ATEN Solutions Book

For Professional AV Systems

Issue 1

ATEN

ATEN Solutions Book

ATEN, established in 1979, has specialized in connectivity and management solutions for information technology, professional audio/video, and green energy products; supplying consumers, small/home offices (SOHO), small to medium sized businesses (SMB), and enterprise customers.

This compilation of our products applied in real life case studies and success stories was created to help our business partners and customers do business more effectively and flexibly. We created two books which feature: professional audio/video product applications and Enterprise KVM solutions applications.

The professional audio/video case studies offer an insight to our integrated solutions for a wide variety of corporate, education, hospitality, commercial and home theater applications. Our high quality audio/video splitters, extenders and converters are available with VGA, DVI, HDMI, and high definition component interfaces.

The Enterprise KVM solutions provide a show case of the many different industries and applications our products are used for to support and streamline management of IT equipment.

We distribute our products through a global sales network to meet a broad range of customer needs. ATEN delivers and we care about our customers. We are committed to the best customer support in the industry.

Simply Better Connections

 "Simply Better Connections" has always been at the heart of the ATEN brand. It means providing innovative solutions for you to make better connections, efficiently and seamlessly, to the information and people that you value. As a result, ATEN connects you to the world, anytime and anywhere, by providing technologies that enable you to share and to care. ATEN makes professional and personal life easier, simpler and better connected.

Contents

Industry Applications

Product Introductions

Why Choose ATEN VanCryst Professional AV Solutions

30 Years of Experience

ATEN has consolidated its 30 years of video technology expertise into the VanCryst solutions range for a wide variety of applications

Quality Engineering

ATEN provides innovative video products of the highest quality where you can get the reliability and performance you demand

Flexible, Integrated Solutions

Full range of video products provides you with a multitude of flexible, integrated solutions for all video-related applications

Exceptional Price Performance

ATEN offers the best price-to-value ratio in terms of quality, performance, and after-sales support

Total Customer Satisfaction

Customer satisfaction has and always will be a number one priority at ATEN. To ensure this, excellence is pursued at every stage

Support for All Major Video Interfaces

Incorporating all current video interfaces and matchless audio support allows you to seamlessly transition to the highest resolutions

Patented Technologies

VanCryst Solutions benefit from various patented technologies that enhance both functionality and compatibility

Unique Technologies from VanCryst

• ATEN Exclusive Video Compensation technology

Permits video signals to be transmitted over long distances. This technology not only improves brightness and also achieves high skew tolerance for video extender products.

• FPGA Design Benefits

This is used by the DVI and HDMI video interfaces and brings our video products better cascade compatibility, and extends digital signals to longer distances.

• Superior CD Audio Quality

Converts analog signals to digital signals to reduce electromagnetic interference and provides better CD audio quality at sample sizes of 24-bit, with sample rates up to 48 KHz.

• ATEN Exclusive Deskew Technology

Enables you to manually tune the R/G/B signals settings, ensuring stable, high quality video in video extender installations.

• Audio Return Channel

Allows an HDMI source device to receive content via air waves to send audio to your HDMI display devices without the need for an extra audio cable, which simplifies cabling and adds further depth to your home theater installation.

• EDID Expert

Allows you to choose an EDID recognition mode that optimizes display resolution throughout your installation and allows for faster, smoother switching between displays.

• 3D Support

ATEN has recently launched HDMI devices that establish 3D capabilities for implementing 3D video in the home. They are ideal for 3D home theater integration, and commercial use.

Insurance Company

An insurance company would like to set up LCD displays in the lobby and meeting room to introduce various insurance programs to their clients, and the transmission distance to each display is more than 60 m from the control room. Moreover, the company is considering the possibility of creating more meeting rooms on each floor, so the scalability of the hardware needs to be considered.
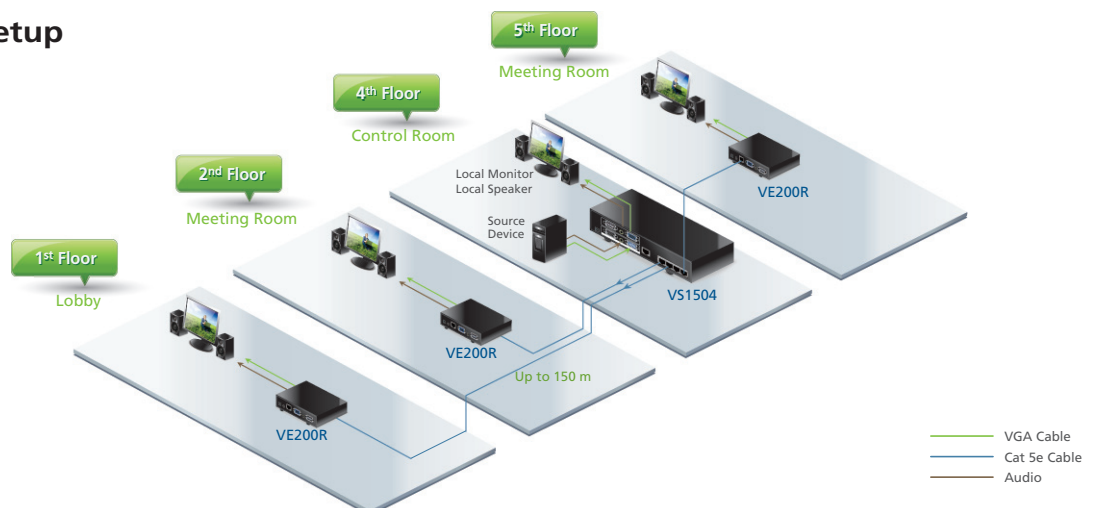
ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

VS1504 4-Port Cat 5 Audio/Video Splitter (See Page 28)	· One video input to 4 video outputs via Cat 5e cable · Audio enabled · Uses Cat 5e cable to extend displays up to 150 m · Superior video quality – up to 1920x1200 @ 60Hz
VE200R Audio/Video Receiver (See Page 29)	· Superior video quality – 1920x1200@60Hz at 30 m, 1600x1200 @ 60Hz at 150 m · Dual Audio/Video output · Audio and serial enabled · Two gain control model for sharpest picture quality
2L-2801 Low Deskew Cat 5e Cable (See Page 37)	· Supports high quality RGB video transmission · Compatible with ATEN analog Cat 5 video extenders · Delay Skew – 1~350 MHz 20nS/100m Max

Benefits

· **Low skew cable** – Supports high quality RGB video transmission. Eliminates blur and bleeding images and ensures clarity of the video transmission by using 2L-2801 Low Skew Cat 5e Cable
· **Cascadable to three levels** – VS1504 provides up to thousands of video signals when combined in an installation with ATEN receiving devices
· **Long distance transmission** – Extends the distance between control room and lobby/meeting rooms.
· **Superior video quality** – Supports high video resolutions of up to 1920 x 1200 @ 60 Hz
· **Convenient control** – VE200R equipped with IR remote control for screen on/off and video adjustment at remote site.

Solution Setup

5th Floor
Meeting Room

4th Floor
Control Room

2nd Floor
Meeting Room

1st Floor
Lobby

Local Monitor
Local Speaker

Source
Device

VE200R

VE200R

VE200R

VS1504

Up to 150 m

VGA Cable
Cat 5e Cable
Audio

Lion Travel Group

A forerunner in Taiwan's tourism industry, Lion Travel Group was established in 1977. With a large number of various multimedia source devices for broadcasting scenic landscapes and tourism programs, Lion Travel needed a solution to integrate them, allowing administrators to easily switch and access the source devices, and effectively monitor the video display status of each device over long distances.

ATEN Solution

Media Matrix Solution

VM0808T
8x8 Cat 5 A/V Matrix Switch

(See Page 26)

VE300T
A/V over Cat 5 Transmitter

(See Page 27)

VE300RQ
A/V over Cat 5 Receiver
(with RGB Deskew function)

(See Page 27)

VE022
Mini Cat 5 A/V Extender

(See Page 35)

CS74E
4-Port PS/2 KVM Switch

(See Page 39)

Benefits

· **Long distance transmission** – Media Matrix Solution can transmit multiple sets of multimedia source signals up to 300 meters to display monitors on various floors, and simultaneously maintain high A/V quality
· **High compatibility and easy installation** – The VE022 mini extender is compact and easy to install, steadily extending the signal transmission distance
· **Easy switching** – Easily connect and switch between multiple types of source devices through CS74E to ensure correct video output

Solution Setup
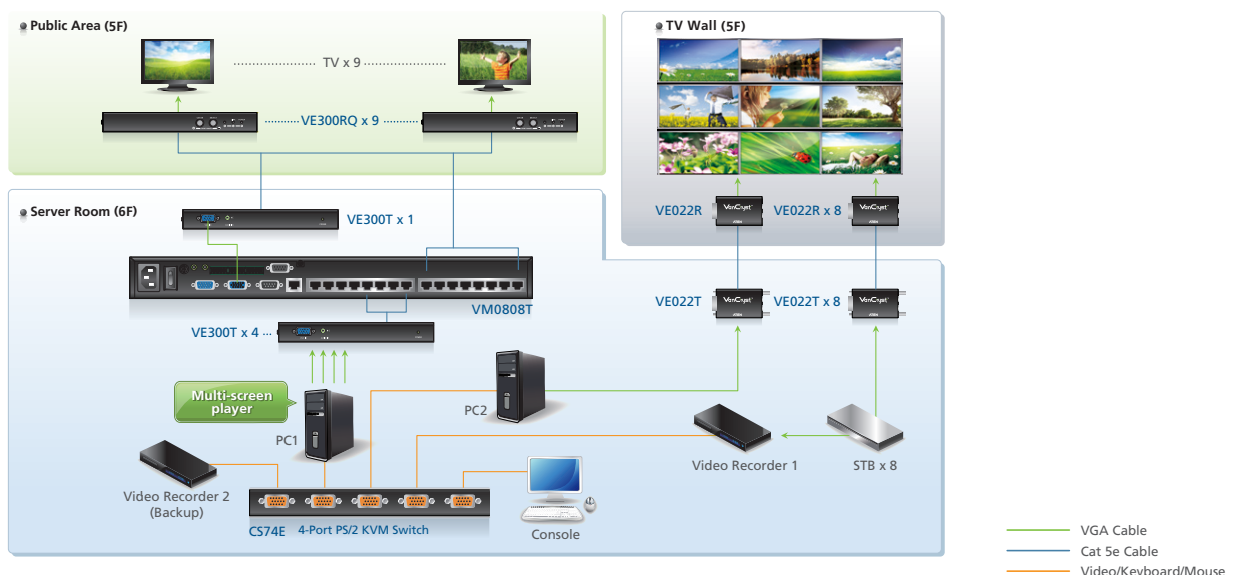
Public Area (5F)

TV x 9

VE300RQ x 9

TV Wall (5F)

VE022R   VE022R x 8

Server Room (6F)

VE300T x 1

VM0808T

VE300T x 4

VE022T   VE022T x 8

Multi-screen player

PC2

PC1

Video Recorder 1   STB x 8

Video Recorder 2 (Backup)

CS74E   4-Port PS/2 KVM Switch

Console

— VGA Cable
— Cat 5e Cable
— Video/Keyboard/Mouse

Lion Travel Group

A forerunner in Taiwan's tourism industry, Lion Travel Group was established in 1977. It built the Lion Travel Group building in 2010 in response to the rapid growth of sales personnel and employees. Located on the first floor of the building is an open space coffee bar, which is rented out occasionally for various activities. To meet the needs of these external activities, Lion Travel installed a modernized professional audio and video system, eliminating the trouble of renting or borrowing stereo equipment.

ATEN Solution

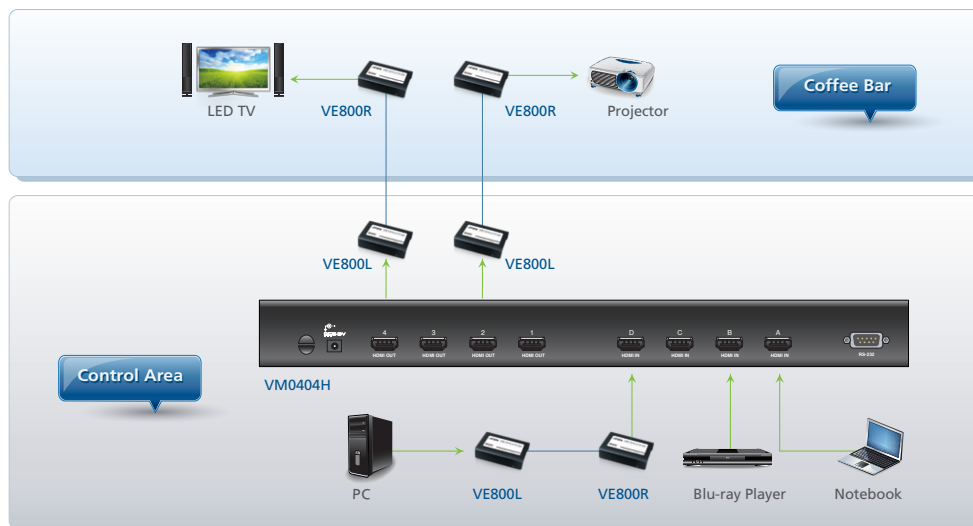|	
VM0404H 4x4 HDMI Matrix Switch (See Page 31)	· Connects any of 4 HDMI source devices and transmits multimedia content to the LED TV and projector · Enables flexible and easy switching between the multimedia sources · Superior video quality – 480p, 720p, 1080i, and 1080p (1920x1080)
VE800 HDMI Extender (See Page 35)	· Extends the distance between HDMI source and HDMI display up to 60 meters · Uses Cat 5e cables to achieve long distance transmission · Superior video quality – up to 1080p

Benefits

· **Long distance transmission** – The VE800 extends the distance between the HDMI source and HDMI display by up to 60m
· **Superior A/V quality** – Supports high video resolutions of up to 1080i and 1080p, and supports high quality audio
· **High stability and compatibility** – Compatible with most HDMI devices
· **Easy switching** – Easily connect 4 HDMI sources to 4 HDMI displays; real-time transmission with no distortion

Solution Setup

LED TV   VE800R   VE800R   Projector   **Coffee Bar**

VE800L   VE800L

Control Area   VM0404H

PC   VE800L   VE800R   Blu-ray Player   Notebook

HDMI Cable
Cat 5e Cable

HyperNet CO., LTD.

HyperNet CO., LTD. is a broad-band application and conference center systems integration planning company. In order to allow customers to experience the power of integrating communications in the conference room, they built a multifunction C&C(Communication & Conference) conference room with integrated video communications and multimedia equipment at its headquarter in Taipei. They are looking for a professional A/V solution with centralized equipment control of the video conference system and the environment control system.

圓方科技股份有限公司
HyperNet CO., LTD.

ATEN Solution

VM0404H
4x4 HDMI Matrix Switch

(See Page 31)

· Connects any of four HDMI sources to any of four HDMI displays
· Built-in bi-directional RS-232 serial remote port for high-end system control
· Toggles between HDMI A/V sources and displays using remote control or front panel pushbuttons for easy selection

Benefits

· **Easy switchin**g – Easily connect 4 HDMI sources from both local and remote sites to 4 HDMI displays; real-time transmission with no distortion
· **Easily expand and connect equipment, lower establishment cost** – Equipment can be connected through VM0404H's expansion in order to solve the restrictions on the numbers of equipment connected to the conference system, and lower setup cost
· **High stability and compatibility** – Supports RS-232 connection, able to easily integrate with the environment control system and help simplify equipment management

Solution Setup

HD Camera

The HDMI signals from remote site

VM0404H

Video Conference System
PC
Blu-ray Disc Player

The HDMI signals from local site

Internet

Remote Site

Control Panel
Control Box

Speaker
Mic
Audio system

HDMI Cable
RS-232

Oil & Gas Service Company

An Oil & Gas Equipment & Service Company helps oil companies to find oil and gas reserves offshore worldwide. They required video extensions for operators to access data from their systems/computers that are situated in the control room.

