ASTRO
Designing Your Vision

Product Catalog Vol.10
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◆Audio

◆Measurement

We are Technical Experts

Technology that effortlessly handles
ULTRA high-definition and ULTRA high-quality video

Pioneering 8K Super Hi-Vision technology in Japan
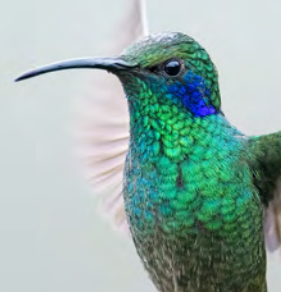
ULTRA-low latency video transmission and ULTRA high-speed image processing

Real-time processing technology developed in the broadcasting field

ULTRA-accurate and ULTRA-precise
video signal and measurement technologies

Precision video measuring equipment used in the design
and manufacture of professional and broadcasting video equipment

Our History

1970's

1977
Established in Tokyo, specializing in the design and development of electronic equipment

1979
Developed the world's first programmable video signal generator

1980's

1985
Invited to participate in joint HDTV development with NHK

1986
In response to growth, relocated to a new facility in Kawasaki

1987
Kansai office opened in Osaka, serving western Japan

1990's

1990
Capital increased to 72 million yen

1993
Kawasaki Technology Center opened

1996
ISO 9001 certified
(registration no. : JET-0056)

1998
Tottori R&D Center opened

1999
ISO 14001 certified
(registration no. : E99-102)

Company Information

Company Name	ASTRODESIGN, Inc.
Established	February 15, 1977 (Currently in it's 50th year)
Capital	72 Million Yen
President and CEO	Toyoaki Nanba

Employees	170

Business Description

Focusing on high-speed digital signal processing technology, we carry out the design, manufacture, and sales of video/image equipment and software, HDTV studio equipment, digital broadcasting equipment, and display measurement equipment, as well as the sale of other telecommunication/control/measurement related modules and systems.

● **Head Office**

1-5-2 Minami-Yukigaya, Ota-ku, Tokyo, 145-0066 Japan

TEL +81-3-5734-6300 / FAX +81-3-5734-6101

● **Kyoto Sales Office & TEST Lab**

2nd floor, Kyoto Omiya BLDG., 394 Osaka-cho, Shimogyo-ku, Kyoto, 600-8177 Japan

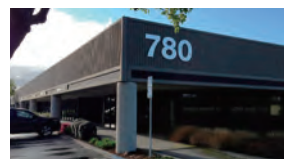TEL +81-75-746-5605 / FAX +81-75-746-5675

● **Tottori R&D Center**

1015-21 Ohara, Houki-cho, Saihaku-gun, Tottori, 689-4102 Japan

TEL +81-859-39-8200 / FAX +81-859-39-8201

● **USA Office**

780 Montague Expressway, Suite 302, San Jose CA 95131 USA

TEL +1-408-435-7800 / FAX +1-408-435-7900

2000's

2002
Merger with affiliate NPS, head office relocated to Meguro-ku, Tokyo

2005
UHDTV processor jointly developed with NHK for Expo 2005 in Aichi

2007
Head office relocated to Ota-ku, Tokyo; three Tokyo offices consolidated

2010's

2010
Expanded 4K product lines (including cameras and recorders) in anticipation of UHDTV market growth

2012
US ASTRODESIGN,Inc. subsidiary established in Silicon Valley, California

2013
Expanded 8K product lines in anticipation of 8K trial broadcasting

2016
Opened our "8K Suite", an 8K production facility

2017
Developed the world's first DLP 8K projector image processing board and supplied to Digital Projection Limited (A Delta Associate Company). Both companies developed and currently sell this projector

2018
LaSCOPE (Laser Scanning Optical Pupil Extension Microscope) product announcement
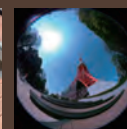Opened the "8K theater" in the head office as an 8K video preview facility

2020's

2024
Commenced full-scale deployment of braodcasting-quality industry-level 8K imaging in the following areas

• Entertainment fields
• Industrial fields
• Government fields

8K Cameras

AB-4838/AC-4837 **NEW**

8K8K Ultra-High Resolution Camera

Highest resolution camera system with 8192×8192 pixel image sensor.

• Square image sensor ideal for VR
• 8K4K 120p/8K2K 240p (panoramic) shooting - High frame rate camera for fast-moving subjects
• L-mount

CM-9010-B

8K Camera System (with Recording function)

8K camera with a small camera head and separate CCU.

• U-SDI connection between the camera head and CCU (Max. 100m)
• Stitching-free 8KVR photography with fisheye lenses
• Micro Four Thirds lens mount

AB-4815

8K 120Hz Portable Camera

8K camera with real time 120p/100p output.

• 8K Full Spec 120Hz
• Equipped with U-SDI output (8K 60p/RGB and 8K 120p/RGB output only)
• 8K 120p output (with 8×12G SDI) 8K 60P output (with 4×12G SDI) from camera body.
• High-quality 4K/HD down conversion output
• PL lens mount
• Ideal for outdoor shooting using battery power

AB-4831

8K 60Hz Portable Camera

8K compact camera with a global shutter.

