-D/P,RS-422/485

Protection from water, dust, dirt and sand
Weatherproof IP67 rated Housing for outdoor applications. Water protection submerged up to 1m (3.2') - total protection against dust, dirt, sand.

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Ultra-latency POV Camera
focalSHOT Ultra Latency

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Ultra-Low Latency (0-15 ms)
Live broadcasting, which is an increasing trend these days, requires viewers to participate and intervene in broadcasting in near real-time, such as e-Sports, Drone, Automotive, IOT, Stocks, etc. If the latency of 1 seconds as in existing broadcasting, people suffer from discomfort and will not even use it. So this service cannot keep going
Zero Latency

Full HD image quality with 60fps frame rate
See every presenter or conference participant more clearly. The 1/2.8-type Exmor R CMOS image sensor captures smooth, crisply detailed, Full HD (1920 x 1080 60p/50p or59.94p) images with extremely low noise - even in low light conditions where other cameras struggle. High frame rate (60/59.94fps) operation ensures smoother, more fluid reproduction of moving subjects.
1920x1080p59.94, 1920x1080i59.94, 1920x1080p29.97, 1280x720p59.94, 1280x720p29.97, 1920x1080p50/60, 1920x1080i50/60, 1920x1080p25/30, 1280x720p50/60, 1280x720p25/30

Mountable with wide varifocal CS lens
We provide a default lens that has an angle of view of 80°. However, in case any other type of lens is required, it can be supported(other lens should be additionally purchased).
5.0-50mm / 2.7-12mm

3G-SDI,CVBS output video
The focalSHOTUltraLateny can simultaneously output 1080/60p/50p or 59.94p baseband video through 3G-SDI Also, it supports CVBS so that our customers can easily set up with it. This capability makes the camera ideal for simultaneous recording of conferences, lectures, seminars and other live events.
3G-SDI,CVBS, HDMI

Versatile connectivity options
Support for RS-422 and 485 communication allows easy connection with a wide range of peripheral products. The camera can also be controlled via VISCA, PELCO-D/P protocols. *The zoom and focus can not be controlled.
VISCA, PELCO-D/P,RS-422/485

LCS500 (5.0-50.0mm)   LCS120 (2.7-12.0mm)

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Ultra-latency POV Camera
raySHOT Ultra Latency

Ultra-Low Latency (0-15 ms)
Live broadcasting, which is an increasing trend these days, requires viewers to participate and intervene in broadcasting in near real-time, such as e-Sports, Drone, Automotive, IOT, Stocks, etc. If the latency of 1 seconds as in existing broadcasting, people suffer from discomfort and will not even use it. So this service cannot keep going Zero Latency

Full HD image quality with 60fps frame rate
See every presenter or conference participant more clearly. The 1/2.8-type Exmor R CMOS image sensor captures smooth, crisply detailed, Full HD (1920 x 1080 60p/50p and 59.94p) images with extremely low noise - even in low light conditions where other cameras struggle. High frame rate (60/59.94fps) operation ensures smoother, more fluid reproduction of moving subjects. 1920x1080 60p/50p and 59.94p

4.3mm M12 lens
We provide a default lens that has an angle of view of 120°. However, in case any other type of lens is required, it can be supported(other lens should be additionally purchased). 102°(D) x 84°(H) x 44°(V)

3G-SDI,CVBS output video
The raySHOT UltraLateny can simultaneously output 1080/60p/50p or 59.94p baseband video through 3G-SDI Also, it supports CVBS so that our customers can easily set up with it. This capability makes the camera ideal for simultaneous recording of conferences, lectures, seminars and other live events. 3G-SDI,CVBS

Versatile connectivity options
Support for RS-422 and 485 communication allows easy connection with a wide range of peripheral products. The camera can also be controlled via VISCA, PELCO-D/P protocols. *The zoom and focus can not be controlled. VISCA, PELCO-D/P,RS-422/485

Protection from water, dust, dirt and sand
Weatherproof IP67 rated Housing for outdoor applications. Water protection submerged up to 1m (3.2') - total protection against dust, dirt, sand.