ATEN Solution

|	
VS1204T 4-Port A/V Over Cat 5 Splitter (See Page 29)	· One audio/video input to 4 audio/video outputs via Cat 5e cable · Supports local display + 4 remote displays · Uses Cat 5e cable to extend displays up to 300 m · Superior video quality – up to 1920 x 1200 @ 60Hz
VE170R / VE170RQ A/V Over Cat 5 Receiver (See Page 30)	· Long distance transmission up to 300 m · Superior RGB deskew function – automatically synchronizes the time delay of RGB signals to compensate for distance (VE170RQ) · Superior video quality – up to 1920x1200 @ 60Hz · Audio enabled (mono)

Benefits

· **Increased efficiency** – Operators can access the legacy systems whilst sitting at their desk. They don't need to go to the control room each time they need to analyze important data
· **Easy installation** – Simplified Cat 5e cabling instead of bulky traditional cables to provide a neat and tidy work environment
· **Cost effective** – Economically transmit the signals from a single A/V source to multiple outputs

Solution Setup

VS1204T

Control Room

VE170R

VE170RQ

Office Area

VE170R

VE170RQ

VGA Cable
Cat 5e Cable
Audio
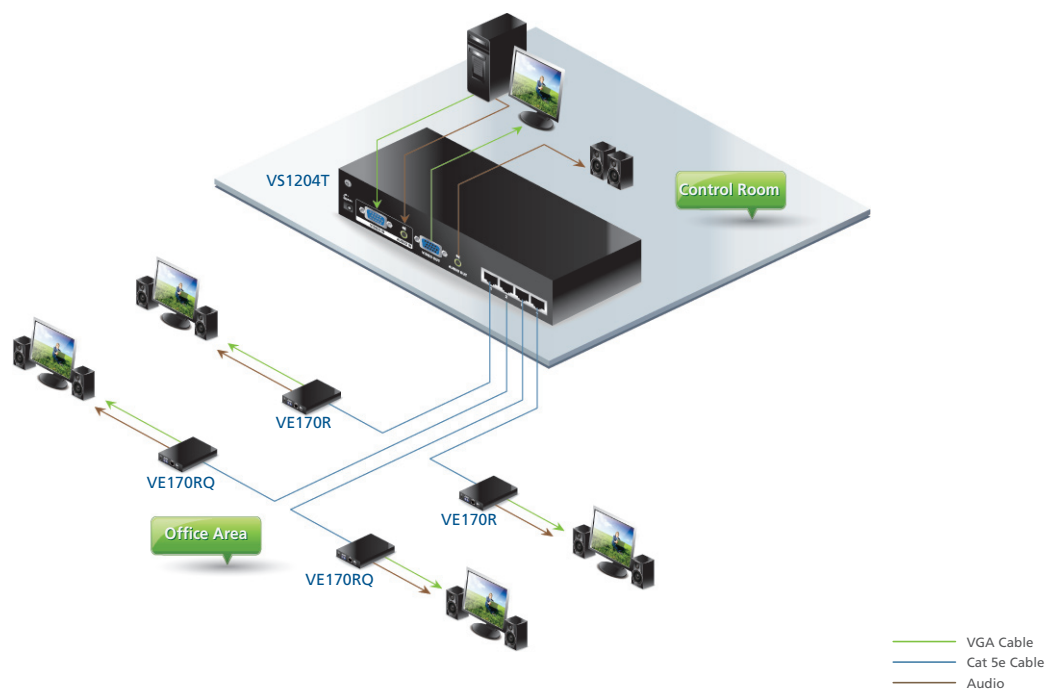
Digital Classroom

A university has established an IDC on its new campus. In addition to disseminating teaching materials, utilizing modern A/V technology can also improve the examination procedure. The university is looking for a professional A/V solution which can deliver exam content to specific displays situated in several different classrooms. The exam content servers need to be kept safe and secure in the IDC while the displays can be deployed up to 300 m away.

ATEN Solution

Media Matrix Solution is a combination of an A/V Matrix Switch and A/V Over Cat 5 Extenders

| **VM0808T** 8x8 Cat 5 A/V Matrix Switch (See Page 26)	· Connects any of 8 Cat 5 A/V inputs to any of 8 Cat 5 A/V outputs in combination with ATEN VE500 A/V Over Cat 5 Extender system · Superior video quality – up to 1920 x 1200 @ 60Hz · Easily switch between multiple sources and multiple displays · Supports additional local input and local display
VE500T / VE500RQ A/V Over Cat 5 Transmitter / Receiver with Deskew function (See Page 26)	· Long distance transmission up to 300 m · Uses Cat 5e cable to connect the transmitter and receiver · Superior video quality – up to 1920x1200 @ 60Hz · Superior RGB deskew function – automatically synchronizes the time delay of RGB signals to compensate for distance

Benefits

· **Multiple video sources, multiple video outputs** – Different exam questions can be delivered to multiple classrooms and displayed on two screens in each classroom with the use of the existing video splitter
· **Long distance transmission** – A/V signals can be seamlessly delivered from IDC to the classrooms up to 300 m
· **High flexibility** – VM0808T allows independent switching of all audio and video sources, which provides the ultimate in flexibility
· **Serial connectivity** – VM0808T offers RS-232 command functionality and is compatible with most control systems on the market

Solution Setup

VGA Cable
Cat 5e Cable
RS-232
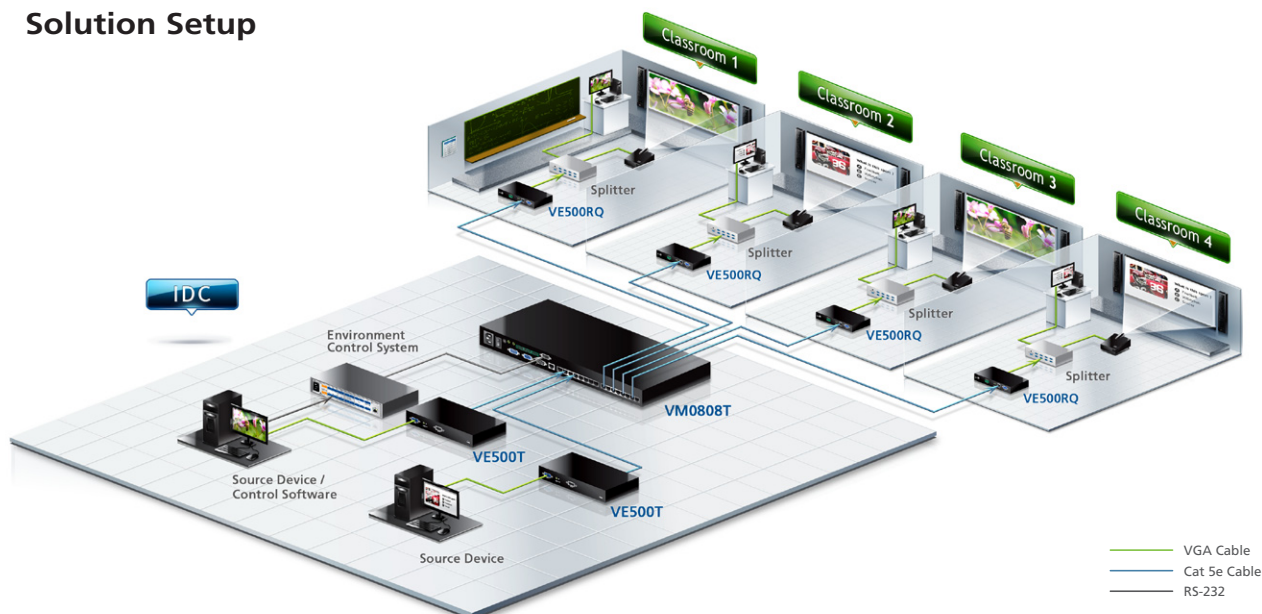
Campus Broadcasting

A university has classrooms located at different distances of 180 meters, 240 meters, 260 meters and 540 meters from the server room. The teaching materials need to be transferred from the servers to the classrooms. They need a professional A/V solution that can work over distances of at least 450 meters.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

VS1508
8-Port Cat 5 Audio/Video Splitter

(See Page 28)

VB552
VGA Over Cat 5 Repeater + Audio

(See Page 28)

VE200
Audio/Video Extender

(See Page 29)

VE510 (Optional)
Video Synchronizer

(See Page 37)

Benefits

· **Supports long distance transmission over Cat 5e cable** – Extends displays up to 150 meters; and up to 500 meters when combined with ATEN receiving devices, VB552 and VE200
· **Cascadable to three levels** – VS1508 provides up to thousands of video signals when combined in an installation with ATEN receiving devices
· **High stability** – Stable connection and high resolution media sharing over long distances
· **Superior video quality** – Ensures quality over long distance by adding a VE510 and/or ATEN's low skew Cat 5e cable to minimize RGB skew issues

Solution Setup

VGA Cable
Cat 5e Cable
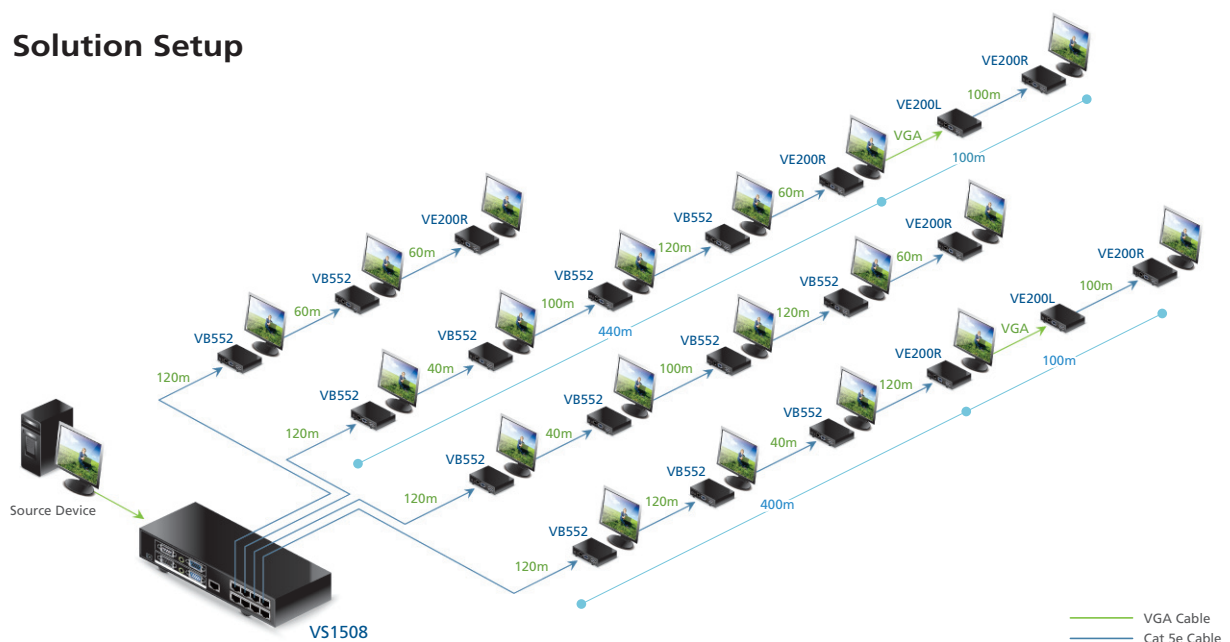
Training Facility

In order to deliver customized teaching content for display on monitors set up in several different classrooms, the center's administrators need to retrieve the content from the multiple servers they are stored on. They then have to send different content to different target destinations. To make sure everything is working smoothly, they need to monitor the servers as well as the content sent to the targets from their control room.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

VS1504
4-Port Cat 5 Audio/Video Splitter

(See Page 28)

VB552
VGA Over Cat 5 Repeater + Audio

(See Page 28)

VE200R
Audio/Video Receiver

(See Page 29)

VS92A
2-Port Video Splitter

(See Page 34)
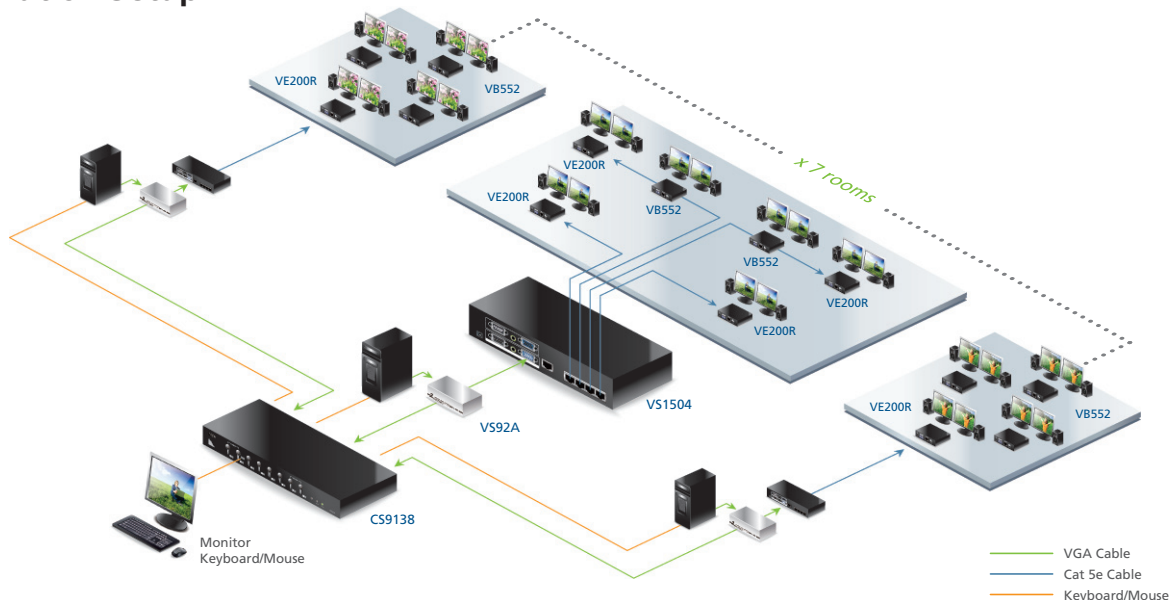
CS9138
8-Port KVM Switch

(See Page 38)

Benefits

· **Supports multiple displays** – Flexible duplication of the A/V output to multiple destinations
· **Long distance transmission** – Extends the display distance up to 450 m
· **Superior video quality** – Supports high video resolutions of up to 1920 x 1200 @ 60 Hz
· **Dual A/V output support** – Increases views with less connection and receiver units
· **Saves on cable cost** – Connects all monitors to the cascaded receiving devices instead of cabling them all the way back to the source devices

Solution Setup

VE200R
VB552
x 7 rooms
VE200R
VE200R
VB552
VB552
VE200R
VE200R
VS1504
VE200R
VB552
VS92A
CS9138
Monitor
Keyboard/Mouse

VGA Cable
Cat 5e Cable
Keyboard/Mouse

Computer Classroom

A computer classroom has 50-100 computers and monitors at the student's station and one set for the teacher. During class, the students work on their computers, and the teacher can switch all students' screens to the teaching screen, and explain the course and operating procedure. In addition, the screen needs to be easily switched back to the original screen for students to operate themselves. They also need a solution that can control the students' computers over the NET.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

VS1508
8-Port Cat 5 Audio/Video Splitter

(See Page 28)

VB552
VGA Over Cat 5 Repeater + Audio

(See Page 28)

VE200R
Audio/Video Receiver

(See Page 29)

VE510 (Optional)
Video Synchronizer

(See Page 37)

KH1516i
16-Port High-Density KVM Over the NET™

(See Page 38)

VS92A
2-Port Video Splitter

(See Page 34)