• Compact 8K camera with integrated CCU
• 8K real-time output (4×12G SDI)
• Low operational noise
• High-quality 4K/HD down conversion output
• PL lens mount
• Ideal for outdoor shooting using battery power

AT-4820/AR-4821

8K 120Hz / 60Hz Optical TX/RX System for AB-4815/AB-4831

Optical transmitter for 8K shooting. Transmits 10×12G-SDI, power source, and remote control signals, etc.

AT-8425/AR-8426

8K 60Hz Optical TX/RX System for AB-4831

Optical transmitter for 8K shooting. Transmits 5×12G-SDI, power source, and remote control signals, etc.

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8K Cameras

AB-4830/AC-4829

8K Compact Camera

Equipped with global shutter.
It can be used in combination with a fanless small camera head and CCU.

- Low operational noise
- Minimum obstruction during shooting thanks to its small size factor
- Camera - CCU connection using USB Type-C cable = Max 2M
- Camera - CCU connection using DisplayPort active optical cable = Max 100M
- Micro Four Thirds lens mount
- Can operate using a commercially available mobile battery

AB-4841/AC-4829-B **NEW**

8K Near-Infrared Compact Head Camera

Equipped with global shutter.
It can be used in combination with a fanless small camera head and CCU.

- Color filter-less design enables ultra-high resolution, high-sensitivity near-infrared imaging

OT-5902/OR-5903

Optical Transmission Device for AB-4830/AC-4829

Optical transmitter for AB-4830 and AC-4829.

- Single-mode optical fiber-Max 2km
- Supports control of Micro Four Thirds lens and ARIB TR-B73 digital command compatible lenses
- LAN terminal for 10/100/1000BASE-T
- Fanless design makes it ideal for use in quiet environments

8K Camera Peripheral Equipment

RB-4816-2

8K Camera Remote Controller

Camera remote control unit for Astrodesign 8K cameras.

Examples of Shoots using 8K Cameras

AB-4838

AB-4830

Media Servers

8K&4K Uncompressed Media Server Series

AS-8930 **NEW**

8K&4K Uncompressed Media Server P

8K&4K Uncompressed Player

AS-8940 **NEW**

8K&4K Uncompressed Media Server

8K&4K Uncompressed Recorder/Player

AS-8950 **NEW**

8K&4K Uncompressed Media Server R

8K&4K Uncompressed Recorder/Player (with Removable SSD option)

- Supports 8K, simultaneous recording/playback of multiple uncompressed 4K and HD videos
- Supports sequential file playback of more than 10 types of uncompressed still images
- Uses the latest USB3.2 Gen 2×2 (20 Gbps) for high-speed data ingest
- Uses the latest 10G Ethernet for high-speed data transfer
- Synchronized operation of multiple units is possible, allowing them to be used as professional/broadcast video equipment

High-Quality Media Server Series

IR-7523

4K 120p Recorders

Portable recorder for 4K up to 120p.

- Records 4K YC_BC_R 4:2:2 120p
- Recording media: CFexpress Type B cards (sold separately)
- Relay recording using dual slots
- Slow-motion playback
- Supports 12G/6G/3G/HD-SDI
- Both DC and AC power input
- Compatible with Apple ProRes 422 HQ/422/422 LT (.MOV) (optional)

SR-8450

8K Video Server

A video server that can loop-record up to four 8K 60p YC_BC_R 4:2:2 streams and simultaneously playback up to two 8K 60p YC_BC_R 4:2:2 signals.

Multiplatform Servers

AW-8803

Professional Workstation

4U 19 inch rack size

A slim, compact proprietary enclosure with high-performance components.

AW-8805

Professional Workstation

AW-8802A

Professional Workstation

4U 19 inch half rack size

Converters

IA-1567

General Purpose Video Signal Converter

Interface adapter for converting HDMI 2.1 and 12G/6G-SDI for 4K/8K.
This unit can be used to connect SDI products to 8K TVs, 4K 120Hz monitors, or to convert GPU signals to SDI signals.

SC-8219

8K Cross Converter

Converter for 8K 60p YCBCR 4:2:2, 8K Dual Green, 4K, HD video up-conversion and down-conversion.

SC-8229

8K Cross Converter

Converter for 8K 60p YCBCR 4:2:2, 4K, HD video up-conversion and down-conversion.
In addition to dynamic range conversion and color gamut conversion using a 3D LUT, frame-rate conversion is also supported.

SC-8222

8K 120Hz Converter

Converts 8K 120P YCBCR 4:2:2 signal between 12G-Quad (8K 60p YCBCR 4:2:2) Odd/Even and 12G-Dual(4K 120p YCBCR 4:2:2)×4.

SC-2065B

Scan Converter

Converts the digital interface (HD/SD-SDI, DVI-D) to/from an analog interface (component YPBPR/Y(R-Y)(B-Y)/RGB, VBS).

SC-2067B

Scan Converter

Converts the digital interface (3G SDI, HD/SD-SDI, DVI-D, Embedded Audio and HDMI) to/from an analog interface (component YPBPR/Y(R-Y)(B-Y)/RGB, VBS).