Function
White Balance : AWB(3,000°K~8,000°K)/ ATW(1,900°K~11,000°K)/ One push/ Indoor/ Outdoor/ Manual
Auto Exposure : Full auto/ Shutter PRI/ Gain PRI/ Manual/ FLK Control
Picture : Back-light/ WDR/ Image stabilizer/ Day&Night/ Digital zoom/ Defect pixel
Image : Mirror/ DNR/ Gamma
Display : Cam title/ RS485-RS422/ System initial/ Output format
Audio : Mode/ Audio volume
System information : Camera model/ F-W Version/ System select/ Baud rate/ Camera ID

Physics
Communication : RS-422, RS-485/ PELCO-D/P, VISCA
Operating temperature : 0˚C ~ 50˚C
Weatherproof : IP67
Power : 12VDC(7V ~ 15V)
Power consumption : Max. 3.6W
Dimension : 143 x 43 x 60 mm (W x H x D)
Weight : 380g

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Ultra-latency POV Camera

lipSHOT Ultra Latency

SALRAYWORKS

Ultra-Low Latency (0-15 ms)
Live broadcasting, which is an increasing trend these days, requires viewers to participate and intervene in broadcasting in near real-time, such as e-Sports, Drone, Automotive, IOT, Stocks, etc. If the latency of 1 seconds as in existing broadcasting, people suffer from discomfort and will not even use it. So this service cannot keep going Zero Latency

Full HD image quality with 60fps frame rate
See every presenter or conference participant more clearly. The latest SONY's 1/2.8"-type Exmor R CMOS image sensor captures smooth, crisply detailed, Full HD (1920 x 1080 60p/50p and 59.94p) images with extremely low noise - even in low light conditions where other cameras struggle. High frame rate (60/59.94fps) operation ensures smoother, more fluid reproduction of moving subjects. 1920x1080 60p/50p and 59.94p

4.3mm M12 lens
We provide a default lens that has an angle of view of 120°. However, in case any other type of lens is required, it can be supported(other lens should be additionally purchased). 102°(D) x 84°(H) x 44°(V)

3G-SDI,CVBS output video
The lipSHOT UltraLateny can simultaneously output 1080/60p/50p or 59.94p baseband video through 3G-SDI Also, it supports CVBS so that our customers can easily set up with it. This capability makes the camera ideal for simultaneous recording of conferences, lectures, seminars and other live events. 3G-SDI, CVBS

Versatile connectivity options
Support for RS-422 and 485 communication allows easy connection with a wide range of peripheral products. The camera can also be controlled via VISCA, PELCO-D/P protocols. *The zoom and focus can not be controlled. VISCA, PELCO-D/P, RS-422/485

Protection from water, dust, dirt and sand
Weatherproof IP67 rated Housing for outdoor applications. Water protection submerged up to 1m (3.2') - total protection against dust, dirt, sand.

Function
White Balance : AWB(3,000°K~8,000°K)/ ATW(1,900°K~11,000°K)/ One push/ Indoor/ Outdoor/ Manual
Auto Exposure : Full auto/ Shutter PRI/ Gain PRI/ Manual/ FLK Control
Picture : Back-light/ WDR/ Image stabilizer/ Day&Night/ Digital zoom/ Defect pixel
Image : Mirror/ DNR/ Gamma
Display : Cam title/ RS485-RS422/ System initial/ Output format
Audio : Mode/ Audio volume
System information : Camera model/ F-W Version/ System select/ Baud rate/ Camera ID

Physics
Communication : RS-422, RS-485/ PELCO-D/P, VISCA
Operating temperature : 0°C ~ 50°C
Weatherproof : IP67
Power : 12VDC(7V ~ 15V)
Power consumption : Max. 3.6W
Dimension : 43 x 43 x 60 mm (W x H x D)
Weight : 380g

Ultra-latency POV Camera

salSHOT Ultra Latency

Ultra-Low Latency (0-15 ms)
Live broadcasting, which is an increasing trend these days, requires viewers to participate and intervene in broadcasting in near real-time, such as e-Sports, Drone, Automotive, IOT, Stocks, etc. If the latency of 1 seconds as in existing broadcasting, people suffer from discomfort and will not even use it. So this service cannot keep going Zero Latency