VS0202
Video Matrix Switch (2 inputs 2 outputs)

(See Page 31)
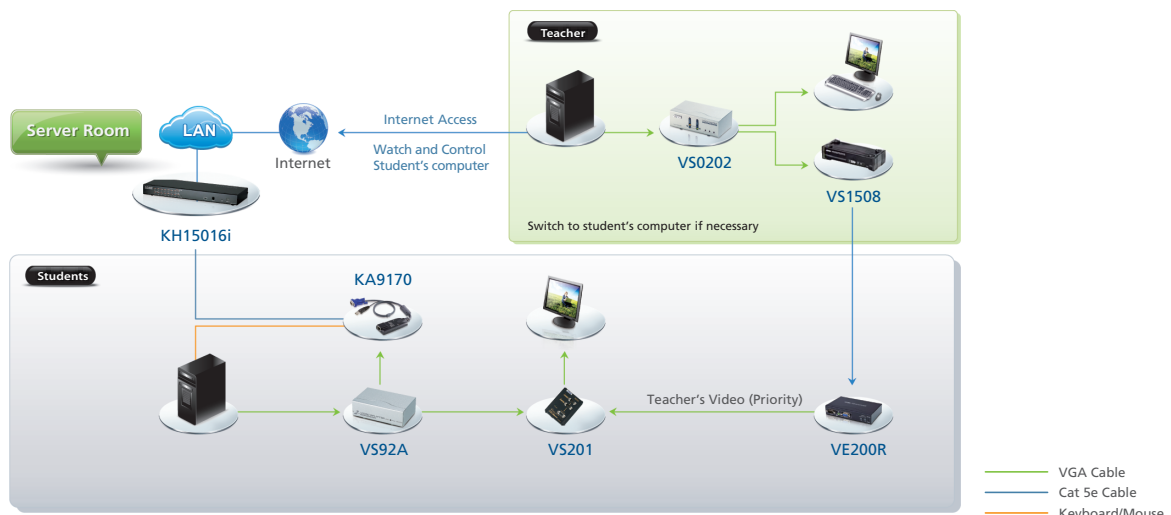
VS201
2-Port Video Switch

(See Page 32)

Benefits

· **Supports multiple displays** – Ideal for any installation that requires multimedia content to be delivered to multiple destinations.
· **Superior video quality** – Supports high video resolutions of up to 1920 x 1200 @ 60 Hz
· **Effortless control of multiple sources to multiple outputs** – Each of the 2 video outputs can toggle between Student's Source 1 and Teacher's Source 2 using front panel pushbuttons
· **Over-IP control** – The teacher can remotely control students' computers via LAN, WAN, or the Internet
· **Easy to use** – Automatic incoming signal selection from the teacher

Solution Setup

Server Room
LAN
Internet
Internet Access
Watch and Control Student's computer
KH15016i

Teacher
VS0202
VS1508
Switch to student's computer if necessary

Students
KA9170
VS92A
VS201
Teacher's Video (Priority)
VE200R

VGA Cable
Cat 5e Cable
Keyboard/Mouse

Passport Office

To provide efficient customer service, the passport office needs to deliver multimedia content, consisting of the token number and advertisements, from one source computer to displays installed in the waiting area and staff working area over long distances.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

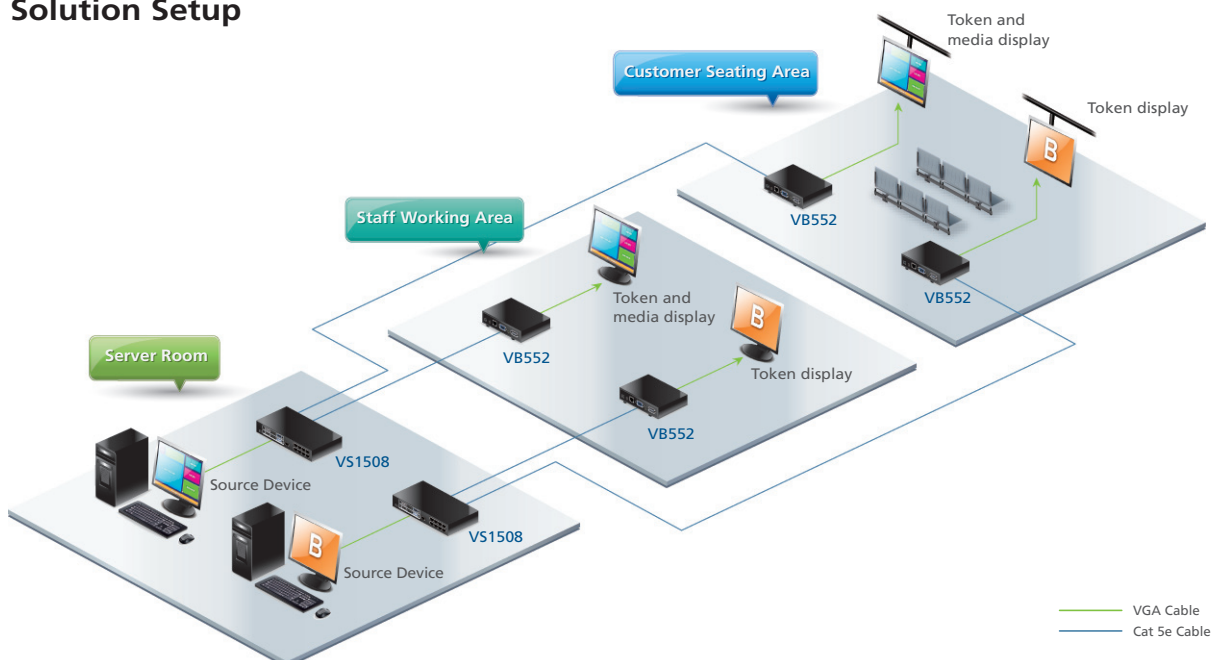|	
VS1508 8-Port Cat 5 Audio/Video Splitter (See Page 28)	· One video input to 8 video outputs via Cat 5e cable · Audio enabled · Uses Cat 5e cable to extend displays up to 150 m · Superior video quality – up to 1920x1200 @ 60Hz
VB552 VGA Over Cat 5 Repeater + Audio (See Page 28)	· Extends the transmission range an extra 150 m · Dual Audio/Video output · Audio and serial enabled

Benefits

· **Supports multiple displays** – Customers in the waiting area can clearly see when their token number is called and in the meantime can enjoy the multimedia advertisements
· **Long distance transmission over Cat 5e cable** – The high quality A/V outputs can be transmitted from the source computer in the server room to displays at distances up to 150m
· **High compatibility** – Compatible with all leading brands of LCD display
· **Future expansion** – Uses VB552 to reserve an extra extension port for expansion

Solution Setup

Token and media display

Customer Seating Area

Token display

Staff Working Area

VB552

Token and media display

VB552

Server Room

VB552

Token display

VS1508

Source Device

VB552

VS1508

B

Source Device

VGA Cable
Cat 5e Cable

Medical Services Company

A Medical Services Company in Japan provides a wide range of services to support medical facility management. The company carries a program distribution system called "Medicom" and originally installed A/V transmitters, splitters and receivers. However, one concern was the high cost of the recommended A/V devices. The company considered whether the equipment procurement costs could be reduced by exchanging the A/V devices with another solution.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

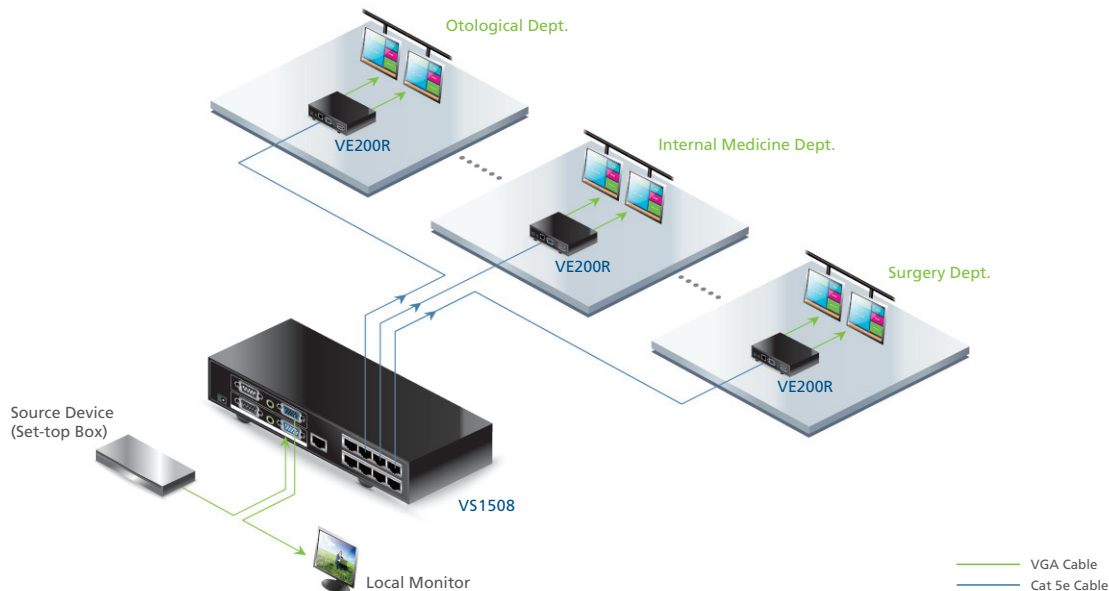|	
VS1508 8-Port Cat 5 Audio/Video Splitter (See Page 28)	· One video input to 8 video outputs · Audio enabled · Uses Cat 5e cable to extend displays up to 150 m · Superior video quality – up to 1920x1200 @ 60Hz
VE200R Audio/Video Receiver (See Page 29)	· Superior video quality – 1920x1200 @ 60Hz at 30 m, 1600x1200 @ 60Hz at 150 m · Dual Audio/Video output · Audio and serial enabled · Two gain control models for sharpest picture quality

Benefits

· **Supports multiple displays** – Distributes high quality audio and video across departments to multiple displays in the hospital
· **Saves space and cost** – VS1508 combines both transmitter and splitter features reducing space and cost
· **High compatibility** – Supports VGA output, Windows 7; compatible with existing set-top box
· **Cat 5e cabling** – Saves space, installation time and costs
· **Dual A/V output support** – Increases views with less connections and receiver units

Solution Setup

Otological Dept.

VE200R

Internal Medicine Dept.

VE200R

Surgery Dept.

VE200R

Source Device
(Set-top Box)

VS1508

Local Monitor

VGA Cable
Cat 5e Cable

Night Club

Multiple displays for broadcasting music videos and commercials were installed in a popular nightclub. The various content needs to be flexibly delivered to monitors located in the stage and bar areas.
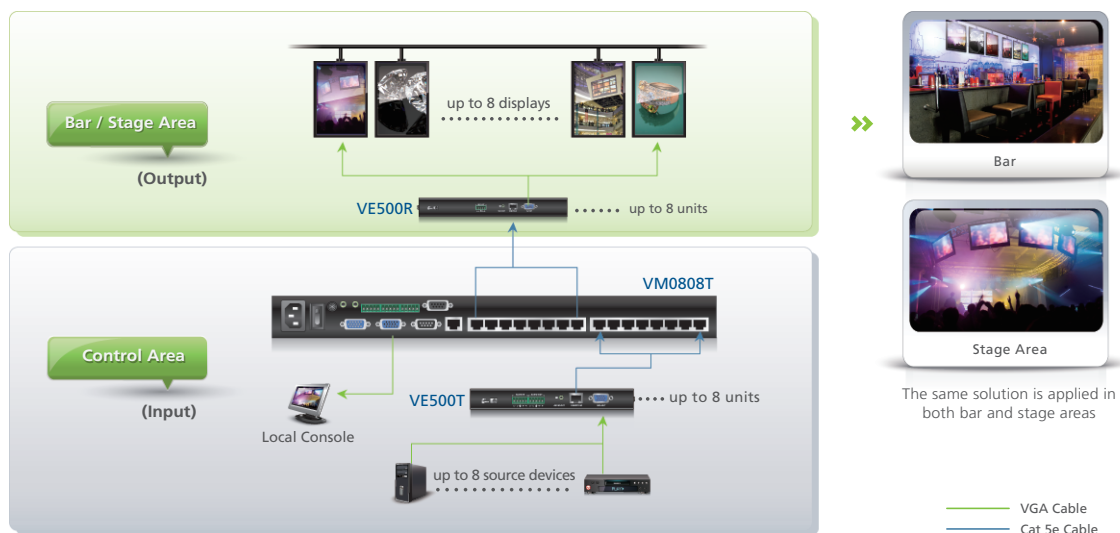
ATEN Solution

Media Matrix Solution is a combination of an A/V Matrix Switch and an A/V Over Cat 5 Extender

VM0808T 8x8 Cat 5 A/V Matrix Switch (See Page 26)	· Connects any of 8 Cat 5 A/V inputs to any of 8 Cat 5 A/V outputs in combination with ATEN VE500 A/V Over Cat 5 Extender system · Supports Video Quality – up to 1920 x 1200 @ 60Hz; DDC2B · Easily switch between multiple sources and multiple displays · Supports additional local input and local display
VE500T / VE500R A/V Over Cat 5 Transmitter / Receiver (See Page 26)	· Long Distance Transmission up to 300 m · Uses Cat 5e cable to connect the Transmitter and Receiver · Superior video quality – up to 1920x1200 @ 60Hz

Benefits

· **Multiple content to multiple displays** – Different vivid multimedia content can be delivered to monitors located around the nightclub
· **Superior A/V quality** – High quality A/V signals can be seamlessly delivered over long distances
· **Flexible deployment** – Updates the latest entertainment videos to the monitors with ease and flexibility
· **Convenient local management** – Efficiently assists nightclub staff to check A/V signals from source devices locally

Solution Setup

Bar / Stage Area

(Output)

up to 8 displays

VE500R •••••• up to 8 units

VM0808T

Control Area

(Input)

VE500T •••• up to 8 units

Local Console

up to 8 source devices

Bar

Stage Area

The same solution is applied in both bar and stage areas

— VGA Cable
— Cat 5e Cable

Hilton Conrad, Dubai, UAE

Hilton Dubai is one of the most prestigious hotels in Dubai. In order to offer high levels of connectivity for the digital comfort of guests, Hilton Dubai hired the services of IBAHN, a reputed service provider for the hospitality industry, to implement an IPTV system in the entire hotel. IBAHN helped Hilton Dubai provide a comprehensive IPTV technology solution along with ATEN Professional HDMI Splitter.
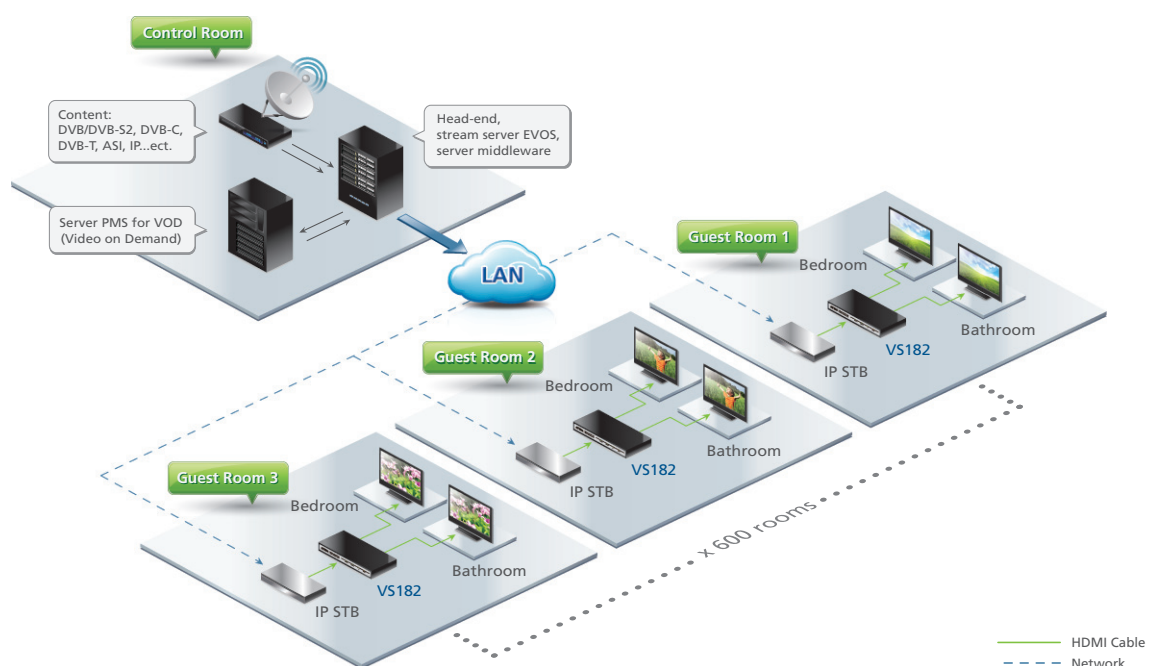
ATEN Solution