SD-7075-A

HDMI2.1 Converter Box

Converts HDMI 2.0×4 channels to HDMI 2.1×1 channel, allowing you to connect an HDMI 2.0 compatible tuner, STB, graphics board, etc. to an HDMI 2.1 compatible 8K TV to create an 8K monitoring environment.

SD-7077

HDMI 2.1 to 2.0×4 CONVERTER

Converter for dividing HDMI 2.1(FRL) signal into four (HDMI 2.0(TMDS) signals for 8K/4K.
Ideal for connecting large LED screens and multi-display systems.

IP-4042

ROI Extractor

4×HD cut out from 8K video, currently under development

A converter that extracts and outputs up to four simaultaneous HD sections from an 8K video.

System Converters

BE-4028

Board Enclosure

Up to two 4K converter boards SB-4024-A/4027/4031 can be mounted.

• Redundant power supply
• 1U rack size

SB-4024-A/SB-4027/SB-4031

Ultimate Solution for 4K Converting

Converter board supporting resolution conversion, format conversion, and color gamut conversion for 4K and HD input/output.

• SB-4024-A:3G-SDI 4K-HD cross converter
• SB-4027:3G/12G-SDI 4K-HD cross converter
• SB-4031:3G/12G-SDI 4K-HD down converter

Transmission Devices

TR-5004

SRT Transmission Device   NEW

The TR-5004 supports SRT protocol transmission of "video signals", "intercom signals" and "camera control signals" from the field.
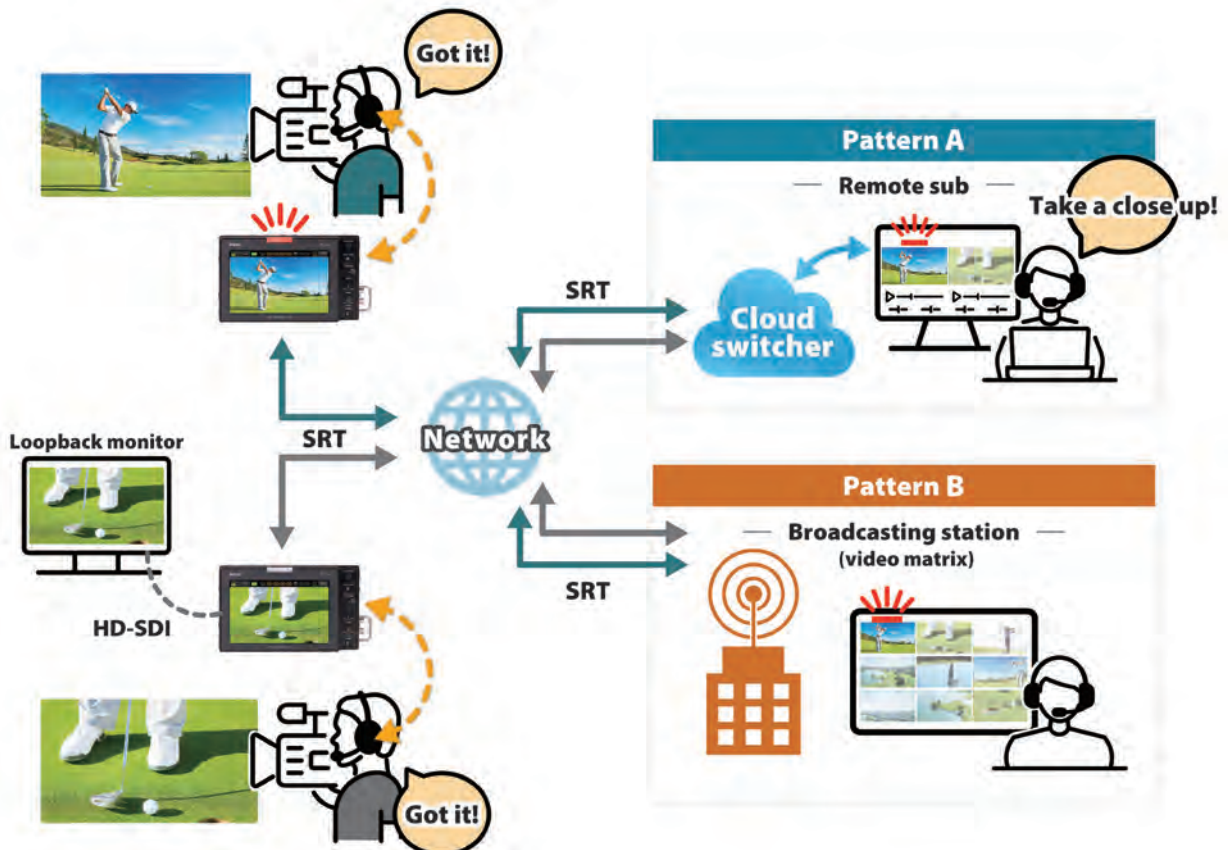

- 3G-SDI input/output → AVC/HEVC H/W CODEC
- Supports intercom signals
- Supports tally signals
- Capable of pulling power from the attached camera
- SD card used for recording and playback
- Use two TR-5004's to send/receive SRT transmissions

Mounting Example on a System Camera

Example of an SRT transmission device in use

※ **SRT (Secure Reliable Transport) protocol**
A next-generation IP video transmission format with high functionality that maintains real-time performance with high video quality

8

Monitors

DM-3417A

12.5 inch 4K LCD monitor

Compact and lightweight 12.5 inch 4K liquid crystal monitor.