Full HD image quality with 60fps frame rate
See every presenter or conference participant more clearly. The 1/2.8-type Exmor R CMOS image sensor captures smooth, crisply detailed, Full HD (1920 x 1080 60p/50p or59.94p) images with extremely low noise - even in low light conditions where other cameras struggle. High frame rate (60/59.94fps) operation ensures smoother, more fluid reproduction of moving subjects. 1920x1080p59.94, 1920x1080i59.94, 1920x1080p29.97, 1280x720p59.94, 1280x720p29.97, 1920x1080p50/60, 1920x1080i50/60, 1920x1080p25/30, 1280x720p50/60, 1280x720p25/30

Switchable with various wide M12 lens
We provide a default lens that has an angle of view of 80°. However, in case any other type of lens is required, it can be supported(other lens should be additionally purchased). Provide TWO 2.8mm 4.3mm LENS

HDMI, 3G-SDI, CVBS output video
The SalSHOT ultraLatency can simultaneously output 1080/60p/50p 59.94p baseband video through 3G-SDI Also, it supports CVBS so that our customers can easily set up with it. This capability makes the camera ideal for simultaneous recording of conferences, lectures, seminars and other live events. 3G-SDI,CVBS, HDMI

Versatile connectivity options
Support for RS-422 and 485 communication allows easy connection with a wide range of peripheral products. The camera can also be controlled via VISCA, PELCO-D/P protocols. *The zoom and focus can not be controlled.
VISCA, PELCO-D/P,RS-422/485

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Ultra-latency POV Camera

salSHOT Ultra Latency

Function
White Balance : AWB(3,000°K~8,000°K)/ ATW(1,900°K~11,000°K)/ One push/ Indoor/ Outdoor/ Manual
Auto Exposure : Full auto/ Shutter PRI/ Gain PRI/ Manual/ FLK Control
Picture : Back-light/ WDR/ Image stabilizer/ Day&Night/ Digital zoom/ Defect pixel
Image : Mirror/ DNR/ Gamma
Display : Cam title/ RS485-RS422/ System initial/ Output format
Audio : Mode/ Audio volume
System information : Camera model/ F-W Version/ System select/ Baud rate/ Camera ID

Physics
Communication : RS-422, RS-485/ PELCO-D/P, VISCA
Operating temperature : 0°C ~ 50°C
Weatherproof : IP67
Power : 12VDC(7V ~ 15V)
Power consumption : Max. 3.6W
Dimension : 143 x 43 x 60 mm (W x H x D)
Weight : 380g

Rear Side (HDMI Out)
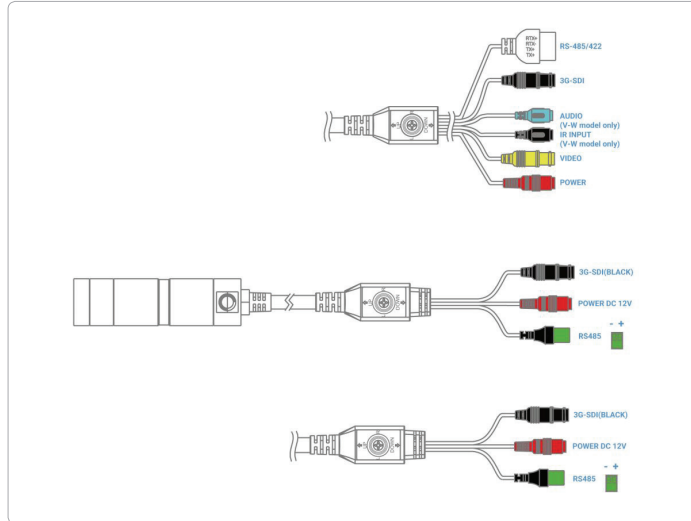
Break Cable (Power, SDI, RS422, IRIS)

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Robotic PAN/TILT Head
MT-PT60B Robotic Head

The ROBOTIC PAN/TILT HEAD and Controller from Salrayworks is a designed for hand-held cameras and max 10 Kg like BMD'S ULSA Broadcast with specific anti-backlash allowance for all precision gear products and high-quality mechanical components. A rugged PAN/TILT head is one that's designed specifically to operate reliably in a harsh indoor environment. That could be an environment that's subject to lots of vibration, extreme temperatures or dust conditions. The head can be mounted on a tripod or on a wall, ceiling, or surface. The MT-PT 60B head enable shooter to choose the most suitable camera and lens for their production. You can remotely control the using LANC protocol (SONY, CANNON, JVC, Black-Magic Design) or Panasonic Protocol (Panasonic Camera) via RS 422. The most important performance of Robotic PAN Tilt Head is that it is designd with a sophisticated mechanical device design such as screws and cogs, and has almost no backlash, so it should be designed with a smooth, shake-free reverse structure of the camera.