VS182 2-Port HDMI Splitter (See Page 33)	· Connects one HDMI source to two HDMI displays at the same time · By using 600 VS182 units, high definition content was delivered to over 1200 televisions in the hotel · VS182 allows each HDMI signal to be seamlessly duplicated to multiple televisions · Superior video quality - 480p, 720p, 1080i, and 1080p (1920x1080)

Benefits

· **Highly compatible** – Compatible with all standard HDMI devices and displays available on the market including IPTV Set top boxes.
· **High quality HDMI** – Supports 3D and HDTV for the highest video
· **Supports multiple displays** – A single HDMI A/V source can be simultaneously transmitted and displayed on up to 2 monitors
· **Long distance transmission** – Transmits HDMI signals up to 20m
· **Space saving** – Compact splitters are small in size, robust and flexible for any installation
· **Increases efficiency** – The device installation, operation and testing process are simple; problems are quickly resolved and digital signage content is easily updated

Solution Setup

Hotel

A hotel wants to share the internal schedule with employees in the Staff room, while the data will be coming from the Control room. They need a solution that works over long distance, and displays information using three monitors.
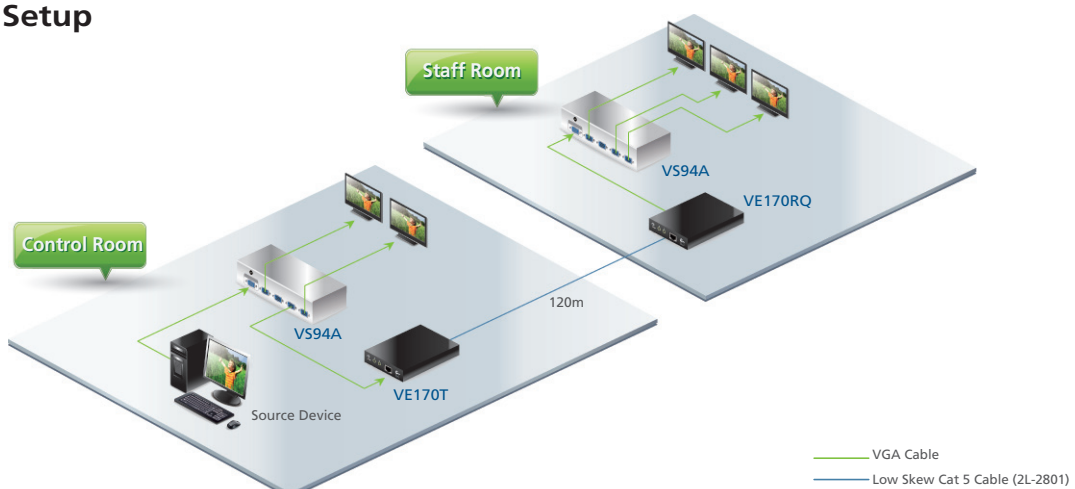
ATEN Solution

VS94A 4-Port Video Splitter (See Page 34)	· One video input to 4 video outputs · Long distance transmission – up to 65 meters · Superior video quality – up to 1920 x 1200 · Supports up to 350 MHz bandwidth for high performance video
VE170 A/V Over Cat 5 Extender (See Page 36)	· Transmitter and receiver units connect at distances up to 300 m using Cat 5e cable · Superior video quality - up to 1920 x 1200 · Audio Enabled
2L-2801 Low Deskew Cat 5e Cable (See Page 37)	· Supports high quality RGB video transmission · Compatible with ATEN analog Cat 5 video extenders · Delay Skew – 1~350 MHz 20nS/100m Max

Benefits

· **Low skew cable** – Supports high quality RGB video transmission. Eliminates blur and bleeding images and ensures clarity of the video transmission by using 2L-2801 Low Skew Cat 5e Cable
· **Long distance transmission** – VE170 extends the distance between staff room and control room up to 300 m
· **Supports multiple displays** – A single video source can be simultaneously transmitted and displayed on up to 4 monitors
· **Flexible deployment** – Video Splitter and Extender combination solution provides flexibility for the hotel to fulfill their application

Solution Setup

Staff Room
VS94A
VE170RQ
Control Room
120m
VS94A
VE170T
Source Device

VGA Cable
Low Skew Cat 5 Cable (2L-2801)

Car Factory

A leading automobile company has set up a world-class manufacturing floor which is fully automated, ensuring that there is minimal chance for error in the manufacturing processes. To increase work efficiency, they wish to monitor a single PC which is having various test results from multiple wall mounted monitors at long distance.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

|	
VS1508 8-Port Cat 5 Audio/Video Splitter (See Page 28)	· One video input to 8 video outputs · Audio enabled · Uses Cat 5e cable to extend displays up to 150 m · Superior video quality – up to 1920x1200 @ 60Hz
VB552 VGA Over Cat 5 Repeater + Audio (See Page 28)	· Extends the transmission range an extra 150 m · Dual Audio/Video output · Audio enabled

Benefits

· **Superior A/V quality** – ATEN Media Distribution Solution had higher resolution and superior audio quality support over long distance
· **Increases efficiency** – Improve monitoring and accessibility of testing process software from remote locations
· **Saves time** – Reduce travel time between shop floor and control room
· **Long distance transmission over Cat 5e cable** – The high quality A/V outputs can be transmitted from the source computer in the control room to displays at distances up to 150m

Solution Setup
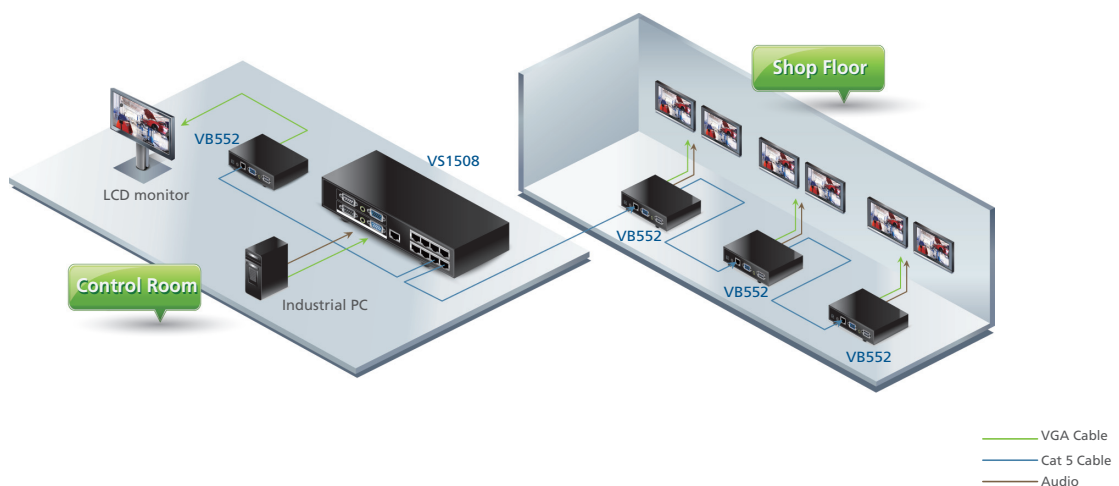
Production Line

With HDMI currently being the most popular audio/video interface, new Tablets are designed with HDMI ports that allow users to connect to external HDMI devices. Therefore, a manufacturer must test the HDMI output signal of each Tablet that comes down the production line for quality and reliability.

## ATEN Solution

VS481A 4-Port HDMI Switch (See Page 32)	· Allows four HDMI A/V sources to be connected to one HDMI display · Quick and easy switching via panel pushbuttons, RS-232 or IR remote control · Built-in bi-directional RS-232 serial port for high-end system control

Benefits

· **HDMI certified reliability** – VS481A is HDMI certified. It is compatible with HDMI and HDCP, so the signal is always stable to ensure perfect testing results
· **Customized switching procedures via RS-232** – Provides flexible and customizable testing procedures to reduce labor costs on the production line. In addition, personnel can connect to a server that controls the switching to monitor testing
· **Rapid response** – Reduces production line delay costs and increases efficiency
· **Improves compatibility testing** – Fast and effective compatibility testing of HDMI devices on a production line, with quality and reliability you can trust
· **Simplifies testing process** – Quickly and conveniently accomplish each test using RS-232 port switching, boosting production efficiency

Solution Setup

VS481A

HDMI Checker

Tablet PC

VS481A

HDMI Checker

Tablet PC

HDMI Cable
RS-232
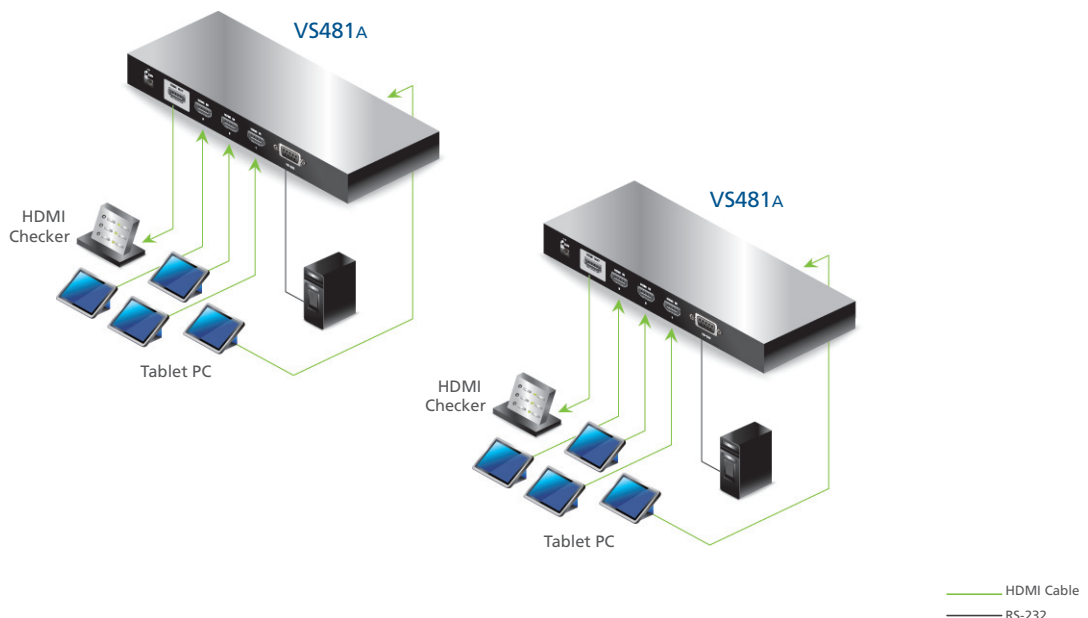
Place of Worship

Different religious programs take place in different locations, and are continuously aired 24 hours a day, 7 days a week. They need to simultaneously broadcast the program to all members through televisions/projectors set up on each floor. The audio and video quality must also be clear.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

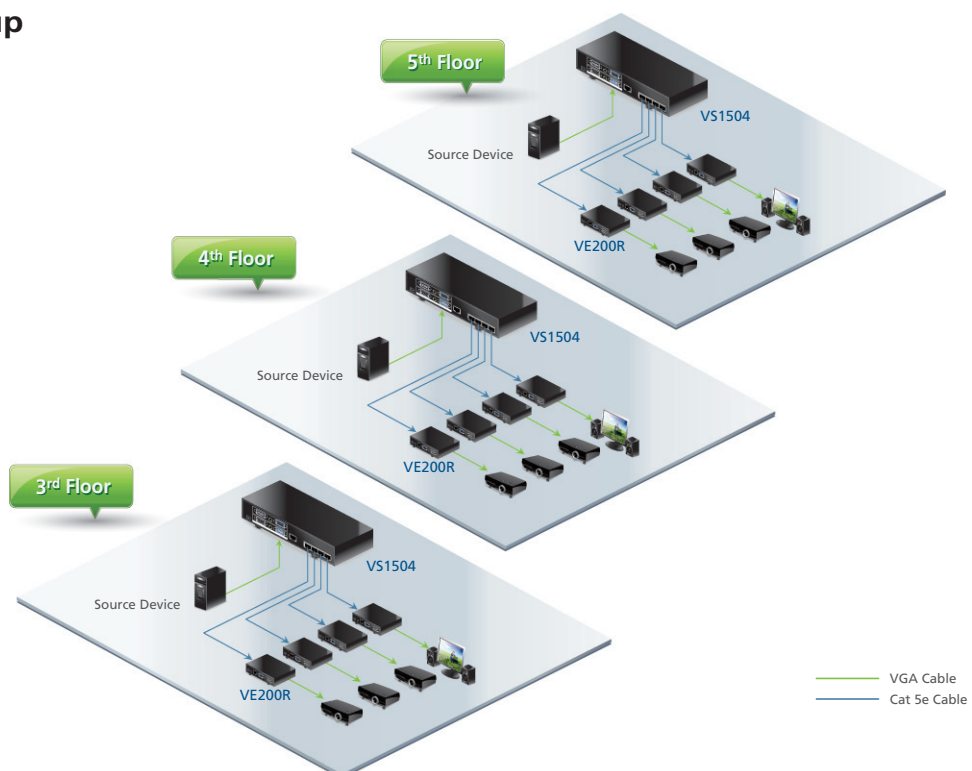|	
VS1504 4-Port Cat 5 Audio/Video Splitter (See Page 28)	· One video input to 4 video outputs via Cat 5e cable · Audio enabled · Uses Cat 5e cable to extend displays up to 150 m · Superior video quality – up to 1920x1200 @ 60Hz
VE200R Audio/Video Receiver (See Page 29)	· Superior video quality – 1920x1200 @ 60Hz at 30 m, 1600x1200 @ 60Hz at 150 m · Dual Audio/Video output · Audio and serial enabled · Two gain control modes for sharpest picture quality

Benefits

· **Superior A/V quality** – Superior A/V signal distribution delivers crisp sound and clear video to multiple displays
· **Cost effective and easy to install** – Dual A/V output offers flexible, cost-efficient deployment
· **Cat 5e cabling** – Reduces cabling costs and provides a neat and tidy installation
· **Long distance transmission** – Several meters away and across separate building floors

Solution Setup

5th Floor
Source Device
VS1504
VE200R

4th Floor
Source Device
VS1504
VE200R

3rd Floor
Source Device
VS1504
VE200R

VGA Cable
Cat 5e Cable

St. Francis of Assisi Church

St. Francis of Assisi Church in Poland is seeking to outfit the church with advanced equipment to meet the following requirements:
· The A/V content such as songs, prayers or photos needs to be transmitted from a computer in the control room to four monitors distributed around the church in real time
· Broadcast high quality video across longer distances for maximum viewing capability
· Reliable and efficient transmission of high quality A/V