• Can display dot-by-dot 4K images
• Compatible with Square Division and 2 Sample Interleave Division
• Supports 12G-SDI (2 inputs) and 3G-SDI (quad, 1 input)
• HDR(HLG, PQ, S-Log3) compatible

DM-3430

31.5 inch 4K OLED Monitor

31.5 inch 4K OLED monitor.

• RGB type OLED panel. High-contrast
• Can display dot-by-dot 4K images
• Compatible with Square Division and 2 Sample Interleave Division
• Supports 12G-SDI (2 inputs) and 3G-SDI (quad, 1 input)
• HDR(HLG, PQ) compatible

Waveform Monitors

WM-3206B/WM-3206B-A

4K Waveform Monitor

Waveform monitor for 4K video signals.

• Supports 4K and 2K
• Supports 3G-SDI/HD-SDI input
• Compatible with Square Division and 2 Sample Interleave Division
• Supports HDR waveform display (HLG, PQ, S-Log, Canon Log)
• WM-3206B-A is DC12V power supply model

HW-7069

3G/HD-SDI Rasterizer

This rasterizer combines the functions of several picture monitors, ID displays, and wave form monitors required by a VE console into a single unit.

• Displays up to four picture and waveform systems on a single screen
• Freely lay out video, waveform, vector, and other information
• Interlocking with CCU and switchers is possible
• 3G-SDI compatible

8K-Compatible High-Quality Compressed IP Transmission Systems

IG-5114

8K IP Gateway

IP gateway with low latency uncompressed 8K video transmission.

- Compatible with 8K/4K/HD
- 12G-SDI ×4 input/output
- Equipped with 100GbE to support QSFP28 transceivers
- Supports SMPTE ST 2110-20/30/40 and transmits video, audio and ancillary data via IP
- Compatible with SMPTE ST 2059-1/-2 and can be operated through Best Master Clock
- Line redundancy by SMPTE 2022-7(Hitless)
- Supports LLDP/DHCP/DNS/NMOS/SDP to automate settings and operation
- Supports IPv4 multicast

CD-5550

JPEG XS IP Gateway

IP gateway with JPEG XS compression.

- Visually lossless, low latency
- Compression rate of 1/5 ～ 1/16 (8K 60P) approx. 8.0Gbps ～ 2.5Gbps
- Compatible with 8K/4K/HD
- 12G-SDI quad ×1 I/O (Encode mode / Decode mode)
- Equipped with 10GbE ×2 and supports SFP + transceiver
- Compatible with SMPTE ST 2110-21/-22/-30/-40
- Compatible with SMPTE ST 2059-1/-2 / Best Master Clock system
- SMPTE 2022-7(Hitless) redundancy mode
- Supports LLDP/DHCP/DNS/NMOS/SDP to automate settings and operation
- Supports IPv4 multicast

JPEG XS IP Gateway (High-quality JPEG XS codec)

Uncompressed

No image degredation even with 1/10 compression

FP-5500

JPEG XS FPGA IP CORES

We have commercialized IP (intellectual property) cores, which encode and decode JPEG XS in FPGA.
We accept contracted development of module boards and products.
Logic size and image quality level can be customized.

Davinci-Compatible High-quality AI Scaler

SP-2030

AI Scaler OpenFX Plugin

Up-conversion software that achieves high-speed processing and high image quality using Astrodesign's self-developed neural network.

- Supports any output resolution up to 8192×8192
- Can be used with OpenFX Plugin compatible software such as DaVinci Resolve ®, Nuke
- 30 day free daily trial
  https://www.astrodesign.co.jp/sp2030-aiscaler-trial.html

Low Latency Hardware Video Processors

MC-2087

Low Latency Hardware Video Processor

MC series flagship model. This multimedia processor has a processing area for 2 times 8K×4K and can support up to 16ch of 8K input/output and up to 64 ch of 4K input/output.

- Seamless switching
- I/F conversion
- Scan conversion
- Video composition
- Video extraction

MC-2086

Low Latency Hardware Video Processor

Multi-video processor/multi-window processor for realtime generation of 8K×2K high-resolution video image.
Up to sixteen I/O interface boards can be mounted.

MC-2085

Low Latency Hardware Video Processor

Multi-video processor/multi-window processor for real-time generation of 8K×2K high-resolution video.
Up to six I/O interface boards can be mounted.

RB-1636A

Remote control for video processors

Remote control for video processors
Hardware controller for MC series.

Audio Monitors

AM-3829 **NEW** **IP Compatible**

ST 2110 Audio Monitor

Audio monitor with SMPTE ST 2110-30, 12G-SDI, MADI, AES and analogue I/O.

• Loudness measurement function
• Audio remapping function (excluding SDI output)
• Audio Level Bar, Loudness Level Bar, Lissajous, Needle Meter, Spectrum Analyzer, Loudness Measurement, Loudness History, Status, Time Code, 2-Screen Multi, Video Display Function

AM-3825 **IP Compatible**

Dante Compatible Audio Monitor

Audio monitor with Dante, 12G-SDI, MADI, AES and analogue I/O.