Key Feature
PAN/TILT Speed : Pan 0˚~ 350˚ / Tilt -45˚~ ±45˚±5
Truly Silence Operation
Remotly control ZOOM, FOCUSm IRIS, and PAN/TILT
Max Load : 5-10 Kg
Power : DC24V
Pan 0° to 350° and Tilt -45°to ±45°
Weight : 4.5 Kg
Dimnetion : 150 x 221 x 266 mm
Compatible with MT-TX85E Controller or 3rd party VISCA supported controller
ZOOM, FOCUS, IRIS, PAN/TILT control
Support VISACA/PELCO-D (RS 422)
Compatible with TX85, TX90 Controller

PAN/TILT Head
MT-TX85E

SALRAYWORKS

It is a dedicated controller for precise and smooth operation of the MT-PT60B Head

Function
Up to 7 set of MT-PT60Bs can be operated simultaneously via RS232 and RS422 with maximum easy.
VISCA, PELCO-D Support
Professional control for stable and accurate motion control without shaking.
Pan/Tilt, Zoom Speed selection (4step)
Simple and Easy Joy-Stick
Remote control of PAN/TILT movement, Focus, and White Balance of Camcorder capable of LANC communication is possible.
Image Flip support

Physics
Power : DC12V(3A Power Adaptor include)
Protocol : RS-232, RS-422
Protocol Speed : 9600 Bps, 38400bps, 1Start, 1Stop, 8 Bits Data, No Parity
Control : Camera Line 7CH
CCU : W/B Auto, Bright, Iris
Lens : Zoom Wide/Tele, Focus Near/Far
Pan/Tilt : Pan Left/Right, Tilt Up/Down
Preset : 4Page, 8Scene, Play
Weight : 2Kg
Size (W x H x D) : 280 x 196 x 60mm

PAN/TILT Head
MT-TX85E/90

Handheld Camera Model	Compatible LANC type Model or Lenses Model	ZOOM, Focus, IRIS function	ZOOM, Focus, IRIS, GAIN, AWB, Shutter, Menu, REC, Display on/off, Assign full function
SONY	NX, Z, X, FS series	MT-TX85E	MT-TX90
CANON	CINE series	MT-TX85E	MT-TX90
	XA series	MT-TX85E	MT-TX90
	XF series	MT-TX85E	MT-TX90
JVC	HC series	MT-TX85E	NO
	HM series	MT-TX85E	NO
Black-Magic Design Ulsa Broadcast / Micro Studio Camera 4K	Panasonic Lumix G X Vario PZ 14-42mm f/3.5-5.6 Power OIS lens	MT-TX85E	NO
	Panasonic Lumix G X Vario PZ 14-42mm f/4.0-5.6 Power OIS lens	MT-TX85E	NO
	Olympus 12-40mm f/3.5-6.3 ED M.Zuiko EZ Micro 4/3 Lens	MT-TX85E	NO
	Olympus 14-42mm M. Zuiko f/3.5-5.6 Digital ED/EZ Lens	MT-TX85E	NO
Black-Magic Design Studio / URSA Broadcast With B4 Mount	Fujinon LA16x8BRM-XB1A	MT-TX85E	
Black-Magic Design Studio / URSA Mini Pro with B4 Mount	Fujinon LA16x8BRM-XB1A	MT-TX85E	
Blackmagic Micro Cinema Camera	**Lens Control** Iris, focus and zoom on supported lenses.	MT-TX85E	
PANASONIC	DVX Series	MT-TX85E	NO
	UX Series	MT-TX85E	NO
	AC Series	MT-TX85E	NO
	CX Series	MT-TX85E	NO
	PX (handheld only)	MT-TX85E	NO

MT-TX85E
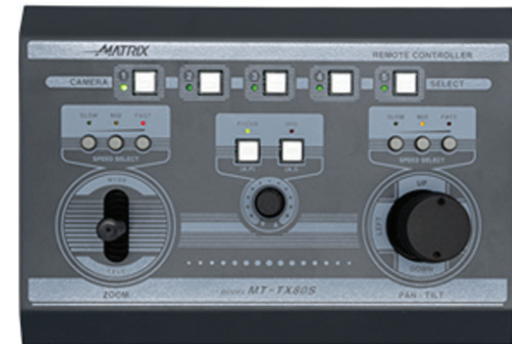
MT-TX90 (SONY, CANON full CCU Control)