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

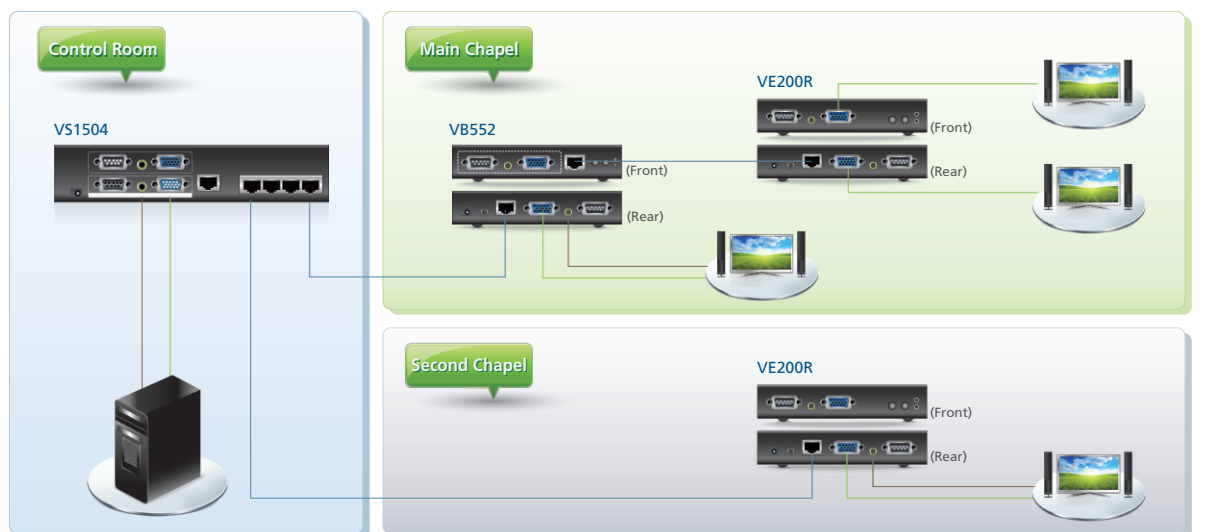| VS1504	VB552	VE200R
4-Port Cat 5 Audio/Video Splitter	VGA Over Cat 5 Repeater +Audio	Audio/Video Receiver
(See Page 28)	(See Page 28)	(See Page 29)

Benefits

· **Improves the service** – Priests can perform their duties more efficiently and better serve their parishioners
· **Flexible installation** – The MDS allows monitors to be mounted in optimal locations, while the computer providing the multimedia content can be kept secure in a control room for easy service and maintenance
· **Superior A/V quality and reliable transmission** – A/V signals are delivered to four monitors over long distance without any interference or distortion. The sound coming from the setup can be heard well from every corner of the church and the four monitors are in clear view for all parishioners to see

Solution Setup

Control Room

Main Chapel

VE200R

VS1504

VB552

(Front)

(Front)

(Rear)

(Rear)

Second Chapel

VE200R

(Front)

(Rear)

VGA Cable
Cat 5 Cable
Audio

Jewelry Store

A jewelry store covering four floors wants to display their new product information and special offers on large screen monitors. They are looking for a broadcasting system to satisfy the following requirements:
· Delivers high quality audio and video from 6 A/V sources to 6 monitors
· Allows 6 A/V output to be distributed throughout the 4-floor store, with source devices located away from the monitors
· Supports frequent and convenient updating of multimedia content

ATEN Solution

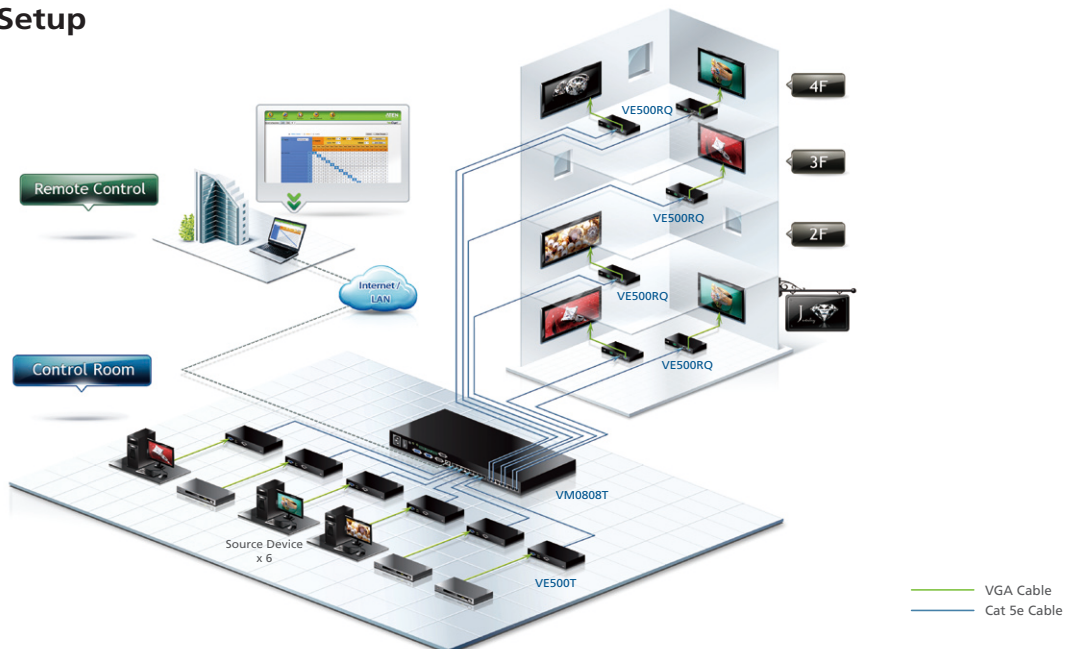| **VM0808T** 8x8 Cat 5 A/V Matrix Switch (See Page 26)	· Connects any of 8 Cat 5 A/V inputs to any of 8 Cat 5 A/V outputs in combination with ATEN VE500 A/V Over Cat 5 Extender system · Superior video quality – up to 1920 x 1200 @ 60Hz · Easily switch between multiple sources and multiple displays · Supports additional local input and local display
VE500T / VE500RQ A/V Over Cat 5 Transmitter / Receiver with Deskew function (See Page 26)	· Long distance transmission up to 300 m · Uses Cat 5e cable to connect the Transmitter and Receiver · Superior video quality – up to 1920x1200 @ 60Hz · Superior RGB deskew function – automatically synchronizes the time delay of RGB signals to compensate for distance

Benefits

· **Multiple video sources, multiple video outputs** – VM0808T can easily switch between multiple sources and multiple displays, so different promotional content can be efficiently delivered to different monitors located around the jewelry store
· **Exceptional video quality** – ATEN exclusive Deskew technology supports automatic and manual synchronization of RGB signals and corrects color phase and timing errors that occur over long distance
· **Easily configuration and control** – Uses a browser based web interface to efficiently control equipment from remote site

Solution Setup

Remote Control

Internet / LAN

Control Room

VE500RQ · 4F
VE500RQ · 3F
VE500RQ · 2F
VE500RQ

VM0808T

Source Device x 6

VE500T

VGA Cable
Cat 5e Cable

Cell Phone Store

To provide efficient customer service, a cell phone store installed multiple large-screen monitors around the store to display the token number. The store is looking for a professional A/V solution which extends the video signal to multiple monitors over long distance and is easy to install. The connecting cables need to be fitted in the ceiling or floor spaces to save space.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

VS1204T 4-Port A/V Over Cat 5 Splitter (See Page 29)	· One audio/video input to 4 audio/video outputs via Cat 5e cable · Supports local display + 4 remote displays · Uses Cat 5e cable to extend displays up to 300 m · Superior video quality – up to 1920 x 1200 @ 60Hz
VE170RQ A/V Over Cat 5 Receiver with deskew function (See Page 30)	· Long distance transmission up to 300 m · Deskew Function – synchronizes the time delay of RGB signals to compensate for distance · Superior video quality – up to 1920x1200 @ 60Hz · Audio enabled (mono)

Benefits

· **Supports multiple displays** – The solution transmits A/V signals up to 300m which allows distribution of A/V content to multiple monitors anywhere in the store
· **Space saving** – Compact space-saving design solution
· **Cat 5e cabling** – Eliminates bulky conventional cables, and makes for a neat, efficient, uncluttered space
· **Easy to install** – The VS1204T has the function of distribution and extension, it allows you to setup easily
· **Superior video quality** – Adjustable gain/compensation control and deskew function reduces noise and image degradation

Solution Setup

Customer Seating Area

VE170RQ

VE170RQ

VE170RQ

Server Room

Up to 300 m

VS1204T

Source Device

VGA Cable
Cat 5e Cable
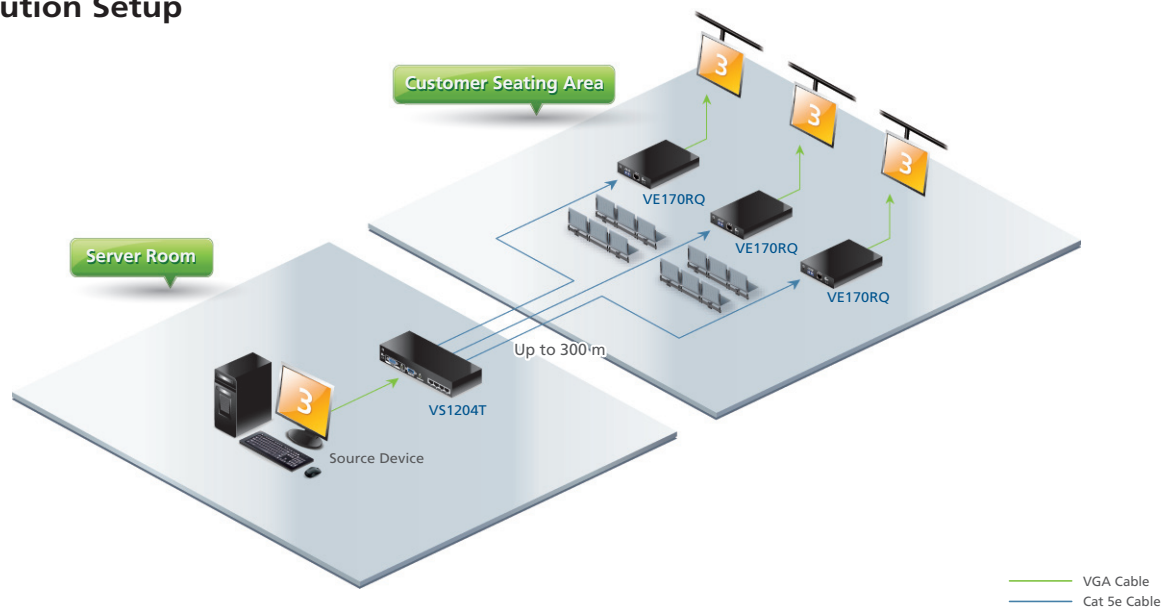
Supermarket

A supermarket installed multiple monitors on different floors to display their sales promotion information. They need a system to broadcast and extend the promotion content to multiple monitors over long distances in real time.

ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

VS1508
8-Port Cat 5 Audio/Video Splitter

(See Page 28)

VB552
VGA Over Cat 5 Repeater + Audio

(See Page 28)

VE200R
Audio/Video Receiver

(See Page 29)

Benefits

· **Supports multiple displays** – Using the VB552 repeater allows the video signal to be displayed on a remote monitor (up to 450m)
· **Cat 5e cabling** – Eliminates bulky conventional cables, and makes for a neat, efficient, uncluttered space
· **Space saving** – Compact space-saving solution design and installation
· **Dual A/V output** – Increases view with fewer connections and receiver units

Solution Setup

400m

VE200R

30m

VB552

VE200R

VE200R

VB552

VB552

600m

VE200R

Control Room

VS1508

100m

Source Device
(Sales Promotion Information)

VGA Cable
Cat 5e Cable
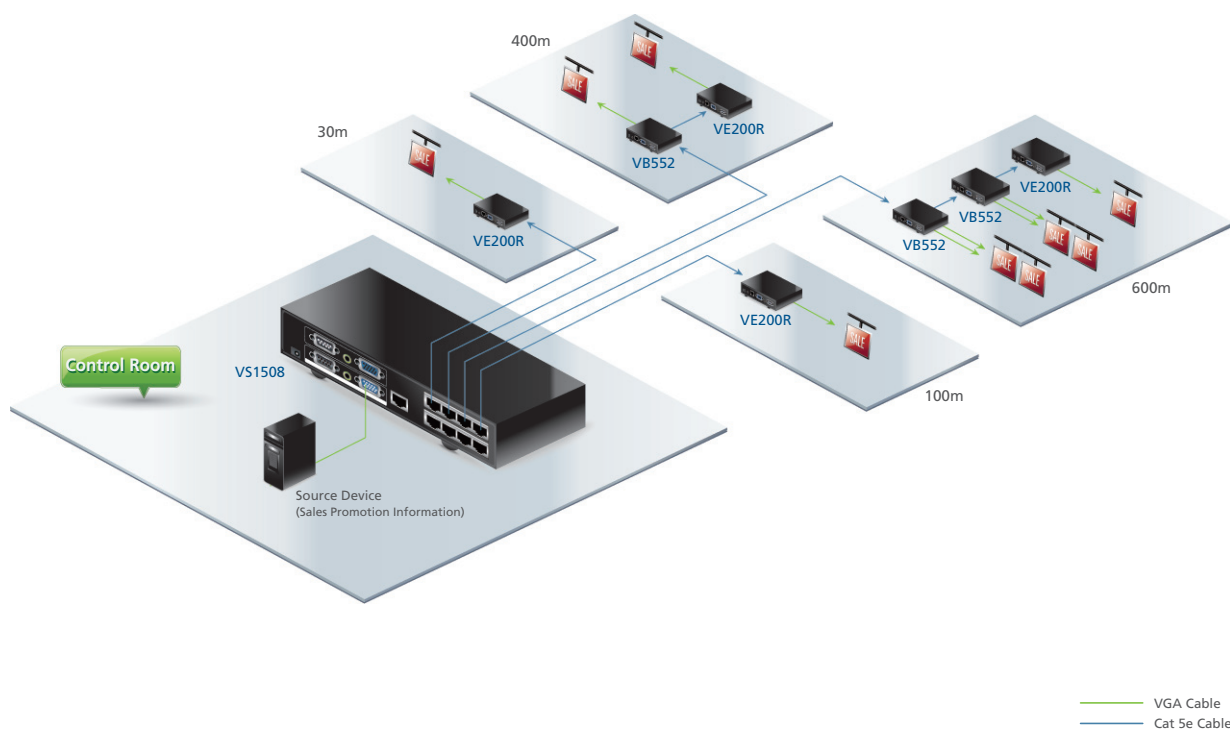
Superstore

The digital signage system of a superstore integrates kiosk billing functions with advertising capabilities. The kiosk computer supports dual video output, one to provide the billing process sequence on the touchscreen; while the other displays advertisements on each monitor throughout the store. The superstore is looking for a solution to broadcast the advertisements to multiple displays over long distance.