• Loudness measurement function
• Audio remapping function (excluding SDI output)
• Audio Level Bar, Loudness Level Bar, Lissajous, Needle Meter, Spectrum Analyzer, Loudness Measurement, Loudness History, Status, Time Code, 2-Screen Multi, Video Display Function

AM-3807/AM-3807-A

Audio Loudness Meter

Loudness meter for 3G-SDI and AES inputs with 7" LCD.

• History display
• Loudness Audio level bar display
• Picture Display
• Surround Lissajous Waveform Display
• Multi Layout Display

Decoders

MA-1851

MPEG-4 AAC Audio Decoder

Audio decoder with MPEG-4 AAC audio input.

• Decode HDMI ×1 MPEG-4 AAC 22.2ch/5.1ch/2ch
• HDMI(8ch) ×3 output / MADI (24ch)×1 output
• Ideal for a 22.2ch sound system

Immersive Audio System

SA-1852

Immersive Audio Chair

Chair-type loudspeaker with realistic 22.2ch sound field reproduction.

• 24 high performance speakers inside the shell
• Immersive acoustic experience

PA-1853/RB-1853

Multi-Channel Power Amplifier

32 channel power amplifier.

• HDMI 2.1×2 inputs, HDMI 2.1×1 output (supports eARC/ARC)
• MADI/Dante input/output (PCM max. 64ch)
• Speaker-Adjustment Functions (EQ, Delay, Level)
• MPEG-4 AAC decoder (22.2ch, 5.1ch, 2ch)

Cable Testers

CT-1860/PM-1860-H1

Cable Tester/HDMI Frequency Response Module

This tester can easily measure the transmission characteristics of high-speed transmission cables.

- Display and save the measured data on the main unit LCD and control panel.
- Supports HDMI cable measurement (metal, AOC)
- Replacement of the Performance Module will support various types of cable measurement besides HDMI

MTF Measuring Devices
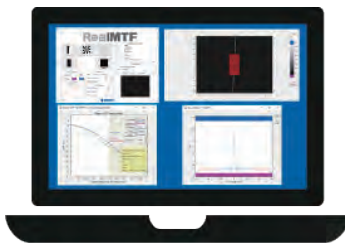
DT-8031/DT-8031-MV

Display MTF Measurement System

Application to measure the spatial resolution characteristics of televisions, displays, and projectors.

- Supports the newly developed Line-based measuring method in addition to the Grille measuring method determined from the square-wave contrast-ratio
- Developed in cooperation with the Japan Broadcasting Corporation

IP-8030/IP-8030-MV

8K Real-Time MTF Measuring Device

Application to measure the spatial resolution characteristics of cameras in real time.

- Compatible with real-time measurement of camera MTF using the improved Slanted-edge measuring method
- Developed in cooperation with the Japan Broadcasting Corporation

Color Gamut Evaluation System

SP-8870-CM

Color Gamut Evaluation System

Automatically measures the color gamut of 8K TVs, panel-modules, etc.

- Simultaneous control of signal-generating devices and measuring devices. (When VG-887 is used)
- Supports Gamut Rings and Color Volume drawing
- Developed in cooperation with the Japan Broadcasting Corporation

Signal Generators

LS-8500 **NEW**

Universal Video Platform

Next-generation multi-I/F measuring instrument with customizable features.

- Built-in GX-173(HDMI output unit) to support HDMI output
- Supports CTA-861-H, VESA DMT Version 1.0 Rev.1.3 standard video formats
- Supports high frame rate video format output
- Supports FRL mode with max. 4 Lane 12Gbps
- Corresponds to VRR, FVA, ALLM specified by HDMI 2.1a
- VRR support

VG-879-B

Digital Video Generator

Signal generator supporting up to 8K 120P.

- Compatible with the latest standards such as HDMI 2.1, V-by-One HS, 12G-SDI, DisplayPort 1.2a
- Supports high-speed signals such as 8K 120p, 4K 120p, FHD 240Hz
- Slot type interface for maximum flexibility. Inferface unit can be changed.
- HDMI 2.1 compliance test tool available. Sink testing

VG-876

Digital Video Generator

Perfect signal-generator for evaluating displays and display devices with max 8K×4K resolution.

- Compatible with the latest standards such as HDMI 2.0a, V-by-One HS, 3G-SDI, DisplayPort 1.2a
- Supports high-speed signals such as 8K 120p, 4K 120p, FHD 240Hz
- Slot type interface (up to 4 output boards can be installed)
- HDMI 2.0 compliance test tool available. Sink testing
- HDR signal setting-HDR patterns can be output

Evaluation Picture Library
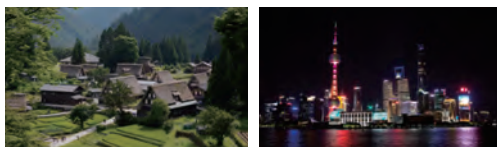
VT-7010

8K/4K Evaluation Picture Library

Optional picture library for VG-879-B/876.