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NDI® | N BOT

World 1st FULL NDI Motorized ROBOTIC PAN TILT HEAD.
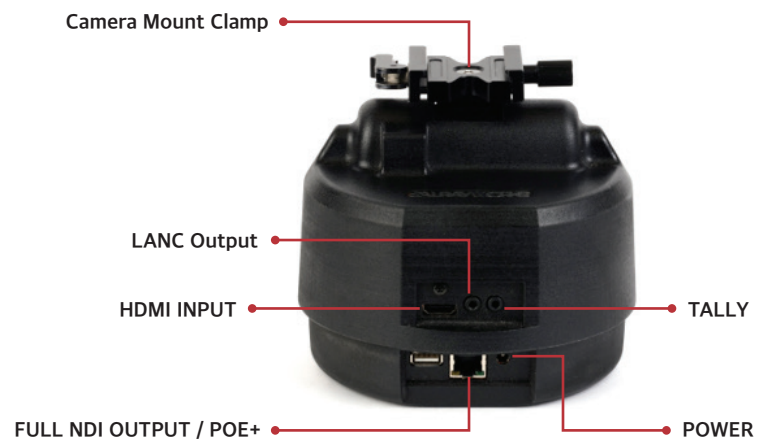
Key Feature
PAN : 355º
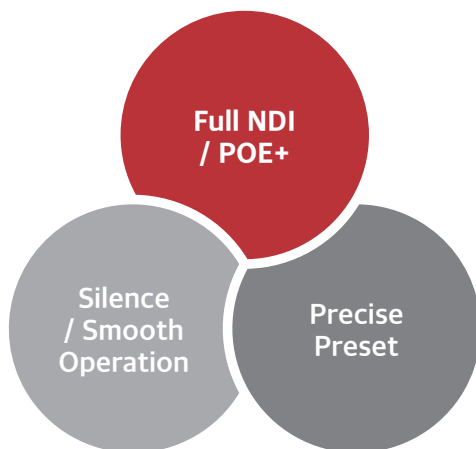TILT : Down 40º UP 20º
Max Load : 2.5Kg
Speed : 15º / Sec
Preset : 16
Remote : ZOOM, FOUCS via 2.5 mm TRS (LANC)

Full NDI / POE+

Silence / Smooth Operation

Precise Preset

Camera Mount Clamp

LANC Output

HDMI INPUT

TALLY

FULL NDI OUTPUT / POE+

POWER

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NDI® | N BOT

Focus and ZOOM Remote controlling. (2.5 mm LANC Input Cinema Camera, Camcorder)

Black Magic Cinema   **SONY**   **Panasonic**   **Canon**   **JVC**

IP

NDI

Wirecast

Open Broadcaster Software

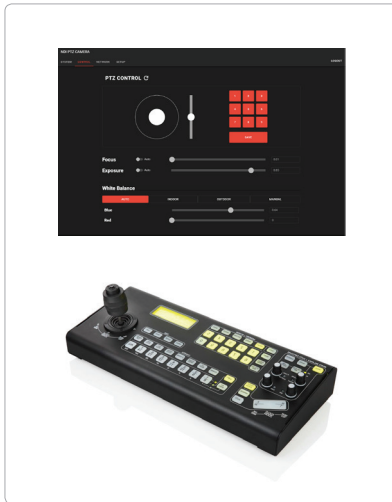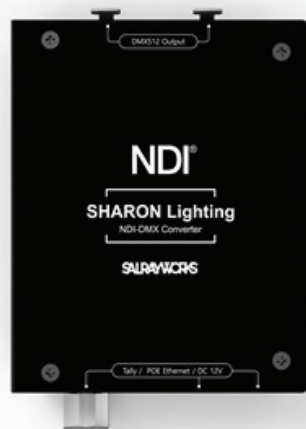TRICASTER

SHARON Lighting

SHARON Lighting changes the DMX interface of lighting to NDI and inte-grates lighting into "ALL IP" for the purpose of integrating lighting in NDI technology optimized for IP AV workflow to create an easier and more rea-sonable broadcasting studio environment.