ATEN Solution

VS1504 4-Port Cat 5 Audio/Video Splitter (See Page 28)	· One video input to 4 video outputs · Audio enabled · Uses Cat 5e cable to extend displays up to 150 m · Superior video quality – up to 1920x1200 @ 60Hz
VB552 VGA Over Cat 5 Repeater + Audio (See Page 28)	· Extends the transmission range an extra 150 m · Dual Audio/Video output · Audio and serial enabled

Benefits

· **Flexible expansion** – Cascadable to three levels and extends signal transmission up to 450 m resulting in more kiosks
· **Superior video quality** – up to 1920 x 1200
· **Dual A/V output** – Extends signal to more digital signage systems/kiosks
· **Fast and reliable transmission** – Unlike streaming digital signage solutions that may have signal delay problems, VS1504 can easily support a kiosk's continuous and real-time update requirements
· **Serial connectivity** – VS1504 provides two RS-232 channels that can extend the touchscreen signals of kiosks for convenience and flexibility

Solution Setup

RS-232

Source Device

VS1504

VB552

VGA Cable
Cat 5e Cable
Audio
RS-232
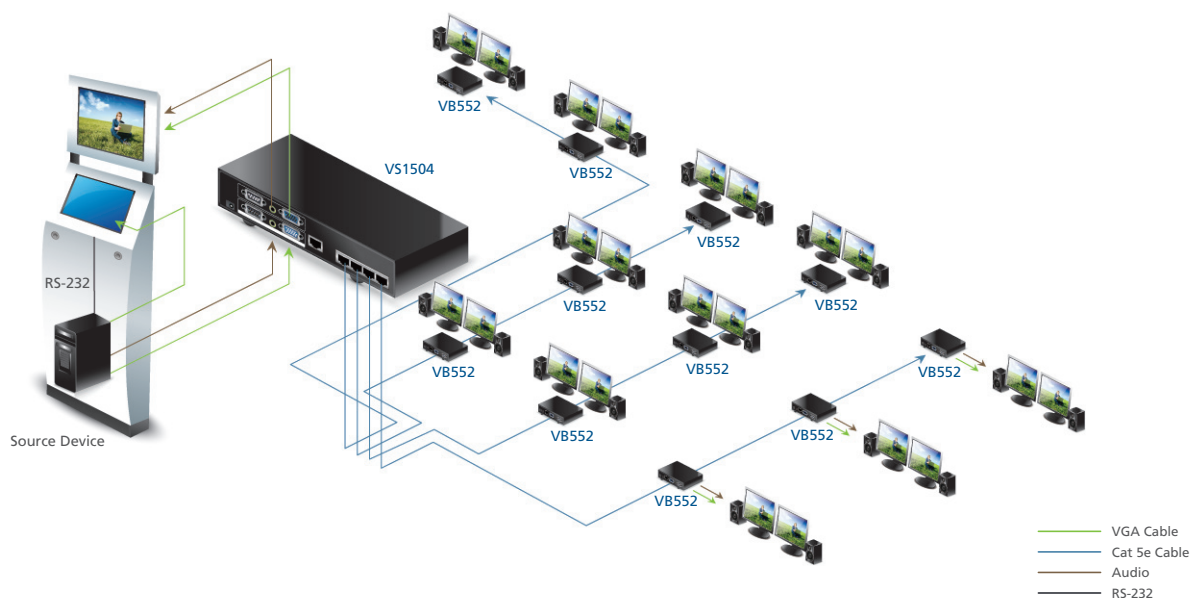
KWANG IN Co., Ltd.

KWANG IN is a famous Korean advertising company that focuses on providing professional outdoor banner planning. KWANG IN helped the Sin Bundang Metro Line in Korea's capital set up digital signage installations which broadcast diverse commercial advertisements, public information and transportation data to riders. KWANG IN is looking for a professional A/V solution to meet the following requirements:

· Requires video splitters that support HDMI signal transmission
· Transmit hundreds of source signals to over 400+ monitors in metro stations
· All splitters must be installed in small spaces near the monitors requiring compact units
· Ensure splitters are reliable and easy-to-use for operation, and deliver signals with lowest failure rates when the content is updated frequently

ATEN Solution

VS184
4-Port HDMI Splitter

(See Page 33)

VS0108H
8-Port HDMI Splitter

(See Page 33)

· One HDMI video input to 4 (VS184) / 8 (VS0108H) video outputs
· HDMI (3D, Deep Color)
· Support Dolby True HD and DTS HD Master Audio
· Long distance transmission – up to 20 m (24 AWG)
· Superior video quality – HDTV resolution of 480p, 720p, 1080i and 1080p (1920x1080)

Benefits

· **Highly compatible** – Compatible with all standard HDMI devices and displays available on the market
· **High quality HDMI** – Supports 3D and HDTV for the highest video resolutions; and HDCP compatible
· **Supports multiple displays** – A single HDMI A/V source can be simultaneously transmitted and displayed on up to 8 monitors
· **Space saving** – Compact splitters are small in size, robust and flexible for any installation
· **Increase efficiency** – The device installation, operation and testing process are simple; problems are quickly resolved and digital signage content is easily updated

Solution Setup

Control Room

Internet

Set-top Box

VS184

Set-top Box

VS0108H

HDMI Cable
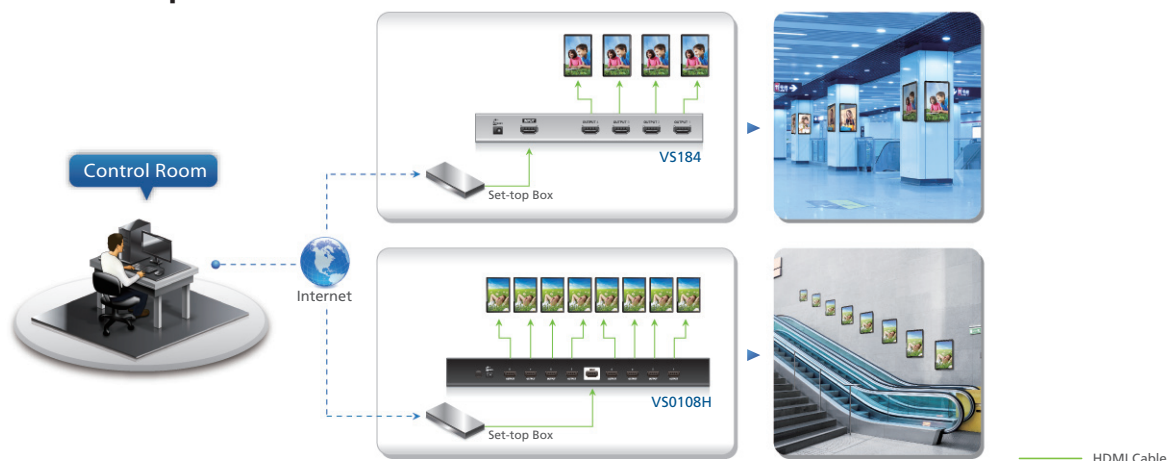
Railroad Passenger Corp.

In order to provide passengers with the latest information and movies for their entertainment, a railroad passenger corp. set up 4 LCD monitors and speakers in each carriage. The company is looking for a professional A/V solution which can avoid A/V signal attenuation over long distance and remain a high video resolution of up to 1080p.

ATEN Solution

| VS164 4-Port DVI Video Splitter (See Page 34)	· One DVI video input to 4 video outputs · Fully compliant with DVI-Digital and DVI-Analog · Audio enabled · Superior video quality – up to 1920x1200 @ 60Hz
VE560 DVI Booster (See Page 36)	· Supports long length cable for digital signal transmission · Transmission distance of up to 50 m · Superior video quality-HDTV resolution of up to 1920x1200

Benefits

· **Flexible expansion** – Cascadable to three levels, the A/V signal can be delivered to up to 64 displays
· **Long length cable** – Up to 50 m for digital signal transmission
· **Space saving** – Compact splitter and booster are small in size, robust and flexible for any installation in carriage
· **Superior video quality** – up to 1920x1200
· **Highly compatible** – Easily connect to different digital video devices (e.g. LCD Monitor)

Solution Setup

VE560

Up to 30m

Source Device

Speaker

VS164

DVI Cable
Audio
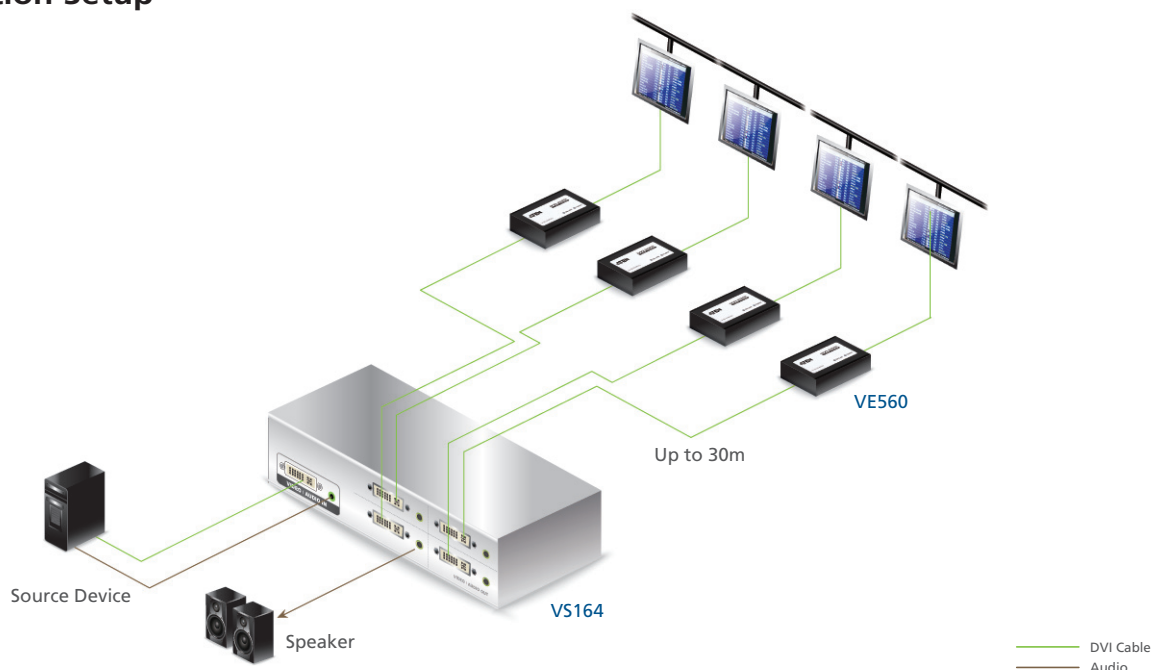
Airport Terminal

An airport terminal plans to deliver real-time information to passengers in the customs area which is 100 meters away from the server room. They need a solution that can work over this distance and simultaneously deliver information on multiple displays.
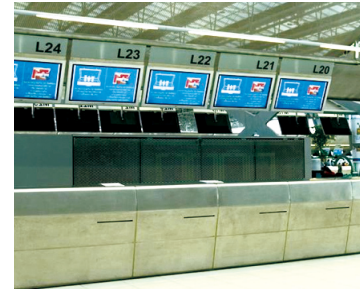
ATEN Solution

Media Distribution Solution delivers high quality A/V content over Cat 5e cable to multiple displays in real time

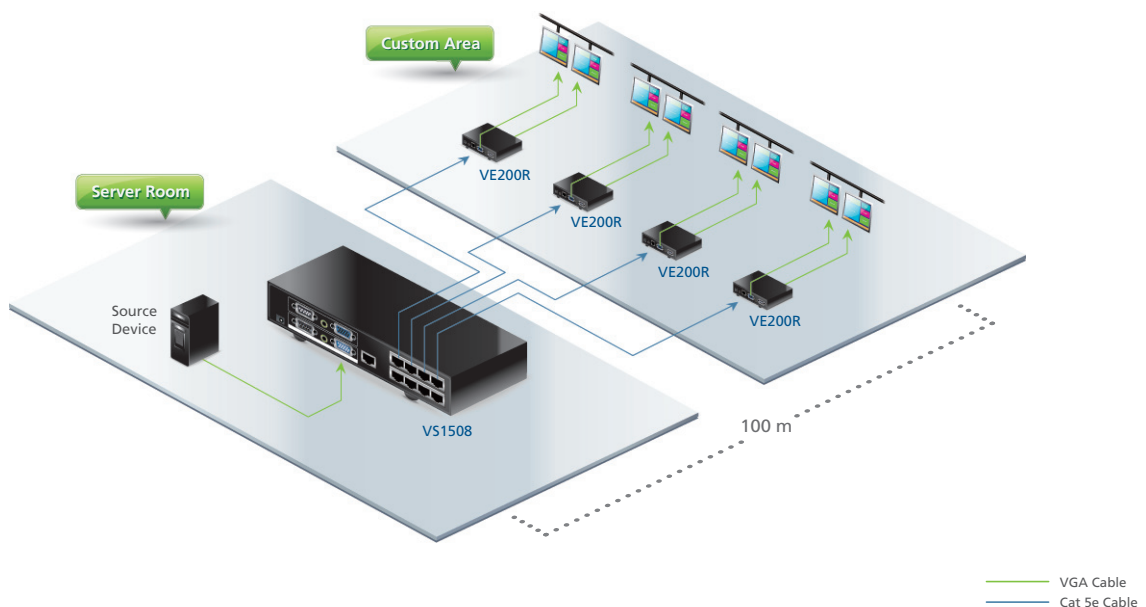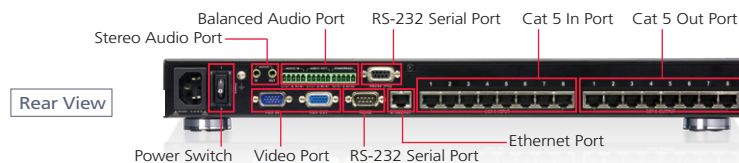|	
VS1508 8-Port Cat 5 Audio/Video Splitter (See Page 28)	· One video input to 8 video outputs · Audio enabled · Uses Cat 5e cable to extend displays up to 150 m · Superior video quality – up to 1920x1200 @ 60Hz
VE200R Audio/Video Receiver (See Page 29)	· Long distance transmission – up to 200 m · Dual Audio/Video output · Audio and serial enabled · Two gain control modes for sharpest picture quality

Benefits

· **Stable transmission** – Delivers real time information with the lowest failure rates
· **Supports multiple displays** – A single A/V source can be simultaneously transmitted and displayed on all the monitors through the installation
· **Long distance transmission** – Up to 150 meters by using Cat 5e cable
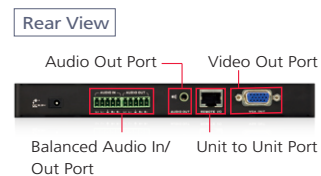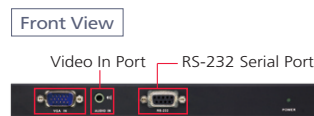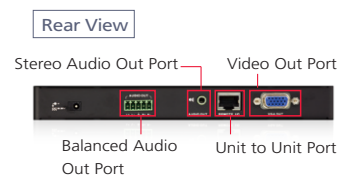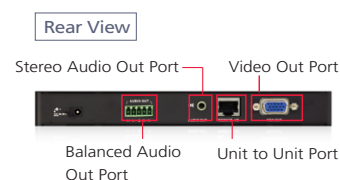
Solution Setup

Custom Area

Server Room

VE200R

VE200R

VE200R

VE200R

Source
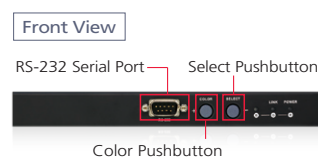Device

VS1508

100 m

VGA Cable
Cat 5e Cable

VM0808T

8x8 Cat 5 A/V Matrix Switch

- Connects any of 8 Cat 5 A/V inputs to any of 8 Cat 5 A/V outputs in combination with ATEN VE500 A/V Over Cat 5 Extender system
- Easily switch between multiple sources and multiple displays
- Supports additional local input and local display - provides an extra input / output source
- Flexible configuration and control
  - Local Operation: Front panel LCD display and pushbuttons + Serial controller
  - Remote Operation: Browser-based Graphical User Interface (GUI) + Telnet
- Serial RS-232 support
- Independent switching of audio and video sources - any audio source can be connected to any video source for output flexibility
- Automatic and adjustable video and audio quality

Stereo Audio Port — Balanced Audio Port — RS-232 Serial Port — Cat 5 In Port — Cat 5 Out Port