- 10 natural images and 8K monoscopes, Chinese monoscopes
- Two resolutions: 3840×2160 and 7680×4320 (FRL, TMDS timing-compatible)
- Monoscopes are also available in 4096×2160 and 8192×4320
- Three types of natural images are shown in 1000nits, 4000nits, HLG. with 8bit, 10bit and 12bit versions
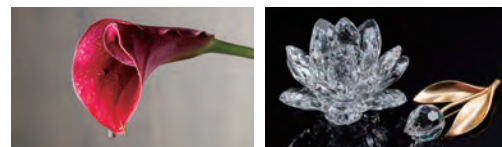
VT-7009

8K and 4K HDR Picture Library

Optional picture library for VG-879-B/876.

- 14 still images
- Two resolutions: 3840×2160 and 7680×4320 (FRL, TMDS timing-compatible)
- Four natural images are available in 1000nits, 4000nits, HDR2SDR, HLG. with 10bit & 12bit versions.
- SMPTE ST 2084 and ARIB STD-B67 linear RAMP and 16 Step Gray to VG built-in patterns
- Scale indicator (% value for the top row, digitized value for HDMI output for the bottom row) allows objective assessment

Signal Generators

VG-870B

Digital Video Generator

Programmable video-signal generator with multi-interface capability.

- HDMI 1.4a (3D・ARC) compatible
- RGB, Max 16 bit
- Compatible with full HD 120Hz

VG-871B

Digital Video Generator

Programmable video-signal generator with multi-interface capability.

- HDMI 1.4a (3D・ARC) compatible
- RGB, Max 16 bit
- Compatible with full HD 120Hz

VG-873

HDMI 300MHz Digital Video Generator

Programmable video-signal generator that supports HDMI TMDS Clock 300MHz output.

- HDMI 1.4a (3D・ARC) compatible
- HDMI 16 bit video output
- HEC (HDMI Ethernet Channel) supported

VG-874

HDMI 300MHz Digital Video Generator

Programmable video-signal generator that supports HDMI TMDS Clock 300MHz output.

- HDMI 1.4a (3D・ARC) compatible
- HDMI 16 bit video output
- HEC (HDMI Ethernet Channel) supported

VG-882-A

Portable Video Signal Generator

HDMI 1.4 and analogue signal generator.

- Supports HDMI 1.4 × 4CH, VGA, D connector, YP_BP_R, CVBS, Y/C and SCART
- Can test HDCP, CEC and EDID simultaneously

Evaluation Picture Library

VT-7004

Uncompressed 4K × 2K Picture Library for VG-870 series

Optional 4K assessment image library for VG-870 series.

- 20 uncompressed 4K still images with 8, 10, and 12bit gradation, suitable for 4K monitoring and panel testing
- 3 types of testing patterns for 4K monoscos, etc.

Optional Accessories

RB-1870

Remote BOX

Remote control BOX for VG series (except for VG-879-B).

- Same number of key switches as the main unit allows similar operation
- Can edit and register program data
- Direct program number recall
- Remote control of pattern switching, turning RGB on/off, etc.

RB-1871

Remote BOX

Remote control BOX for VG series (except for VG-879-B).

- Direct program number recall
- Allows remote control of functions such as pattern-switching and turning RGB on/off

Signal Generator Specifications   Comparison Table

	VG-879-B	VG-876	VG-886
Suitable applications	Product Design	Product Design	Product Design, Quality Control, Manufacturing
Number of slots	4	4	
HDMI version	2.1(VM-1876-MD)	2.0(VM-1876-M8)	
Max resolution (HDMI)	8K 60p (YC$_B$C$_R$420) FRL	4K 60p (YC$_B$C$_R$444)	
SDI	12G-SDI(VM-1876-MB) Max 4K 60p	3G-SDI(VM-1876-M5)	12G-SDI 4ch-8K 60p(2SI) 2ch-4K 120p(2SI)
DisplayPort	Ver1.2a (VM-1876A-M1)	Ver1.2a (VM-1876A-M1)	
V-by-One ® HS	VM-1876-M2 (16-lane/board) (4K 120p/board)	VM-1876-M2 (16-lane/board) (4K 120p/board)	
8K 120p	V-by-One® HS (64-lane) (by synchronizing 4 units)	V-by-One® HS (64-lane) (by synchronizing 4 units)	12G-SDI (8ch) (by synchronizing 2 units, 2SI)
DVI	VM-1876-M9	VM-1876-M9	
iTMDS	VM-1876-M9	VM-1876-M9	
LVDS	VM-1876-M9 + IA-1540 converter	VM-1876-M9 + IA-1540 converter	
Analog	VM-1876-MA	VM-1876-MA	
PC remote (command line)	✓	✓	✓
PC remote (SP-8870)	✓	✓	
VT-8500-0006 HBR Audio	Option (HDMI)	Option (HDMI)	
VT-8500-0021 MPEG-4 AAC Audio	Option (HDMI)	Option (HDMI)	
SP-8871 Picture Conversion Software	✓	✓	
VT-7009 HDR picture bundle	✓	✓	
VT-7010 HDR picture bundle 8K Monoscope	✓	✓	
VT-7007 ITE 2K, 4K, 8K picture bundle	✓	✓	
VT-7012 Dolby Vision Test Pattern	✓	✓	
VT-7013 HDR10+ Test Program	✓	✓	

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Signal Generator Specifications   Comparison Table