- **SHARON Lighting provides SDK and example code for user-centered implementation.**

- **It is structured to implement NDI to DMX conversion by loading DMX data in the metadata transmission standard of NDI XML format.**

- NDI to DMX Converting
- NDI 5 Support (latest NDI SDK-Updated)
- LINUX Based

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Ultra Slim AOC HDMI
S-MODUL FiHD

HDMI 2.0 AOC Key Point
1. Long Distance Transmission on UHD Video
2. Easy Cable Installation
3. No Need for separate external power
4. No worry about optical fiber damage

S-MODUL AOC Key Point
1. Slim Design
2. Flame retardant jacket
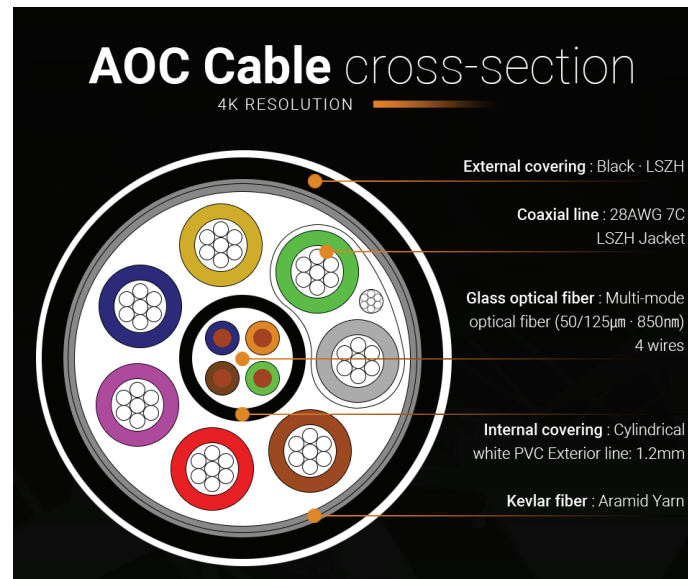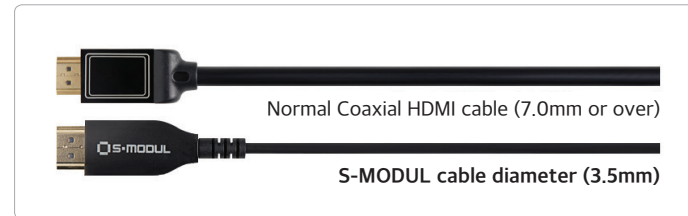3. Excellent Bending Radius
4. South Korea Brand

Easy Cable Installation
Thin S-MODUL cable diameter (3.5mm) VS coaxial HDMI cable (7.0mm or over) diameter

LSZH Cable is highly priced, solid, and esthetically nice. LSZH cables have flame retardant jacket that does not emit harmful gas with respect to burn, reducing the toxic and corrosive gas amount released when being burned. Excellent-performing LSZH cables automatically put out fire up to a specific point to help prevent fire spread.

No worry about fiber damage
The rotation diameter of S-MODUL optical fiber is 10mm and prevents possible fiber damage in general optical fiber (rotation diameter 30mm).

Normal Coaxial HDMI cable (7.0mm or over)

S-MODUL cable diameter (3.5mm)