Rear View

Power Switch — Video Port — RS-232 Serial Port — Ethernet Port

Compatible Transmitters / Receivers

VE500T / VE500R / VE500RQ

A/V Over Cat 5 Transmitter / Receiver

- Uses Cat 5e cable to connect the Transmitter and Receiver
- Superior RGB deskew function (VE500RQ) - automatically synchronizes the time delay of RGB signals to compensate for distance
- Long Distance Transmission up to 300 m
- Superior video quality
  - VE500R: 1920x1200 @ 60Hz (30 m); 1600x1200 @ 60Hz (150 m)
  - VE500RQ: 1920x1200 @ 60Hz (150 m); 1280x1024 @ 60Hz (300 m)
- Superior audio quality - balanced audio provides flawless long-distance transmission
- Adjustable gain control - manually adjust signal strength to compensate for distance
- Supports one local and one remote displays
- Provides RS-232 channel
- Supports wide screen
- Rack Mountable

▼ VE500T Transmitter Unit

Front View
Video In Port — RS-232 Serial Port

Rear View
Audio Out Port — Video Out Port
Balanced Audio In/Out Port — Unit to Unit Port

▼ VE500R Receiver Unit

Front View
RS-232 Serial Port
Picture Compensation Up / Down Pushbutton

Rear View
Stereo Audio Out Port — Video Out Port
Balanced Audio Out Port — Unit to Unit Port

▼ VE500RQ Receiver Unit

Front View
RS-232 Serial Port — Select Pushbutton
Color Pushbutton

Rear View
Stereo Audio Out Port — Video Out Port
Balanced Audio Out Port — Unit to Unit Port
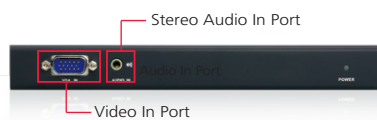
VE300T / VE300R / VE300RQ

A/V Over Cat 5 Transmitter / Receiver

- Uses Cat 5e cable to connect the Transmitter and Receiver
- Extends A/V source in VM0808T installations
- Supports one local and one remote displays
- Superior RGB deskew function (VE300RQ) – automatically synchronizes the time delay of RGB signals to compensate for distance
- Long Distance Transmission up to 300 m
- Superior video quality
  - VE300R: 1920x1200 @ 60Hz(30 m), 1600x1200 @ 60Hz(150 m), 1280x1024 @ 60Hz(200 m)
  - VE300RQ: 1920x1200 @ 60Hz(150 m), 1280x1024 @ 60Hz(300 m)
- Automatic and adjustable gain control – adjust signal strength to compensate for distance
- Supports wide screen
- Built-in 8KV/15KV ESD protection
- Rack-mountable

▼ VE300T Transmitter Unit

Front View

Stereo Audio In Port

Video In Port

Rear View

Video Out Port

Stereo Audio Out — Unit to Unit Port

▼ VE300R Receiver Unit

Front View

Picture Compensation Up / Down Pushbutton

Rear View

Video Out Port

Stereo Audio Out — Unit to Unit Port

▼ VE300RQ Receiver Unit

Front View

Select Pushbutton

Color Pushbutton

Rear View

Video Out Port

Stereo Audio Out — Unit to Unit Port

Industry Applications		Page Number
Corporate	Lion Travel, Taiwan – Digital Signage System	P02
Education	Digital Class Room	P06
Hospitality	Night Club	P12
Retail	Jewelry Store	P19

Advanced MDS

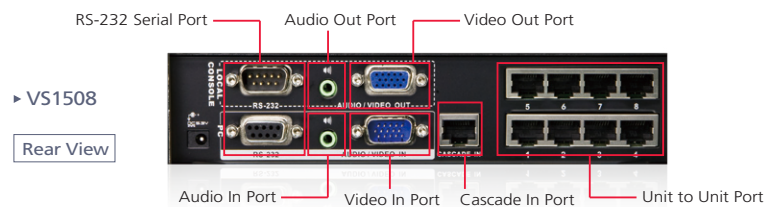### VS1504 / VS1508

4/8-Port Cat 5 Audio/Video Splitter

· One video input to 4/8 video outputs
· Cascadable to three levels - provides up to thousands of video signals when combined in an installation with ATEN receiving devices*
· Audio and serial enabled
· Uses Cat 5e (or higher) cable to extend displays up to 150 m, 450 m when combined with ATEN receiving devices
· High quality video - supports 1920 x 1200 @ 60Hz
· Group screens off/on function
· Provide a RS-232 channel for selection**

*Receiving Devices
  a. ATEN VB552 (VGA Over Cat 5 Repeater)
  b. ATEN VE200R (Audio/Video Extender)
** Only one RS-232 channel can be selected at a time

RS-232 Serial Port ——— Audio Out Port ——— Video Out Port

▸ VS1508

Rear View

Audio In Port ——— Video In Port   Cascade In Port ——— Unit to Unit Port
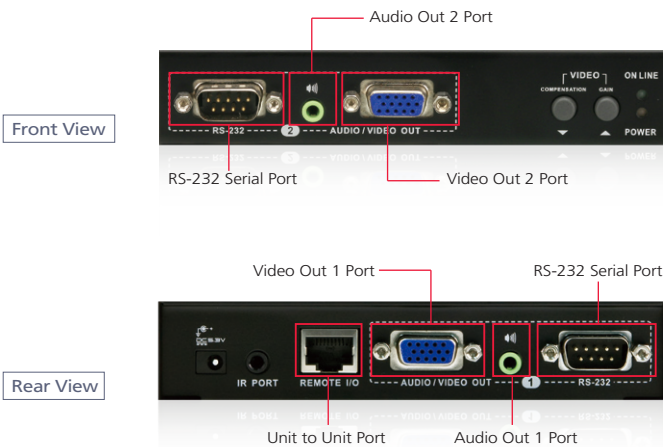
VB552

VGA Over Cat 5 Repeater + Audio

· Uses Cat 5e cable to extend audio/video signal
· Extends the transmission range an extra 150m
· High-quality video - up to 1920x1200 @ 60Hz at 30m, 1600x1200 @ 60Hz at 150m, 1280x1024 @ 60Hz at 200m
· Audio and serial enabled
· Two gain control modes for sharpest picture quality
· Video gain and compensation adjustable via OSD
· IR receiver for quick and easy video quality adjustment
· IR remote control for screen on/off and video adjustment at remote site
· Provide a RS-232 channel for selection
· Follows VESA FDMI mount standard
· Supports DDC for the local monitor
· Supports VGA, SVGA, XGA, SXGA, UXGA and multisync monitors
· For use in combination with VS1504/VS1508 Audio/ Video splitter

Video Out Port ——— RS-232 Serial Port

Rear View

Line In (Unit to Unit Port) ——— Audio Out Port
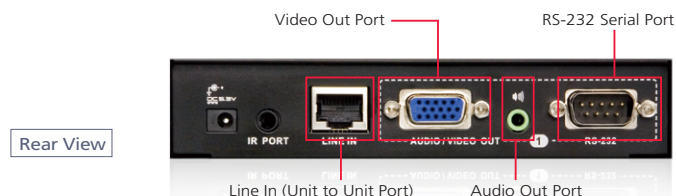
VE200R

Audio / Video Receiver

- Uses Cat 5e cable to connect the local and the remote units
- Dual Audio/video
- Supports one local and two remote displays
- High-quality video – up to 1920x1200@60Hz at 30 m, 1600x1200 @ 60Hz at 150 m, 1280x1024 @ 60Hz at 200 m
- Audio and serial enabled
- Two gain control modes for sharpest picture quality
- Video gain and compensation adjustable via OSD
- IR remote control for screen on/off and video adjustment at remote site
- Provide a RS-232 channel for selection
- Follows VESA FDMI mount standard
- Supports DDC for the local monitor
- Supports VGA, SVGA, XGA, SXGA, UXGA, WUXGA and multisync monitors

Audio Out 2 Port

Front View

RS-232 Serial Port | Video Out 2 Port

Video Out 1 Port | RS-232 Serial Port

Rear View

Unit to Unit Port | Audio Out 1 Port

Standard Plus MDS

VS1204T / VS1208T

4/8-Port A/V Over Cat 5 Splitter

- One audio/video input to 4/8 audio/video outputs via Cat 5e cable
- Uses Cat 5e cable to extend displays up to 300 m
- Superior video quality – up to 1920 x 1200 @ 60Hz
- Supports local display + 4/8 remote displays
- Supports up to 225 MHz bandwidth
- Audio enabled (mono)
- Built-in 8KV/15KV ESD protection
- Rack-mountable

Video In Port | Video Out Port | Unit to Unit Port

▸ VS1208T

Rear View

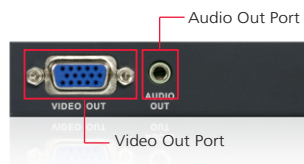Audio In Port | Audio Out Port

VE170R / VE170RQ
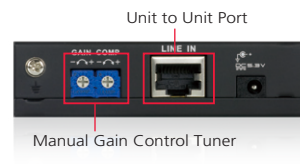
A/V Over Cat 5 Receiver

- Supports one local and one remote display
- Long distance transmission up to 300 m using Cat 5e cable
- Deskew Function (VE170RQ) – allows you to synchronize the time delay of RGB signals to compensate for distance
- Superior video quality:
  - VE170R: 1920x1200 @ 60Hz (30 m);1600x1200 @ 60Hz (150m); 1024x768 @ 60Hz (300 m)
  - VE170RQ: 1920x1200 @ 60Hz (150 m);1280x1024 @ 60Hz (300 m)
- Audio enabled (mono)
- Adjustable gain/compensation control
- Built-in 8KV/15KV ESD protection
- Rack-mountable

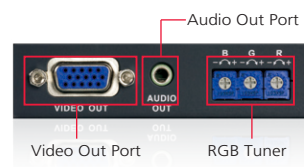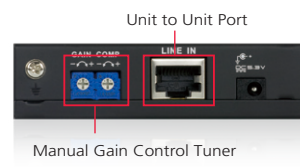▼ VE170R Receiver Unit

Front View

Rear View

Audio Out Port

Unit to Unit Port

Video Out Port

Manual Gain Control Tuner

▼ VE170RQ Receiver Unit

Front View

Rear View

Audio Out Port

Unit to Unit Port

Video Out Port   RGB Tuner

Manual Gain Control Tuner

Industry Applications		Page Number
Banking	Insurance Company	P01
Corporate	Oil & Gas Equipment and Service Company	P05
Education	Campus Broadcasting	P07
	Training Facility	P08
	Computer Classroom	P09
Government	Passport Office	P10
Healthcare	Media Staff Promotion (MSP), Japan	P11
Manufacturing	Car Factory	P15
Non-Profit Organizations	Place of Worship	P17
	St Francis Church, Poland	P18
Retail	Cell Phone Store	P20
	Supermarket	P21
	Superstore	P22
Transportation	Airport Terminal	P25

VM0404H

4x4 HDMI Matrix Switch

・Connects any of four HDMI sources to any of four HDMI displays
・Toggle between HDMI sources and displays using remote control or front panel pushbuttons
・Long-distance transmission – up to 20 m (24 AWG)
・Cascade via other VM0404Hs to provide up to 64 HDMI sources/displays for digital signage systems
・Superior video quality – HDTV resolutions of 480p, 720p,1080i, 1080p (1920x1080); VGA, SVGA, SXGA, UXGA (1600x1200), and WUXGA (1920 x 1200)
・HDMI (3D, Deep Color)
・HDCP 1.2 compatible
・Consumer Electronics Control (CEC) allows interconnected HDMI devices to communicate and respond to one remote control
・Supports Dolby True HD and DTS HD Master Audio
・Up to 60 Hz refresh rate
・Built-in bi-directional RS-232 serial remote port for high-end system control
・Power On Detection – if one HDMI source is powered off, the VM0404H will automatically switch to the next powered-on source
・DDC compatible
・Signaling rates up to 2.25 Gbits in support of 1080p display
・Easy and affordable way to add four HDMI inputs to your multiscreen home theater system
・Rack Mountable

HDMI Out Port   HDMI In Port

Rear View

RS-232 Serial Port
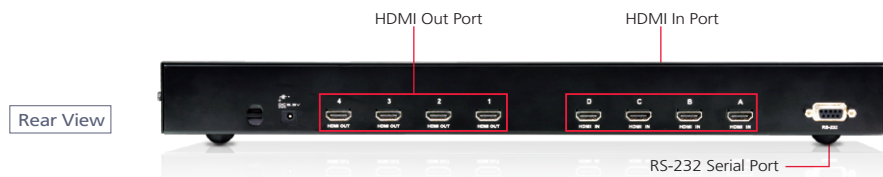
VS0202

2x2 Video Matrix Switch + Audio

・Each of the 2 video outs can toggle between Source 1 and Source 2 using front panel pushbuttons.
・Duplicate and enhance video signals to up to 65 m (max.).
・Expandable: Cascade to ATEN's video splitters to support hundreds of video displays.
・Audio enabled.
・With up to 300 MHz Video Bandwidth.
・OS Support: Windows 2000, Windows XP, Linux, Mac and Sun

VGA Gain Port

Rear View

Video / Audio In Port   Video / Audio Out Port

Industry Applications		Page Number
Corporate	Lion Travel, Taiwan – Show Room	P03
	HyperNet, Taiwan – Conference System	P04
Education	Computer Classroom	P09

VS481A

4-Port HDMI Switch

· Allows up to four HDMI A/V source to be connected to one HDMI display
· Toggle between A/V sources using remote control or front panel pushbuttons
· Long distance transmission - up to 20m (24 AWG)
· Superior video quality - HDTV resolutions of 480p, 720p, 1080i, 1080p
  (1920x1080); VGA, SVGA, SXGA, UXGA (1600x1200) and WUXGA(1920x1200)
· HDMI (3D, Deep Color)
· Supports Dolby True HD and DTS HD Master Audio
· Up to 60 Hz refresh rate
· Built-in bi-directional RS-232 serial remote port for high-end system control
· Plug-and-play - no software installation required
· DDC Compatible
· HDCP 1.2 compliant
· Signaling rates up to 2.25 Gbits in support of 1080p display
· LED indication of video source devices
· Easy and affordable way to add four HDMI inputs to your home theater system

HDMI In Port

Front View

HDMI Out Port   RS-232 Serial Port

Rear View

HDMI In Port
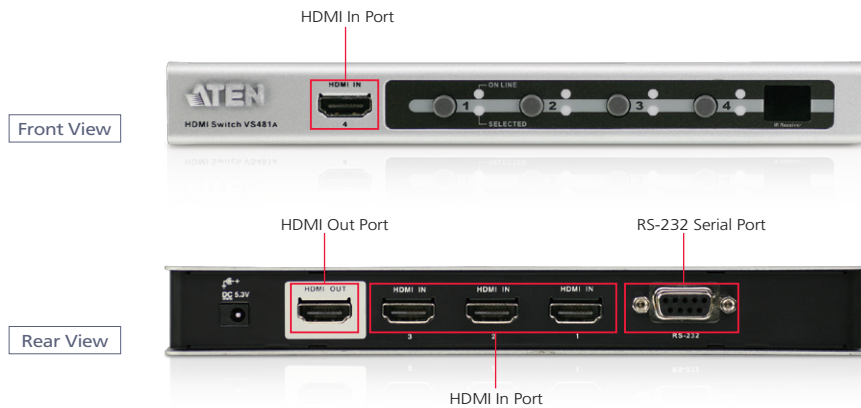
VS201

2-Port Video Switch

· Displays the video output of two computers on a single monitor or projector
· Automatic incoming signal selection (Auto)
· Quick and easy switching via slide switch
· Long-distance transmission – up to 65 m
· Superior video quality – up to 1920 x 1440
· Supports VGA, XGA. SVGA, UXGA and multisync monitors