	VG-870B	VG-871B	VG-882-A
Suitable applications	Product Design	Product Design, Quality Control, Manufacturing	Quality Control, Manufacturing
Number of slots	3	3	
HDMI version	1.4	1.4	1.4
Max resolution (HDMI)	4K 60p (YC$_B$C$_R$420)	4K 60p (YC$_B$C$_R$420)	2K
SDI	3G-SDI (VM-1821)	3G-SDI (VM-1821)	
DisplayPort	Ver1.1a (VM-1820A, 1826)	Ver1.1a (VM-1820A, 1826)	Ver1.1a
V-by-One ® HS	VM-1825 (8-lane/board) (4K 120p by 2 boards)	VM-1825 (8-lane/board) (4K 120p by 2 boards)	
8K 120p			
DVI	VM-1814, 1824, 1824-A	VM-1814, 1824, 1824-A	
iTMDS	VM-1824, 1824-A	VM-1824, 1824-A	
LVDS	VM-1815	VM-1815	
Analog	VM-1811, 1812	VM-1811, 1812	✓
PC remote (command line)	✓	✓	✓
PC remote (SP-8870)	✓	✓	✓
VT-8500-0006 HBR Audio	Option (HDMI)	Option (HDMI)	
VT-8500-0021 MPEG-4 AAC Audio			
SP-8871 Picture Conversion Software	✓	✓	
VT-7009 HDR picture bundle			
VT-7010 HDR picture bundle 8K Monoscope			
VT-7007 ITE 2K, 4K, 8K picture bundle			
VT-7012 Dolby Vision Test Pattern			
VT-7013 HDR10+ Test Program			

Analyzers

VA-1842

HDMI2.0b/HDCP 2.2 Protocol Analyzer

HDMI 2.0b analyzer with CTS function.

• Compatible with HDMI 2.0b/HDCP 2.3
• Max. 4K 60p YC$_B$C$_R$ 4:4:4 timing input/output
• Supports Receiver mode, Generate mode, and Repeat mode
• 12-inch monitor with integrated speakers

VA-1844A

HDMI Tester

Portable, lightweight and slim HDMI tester.

• Compatible with HDMI 2.0b/HDCP 2.3
• Max. 4K 60p YC$_B$C$_R$ 4:4:4 timing input/output
• Receiver mode (standard)
• Generator mode and repeater mode (optional)
• Test function for cables and connectivity between devices

VA-1845

HDMI Source Tester

Automated HDMI testing equipment suitable for production lines.

• HDMI 2.0b/HDCP 2.3 compliant
• Up to 4K 60p RGB 4:4:4 8 bit supported
• Supports analysis mode (input port×3) and generation mode (output port×1)
• Measure and analyze HDMI devices through your PC
• Freely set test items using commands

VA-1847-A

HDMI2.1 Protocol Analyzer

HDMI 2.1 analyser with PreCTS function.

• Compatible with HDMI 2.1/HDCP 2.3
• TMDS and FRL (max. 12G/4L) can be measured
• Compatible with 4K 120p YC$_B$C$_R$ 4:4:4 and 8K 60p YC$_B$C$_R$ 4:2:0
• Supports Receiver mode, Generate mode, and Repeat mode
• 12-inch touch panel and built-in speaker

VA-1849-C `NEW`

## HDMI 2.1 Source Tester

Automated HDMI testing equipment suitable for production line use.

• HDMI 2.1/HDCP 2.3 compliant
• Measures TMDS and FRL (max. 12G/4L)
• Transmits and recieves 8K 60p YC$_B$C$_R$ 4:2:0 8 bit
• When DSC is on, up to 8K 60p RGB 12 bit can be sent and received
• Supports analysis mode (input port×2) and generation mode (output port×1)
• Measure and analyze HDMI devices through your PC
• Freely set test items using commands

TEST Lab
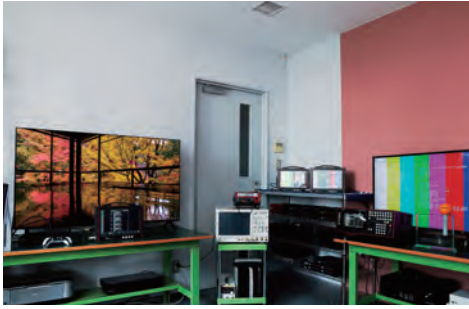
Pre-testing of logo certification tests for HDMI and other standards, utilizing the facilities and knowledge of an experienced measurement equipment manufacturer.
We provide connectivity verification, quality evaluation, and failure diagnosis.

We would be happy to help you solve any problems and improve the quality of your products.

HDMI Compliance Test Pre-Verification Service

- We can use not only our signal generators and protocol analyzers, but also digital oscilloscopes, high impedance testers, digital multi-testers, UITA-1000, and other compliance test certified equipment.

- We can perform compliance tests required for releasing HDMI devices.
  HDMI 1.4b CT S/HDMI 2.1 CT S/HDCP 1.4 CT S/HDCP 2.3 CTS

- Our highly experienced engineers will support you until the compliance test is passed, so even first-time users can use our service with confidence.