AOC Cable cross-section
4K RESOLUTION

External covering : Black · LSZH

Coaxial line : 28AWG 7C
LSZH Jacket

Glass optical fiber : Multi-mode
optical fiber (50/125㎛ · 850㎚)
4 wires

Internal covering : Cylindrical
white PVC Exterior line: 1.2mm

Kevlar fiber : Aramid Yarn

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Ultra Slim AOC HDMI

S-MODUL FiHD

SALRAYWORKS
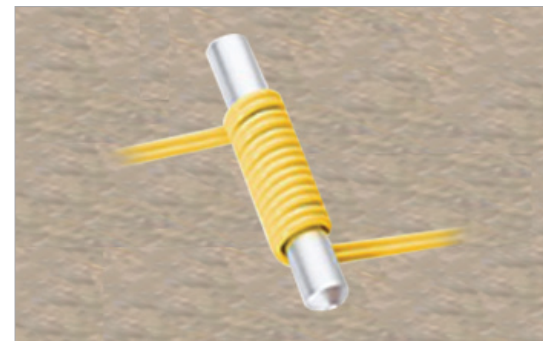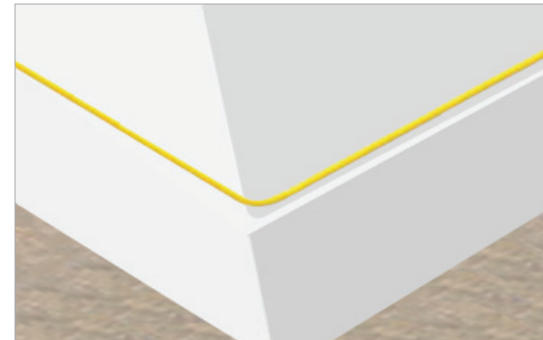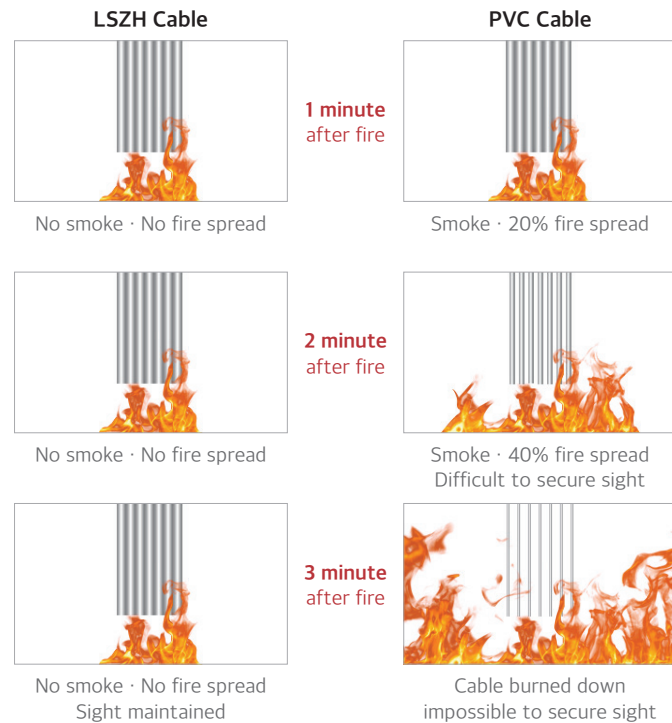
Flame retardant LSZH employed

LSZH Cable is highly priced, solid, and esthetically nice. LSZH cables have flame retardant jacket that does not emit harmful gas with respect to burn, reducing the toxic and corrosive gas amount released when being burned. Excellent-performing LSZH cables automatically put out fire up to a specific point to help prevent fire spread.

No worry about fiber damage
The rotation diameter of FiHD2.0 optical fiber is 10mm and prevents possible fiber damage in general optical fiber (rotation diameter 30mm).

LSZH Cable		PVC Cable
	1 minute after fire	
No smoke · No fire spread		Smoke · 20% fire spread
	2 minute after fire	
No smoke · No fire spread		Smoke · 40% fire spread Difficult to secure sight
	3 minute after fire	
No smoke · No fire spread Sight maintained		Cable burned down impossible to secure sight

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Audio Return Channel
ARC

Just a single cable is enough.

ARC, as in the lower right figure, is a function to send sound from a source device to a sound system without a separate cable. Without the function, a user has to additionally link a tosslink or optical audio cable between a TV and audio system.