Video In Port

Video Out Port

Priority Switch
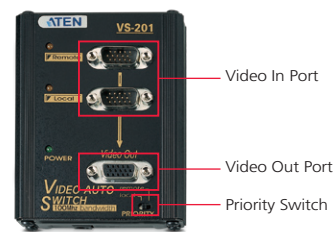
Industry Applications		Page Number
Education	Computer Classroom	P09
Manufacturing	Production Line	P16

VS0108H

8-Port HDMI Splitter

· Connects 1 HDMI video source to 8 HDMI displays at the same time
· Long distance transmission - 20 m (24 AWG)
· Cascadable to three levels
· Superior video quality - HDTV resolution of 480p, 720p, 1080i and 1080p
  (1920x1080); VGA, SVGA, SXGA, UXGA and WUXGA (1920x1200)
· HDMI (3D, Deep Color)
· DDC Compatible
· HDCP 1.2 compatible
· Supports Dolby True HD and DTS HD Master Audio
· Consumer Electronics Control (CEC) allows interconnected HDMI devices to
  communicate and respond to one remote control
· Up to 60 Hz refresh rate
· Signaling rates up to 2.25 Gbits in support of 1080p display
· Rack Mountable

HDMI In Port

Rear View

HDMI Out Port   HDMI Out Port
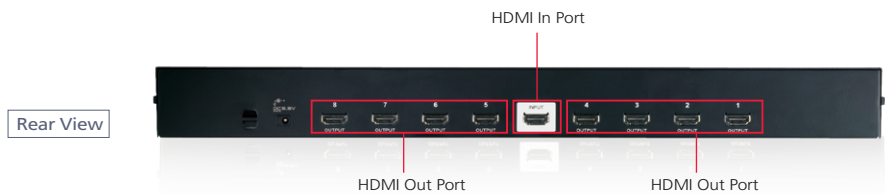
VS182 / VS184

2/4-Port HDMI Splitter

· Connects 1 HDMI A/V source to 2/4 HDMI displays at the same time
· Long distance transmission - 20 m (24 AWG)
· Cascadable to 3 levels - provides up to 64 HDMI signals
· Cascade distance: Source to Device -1.8m, Device to Device-15m, Device to
  Display-20m
· Superior video quality – HDTV resolution of 480p, 720p, 1080i and 1080p
  (1920x1080); VGA, SVGA, SXGA, UXGA (1600x1200), WUXGA (1920x1200)
· HDMI (3D, Deep Color)
· DDC compatible
· HDCP 1.2 compatible
· Signaling rates up to 2.25Gbits in support of 1080p display
· All-metal casing
· LED indication of display devices
· Plug-and-play - no software installation required
· Easy and affordable way to take your home theater system to the next level, or
  upgrade presentations, training, and video broadcasts in a corporate, educational,
  or commercial setting

HDMI In Port

▸ VS184

Rear View

HDMI Out Port

VS162 / VS164

2/4-Port DVI Video Splitter

· Connects computers with DVI graphics to multiple DVI compatible monitors or projectors
· Fully compliant with DVI-Digital and DVI-Analog
· Cascadable to 3 levels - provides up to 8/64 video signals
· Cascade distance: Source to Device -1.8m, Device to Device-5m, Device to Display-5m
· Maintains highest single link video resolution (up to 1920 x 1200)
· DDC, DDC2, DDC2B Compatible (Port 1 only).
· HDCP 1.2 Compliant
· Supports DDWG (Digital Display Working Group) standard for DVI compliant monitors
· Speaker enabled for audio enjoyment
· Installs in minutes

▸ VS164

Rear View

A/V Input Section   A/V Output Section
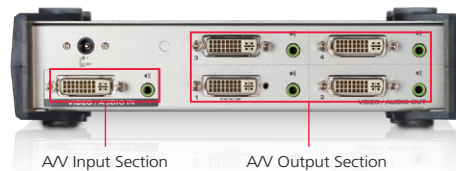
VS92A / VS94A / VS98A

2/4/8-Port Video Splitter

· One video input to 2/4/8 video outputs
· Long-distance transmission - up to 65 m
· Cascadable to 3 levels - provides up to 8/64/512 video signals
· Superior video quality - 1920 x 1440 @ 60Hz
· DDC, DDC2, DDC2B Compatible (Port 1 only)
· Supports VGA, XGA, SVGA, UXGA,WUXGA and multisync monitors
· Supports 350 MHz bandwidth
· All metal casing

▸ VS98A

Rear View

Video In Port   Video Out Port
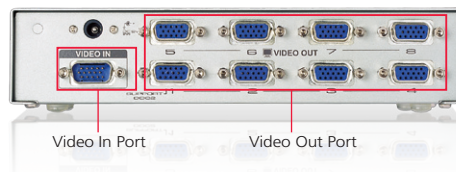
| Industry Applications		Page Number
Education	Training Facility	P08
	Computer Classroom	P09
Hospitality	Hilton Conrad, Dubai, UAE	P13
	Hotel	P14
Transportation	KWANG IN Co., Ltd., Korea	P23
	Railroad Passenger Corporation	P24

VE800

HDMI Extender

- Extends the distance between HDMI source and HDMI display
- 8 segment equalization adjustment switch
- Uses Cat 5e cable to achieve long distance transmission
- Extend 1080p by 40m; extend 1080i (HDTV) by 60m (1080p or 1080i)
- Superior video quality – 1920 x 1200, up to 1080p
- HDMI (3D, Deep Color)
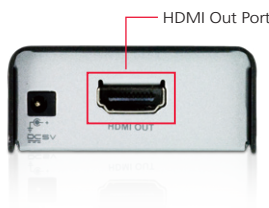- DDC compatible
- HDCP 1.2 Compatible

▼ VE800L Local Unit

Front View

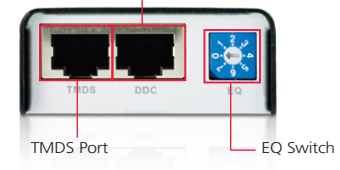Rear View

HDMI In Port

DDC Port

TMDS Port
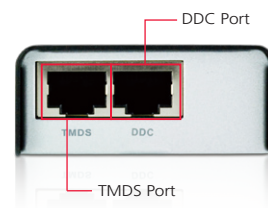
▼ VE800R Remote Unit

Front View

HDMI Out Port

DDC Port

TMDS Port

EQ Switch

VE022

Mini Cat 5 A/V Extender

- Uses Cat 5e cable to extend audio and video transmission up to 150 m
- Superior video quality – screen resolutions include 1920 x 1200 @ 60Hz (30 m), 1600 x 1200 @ 60Hz (100 m) and 1280 x 1024 @ 60Hz (150 m)
- Adjustable Gain Control lets you manually adjust signal strength to compensate for distance
- Audio enabled (mono)
- No external power supply needed for transmitter
- Convenient docking interface for mounting the VE022 on the display device
- Eliminates the need for bulky VGA cables
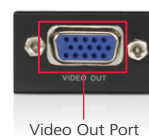- Easy installation

▼ VE022T Transmitter

▼ VE022R Receiver
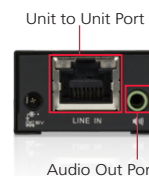
Front View

Rear View

Front View

Rear View

Unit to Unit Port

Unit to Unit Port

Video In Port

Audio In Port

Video Out Port

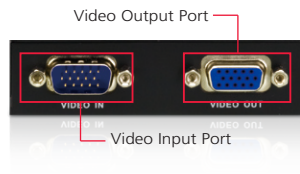Audio Out Port

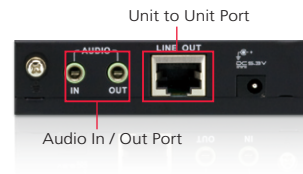## VE170T / VE170RQ

A/V Over Cat 5 Transmitter / Receiver

· Supports one local and one remote display
· Long distance transmission up to 300 m using Cat 5e cable
· Deskew Function (VE170RQ) – allows you to synchronize the time delay of RGB signals to compensate for distance
· Superior video quality:
  - VE170R: 1920x1200 @ 60Hz (30 m);1600x1200 @ 60Hz (150 m); 1024x76 @ 60Hz (300 m)
  - VE170RQ: 1920x1200 @ 60Hz (150 m);1280x1024 @ 60Hz (300 m)
· Audio enabled (mono)
· Adjustable gain/compensation control
· Built-in 8KV/15KV ESD protection
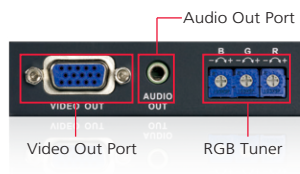· Rack-mountable

▾ VE170T Transmitter Unit

Front View   Rear View
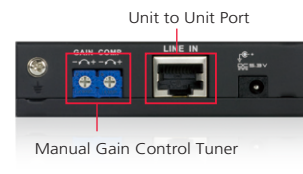
Video Output Port   Unit to Unit Port

Video Input Port   Audio In / Out Port

▾ VE170RQ Receiver Unit

Front View   Rear View

Audio Out Port   Unit to Unit Port

Video Out Port   RGB Tuner   Manual Gain Control Tuner

VE560

DVI Booster

· Connects computers with DVI graphics to multiple DVI compatible monitors or projectors
· One unit handles digital video extension and supports long length cable (24 AWG cable) for digital signal transmission
· Transmission distance of up to 50m
· Fully compliant with DVI specifications
· Supports DDWG standard for DVI compliant monitors
· Supports high resolution: Supports HDTV resolution of 480p, 720p, 1080i and 1080p & Supports VGA, SVGA, SXGA(1280x1024), UXGA(1600x1200)and WUXGA(1920x1200)
· HDCP 1.2 compliant
· Plug and play, easy to install
· Compact Design
· Easily connects to different digital video devices(e.g. Set-top Box, LCD Monitor, Projector, LCD TVs)
· Multiplatform support: Windows 2000/XP/Vista, Linux, Mac and SUN

Side View 1   Side View 2

DVI In   DVI Out
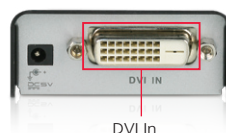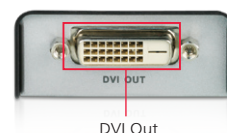
VE510

Video Synchronizer

· Uses Cat 5e cable to extend audio and video transmission up to 150 m
· Connects VGA based video devices to VGA displays and enhances the video quality in long distance installations
· Compensates for a delay and synchronizes signal delays
· RGB delay tuner-manually synchronizes the RGB signals via pushbuttons
· Skew equalization
· Memory set button-allows the storing and recalling of user settings
· LED display for status monitoring
· Easy to install
· Hot pluggable
· Compact Size-Din Rail and Wall mountable
· Compatible with ATEN KVM Extenders, Video Extenders and KVM Switches

Front View

VGA Out Port

Rear View

VGA In Port

Industry Applications		Page Number
Corporate	Lion Travel, Taiwan – Digital Signage System	P02
	Lion Travel, Taiwan – Show Room	P03
Education	Campus Broadcasting	P07
	Training Facility	P08
	Computer Classroom	P09
Hospitality	Hotel	P14
Transportation	Railroad Passenger Corporation	P24

2L-2801

Low Skew Cat 5e Cable

Analog video presents a high quality image when the computer is directly connected to the monitor by short cables. "Skew" is the color phase and time errors that occur when R/G/B video signals are sent long distance over Cat 5e cables, and this can result in smeared, unsharp, color-fringed images. To remedy this distortion, ATEN developed a Low skew Cat 5e cable. This high performance cable is suitable for the audio and video transmission of a wide range of video and KVM Extenders. To eliminate blur and bleeding images and to ensure clarity of your video transmissions, use 2L-2801 Low Skew Cat 5e Cable.
· Supports high quality RGB video transmission
· Contains 305 m/1000 ft of low skew cable
· Delay Skew: 1 ~ 350 MHz 20nS/100m Max.
· Outer Jacket Material: FR PVC
· Outer Shield Material: Unshielded
· Conductor Material: 24 AWG solid bare copper
· Compatible with ATEN analog Cat 5 video extenders, KVM extenders, and Cat 5 KVM switches
· UL, ETL approved

FR PVC

Low Skew Cat 5e Cable

Skew

Deskew

Industry Applications		Page Number
Banking	Insurance Company	P01
Hospitality	Hotel	P14

KH1516i

### 16-Port Cat 5 High-Density KVM Over the NET™

- High port density – RJ-45 connectors for up to 16 ports in a 1U housing
- Remotely access computers via LAN, WAN, or the Internet
- Daisy-chain up to 15 additional units - control up to 256 computers from a single console
- Superior video quality - 1600 x 1200 @ 60Hz at up to 30m and 1280 x 1024 @ 75Hz at up to 40m
- Internet browser access; Windows client and Java client provided; Java client works with most operating systems
- Supports PS/2, USB, Sun, and Serial connectivity
- Up to 64 user accounts - up to 32 concurrent logins
- Panel Array Mode - view all 16-ports at the same time
- Message Board for communication among remote users
- Windows-based Log Server
- Advanced security features include password protection and advanced encryption technologies - 1024-bit RSA, 256-bit AES, 56-bit DES, and 128-bit SSL
- RADIUS server support
- Multiplatform support: Windows, Linux, Mac, Unix, SUN and FreeBSD

Front View

Firmware Upgrade Port
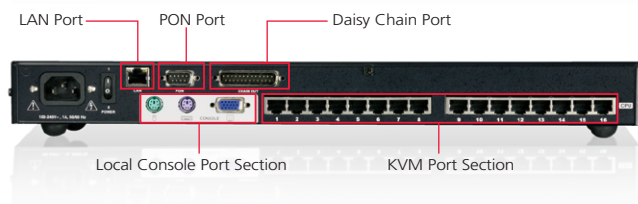
LAN Port   PON Port   Daisy Chain Port

Rear View

Local Console Port Section   KVM Port Section

CS9138

8-Port PS/2 KVM Switch

- One PS/2 console controls 8 computers
- Cascadable up to 3 levels - provides up to 512 computers
- Computer selection via front panel pushbuttons, hotkeys or On Screen Display (OSD)
- Superior video quality: up to 1920 x 1440; DDC2B
- Keyboard and mouse emulation for error free booting
- Supports Microsoft IntelliMouse, Logitech MouseMan, FirstMouse, IBM Scrollpoint Mouse
- OSD automatically adjusts to resolution changes
- Auto Scan function to monitor computer operation
- Available in silver and black
- Special design for easy stacking
- Rack mountable in 19" (1U) system rack
- Multiplatform support: Windows, Linux and FreeBSD

Rear View

Console Port Section   Computer Port Section

CS74E

4-Port PS/2 KVM Switch

· One PS/2 console controls 4 computers
· Compact, modern case for convenient attractive placement
· Superior video quality - up to 2048 x 1536; DDC2B
· Custom connector layout
· Power on detection - automatically switches to the first powered on port
· Computer selection via front panel pushbuttons and hotkeys
· Supports Microsoft IntelliMouse and the scrolling wheel on most mice
· Auto Scan function to monitor computer operation
· Non-powered
· ATEN ASIC inside
· OS Support: Windows 2000, Windows XP, Windows Vista, LINUX and FreeBSD
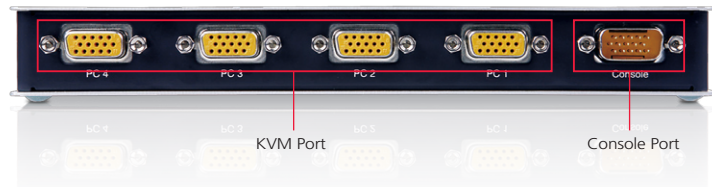
Rear View

PC 4   PC 3   PC 2   PC 1   Console

KVM Port   Console Port

Industry Applications		Page Number
Corporate	Lion Travel, Taiwan – Digital Signage System	P02
Education	Training Facility	P08
	Computer Classroom	P09

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