HDMI Evaluation Service

- Our expert engineers, who have been involved in the development of the HDMI standard since its inception, will evaluate your product.
  Video Audio related / HDCP related / EDID related / CEC operation related / Cable related

Equipment Used

- **HDMI 1.4b Compliance Test Pre-Verification Service**

  Source equipment ：Oscilloscope, High impedance tester, UIT A-1000, VA-1842, VA-1847
  Sink Equipment ：VG-876, VA-1842
  Repeater equipment ：Combination of above equipment

- **HDMI 2.1 Compliance Test Pre-Verification Service**

  Source Equipment ：VA-1847
  Sink equipment ：VG-879

※ Please feel free to contact us if you have any questions about HDMI design, evaluation, mass production, etc.

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8K Contents

Model Number	VT-8015	VT-8014	VT-7011
Content Name	**Open Fire**	**Cherry Blossoms in Japan**	**Yakushima Island**
Outline	Camp Fire	Cherry blossoms and spring scenery	The Scenery of Yakushima
	8K content that captures a cozy fire and campsite cooking.	8K content taken with 8K cameras in Fukushima, Nagano, and Yamanashi.	8K contents that realistically captures the ancient nature of Yakushima, a UNESCO natural site. Includes narration.
Features			Includes narration
Resolution	7680×4320	7680×4320	7680×4320
Frame Rate	59.94p	59.94p	59.94p
Dynamic Range	HLG　2020	HLG　2020	HLG　or　PQ
Audio	PCM 16bit Stereo	PCM 16bit Stereo	PCM 16bit Stereo
Video File Format	AVI(HQX)/ProRes422HQX	AVI(HQX)/ProRes422HQX	AVI(HQX)
Total Length	Approximately 60 mins / 3 videos	3 minutes 0 seconds	4 minutes 05 seconds

Model Number	VT-8400	VT-7006	VT-8600
Content Name	**Motocross**	**Kushimoto**	**Three TAIKO Manias**
Outline	Motocross Racing	Undersea photography	Taiko Percussion/5 songs
	Powerful 8K motocross content.	8K, 4K Video of the ocean in Kushimoto-cho, Higashimuro-gun, Wakayama.	The Japanese drum (taiko) and Latin percussion session was recorded with four 8K cameras and the audio was converted to 22.2ch.
Features			22.2ch immersive audio
Resolution	7680×4320	7680×4320 / 3840×2160	7680×4320
Frame Rate	59.94p	59.94p	59.94p
Dynamic Range	SDR　Rec.709	Valid only for MSB side 10bit of TIFF 16bit file.	SDR Rec.709 gamma 2.4
Audio	PCM 16bit Stereo		PCM 16bit　22.2ch
Video File Format	AVI(HQX)	TIFF RGB4:4:4 Serial number file	AVI(HQX)
Total Length	Approx. 5 minutes	Approximately 4 minutes	Approx. 69 minutes (5 tracks)

ASTRODESIGN Solutions

8K Theater

This theater is equipped with an 8K projector and a 22.2ch sound system, and can show 8K Super Hi-Vision with full specs.

• The impressive 170-inch screen 8K theater supports 8K3D and 8K 120Hz video, as well as 22.2ch audio.

• You can instantly check the content you are editing in an environment close to what the actual screening will be while you proceed with production.

• It can be used for a wide range of purposes, such as previews for clients.

Off-Grid Studio ATOM`S

A small relay vehicle equipped with the functions necessary for shooting, editing, distribution, etc.

• Easy to handle and can drive effortlessly on rough roads
• Equipped with a power generator
• Wireless relay and wireless distribution make it easy to prepare for distribution
• Centralized check and switching of multiple cameras possible
• Can be linked with a body camera for command and relay in times of disaster.
• Vehicle model and system scale can be freely customized

Service and Support

We provide service and support to ensure the safe and reliable use of our products.

Our maintenance team will provide quick response and high-qual ity, reliable service through a quality control system based on the ISO9000.

Repair 🔧

To repair an Astrodesign product, please contact the dealer that you purchased it from. An initial diagnosis will be performed by asking for detailed information such as equipment symptoms, operating environment, and settings at the time of malfunction. After the primary diagnosis, an RMA will be issued, and you will be requested to send the product to us. Further diagnosis will be carried out to confirm where the issue is, and you will be provided with an estimate before the repair process is begun.

Calibration 📋

We recommend an annual calibration service to ensure that your measurement-related equipment always provides high-quality and precision results. The following documents will be issued for products that have been calibrated.

- A calibration certificate
- A traceability certificate (for an additional cost)

Maintenance Service 🤍

Maintenance We will provide maintenance proposals upon customer request.

Extended Warranty If you sign an extended warranty contract, repair costs will be waved in the event of a malfunction.

(However, this does not apply to malfunctions caused by use of the product outside of its specifications. In principle, an extended warranty contract can only be entered into at the time of purchase.)

Overhaul To maintain high precision and quality, we recommend that you have your products overhauled (consumable parts replaced) after a certain period (every 5 years recommended).

-Examples of consumable parts-
Power supply unit, fan, internal battery, air filter, AC adapter.

For inquiries about repair, calibration, maintenance, and product warranty, please contact the dealer from whom you purchased your product.

Our website
https://www.astrodesign.co.jp/english/

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