Audio Cable

HDMI   HDMI

With Audio Return Channel

HDMI   HDMI

HDMI ARC
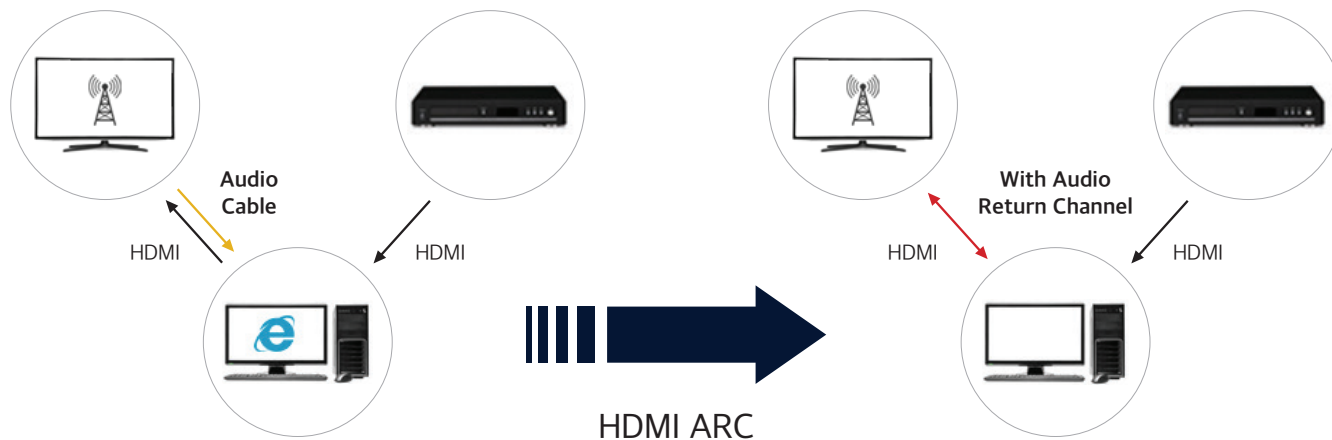
HDCP (High-bandwidth Digital Content Protection) is a content protection device not to show properly on the screen any titles of illegally copied Blue Rayfilms or games.

Ultra Slim AOC HDMI

S-MODUL FiHD

SALRAYWORKS

Spec
Support standard

Spec	Resolution	Scanning rate per second	Color sampling	Color depth
4K	3,840 x 2,160	30P	4 : 4 : 4	8-bit
4K	4,096 x 2,160	30P	4 : 2 : 0	16-bit
4K	4,096 x 2,160	30P	4 : 2 : 2	16-bit
4K	4,096 x 2,160	30P	4 : 4 : 4	8/12/16-bit
4K	4,096 x 2,160	60P	4 : 2 : 0	8/12/16-bit
4K	4,096 x 2,160	60P	4 : 2 : 2	8/12-bit
4K	4,096 x 2,160	60P	4 : 4 : 4	8-bit
4K	4,096 x 2,160	120P	4 : 2 : 0	8-bit
8K	7,680 x 4,320	30P	4 : 2 : 0	8-bit

Ordering Information

Part Number	Length	Description
S-MODUL FiHD-100	328ft (100M)	HDMI 2.0 Active Optic Cable-100M
S-MODUL FiHD-80	262ft (80M)	HDMI 2.0 Active Optic Cable-80M
S-MODUL FiHD-70	230ft (70M)	HDMI 2.0 Active Optic Cable-70M
S-MODUL FiHD-60	197ft (60M)	HDMI 2.0 Active Optic Cable-60M
S-MODUL FiHD-50	164ft (50M)	HDMI 2.0 Active Optic Cable-50M
S-MODUL FiHD-40	131ft (40M)	HDMI 2.0 Active Optic Cable-40M
S-MODUL FiHD-30	98ft (30M)	HDMI 2.0 Active Optic Cable-30M
S-MODUL FiHD-20	66ft (20M)	HDMI 2.0 Active Optic Cable-20M
S-MODUL FiHD-15	50ft (15M)	HDMI 2.0 Active Optic Cable-15M
S-MODUL FiHD-10	33ft (10M)	HDMI 2.0 Active Optic Cable-10M

Other specifications supported by S-MODUL AOC
HDMI ver.2.0 and lower versions are completely supported.

Spec	1.0	1.1	1.2	1.3	1.4	1.5
CEC	○	○	○	○	○	○
DVD-Audio		○	○	○	○	○
SACD			○	○	○	○
Deep Color				○	○	○
Wider Color Gamut				○	○	○
Dolby True HD				○	○	○
DTS-HD Master Audio				○	○	○
Auto Lip-Sync				○	○	○
Mini Connector				○	○	○
3D over HDMI					○	○
4K over HDMI					○	○
Micro Connector					○	○
Automotive Connector					○	○
HDMI Ethernet Channel					○	○
Audio Return Channel					○	○
4K@60						○
CEC Extensions						○
Dual-View						○
Multi-Stream Audio						○
21 : 9 Aspect Ratio						○
Dynamic Auto Lip-Sync						○

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