DVS 304 DVI

FOUR INPUT VIDEO AND RGB SCALER

■ **Scales video and RGB input sources:**
  – **S-video & composite video**
  – **Component video**
  – **HDTV**
  – **RGBHV, RGBS, RGsB**

■ **DVI, RGB or component video output**

■ **Simultaneous analog and digital scaled outputs**

■ **EDID Minder**

■ **Automatic Input Format Detection**

■ **68 scaled output rates, including HDTV and WUXGA (1920x1200)**

■ **3:2 (NTSC) and 2:2 (PAL) pulldown detection**

■ **IP Link® Ethernet control**

■ **On-screen display**

■ **Picture-in-picture**

The DVS 304 DVI offers high performance scaling for a wide variety of analog video input sources, and provides high resolution DVI and analog video outputs. The DVS 304 DVI is ideally suited for A/V presentations using the latest projectors or flat panel monitors, as well as centralized system integration with high quality source switching, automatic input format detection, and other capabilities.

Extron® Electronics

DESCRIPTION

The Extron **DVS 304 DVI** is a Video and RGB Scaler incorporating advanced scaling technology from Extron as well as a host of flexible, convenient, integrator-friendly features. This high performance scaler is designed to satisfy the requirements of today's high quality, high resolution video presentations using the latest displays, and at the same time facilitate the process of system integration. The DVS 304 DVI is ideal for a wide range of A/V environments including boardrooms, conference rooms, educational institutions, houses of worship, and event and staging applications.

High Performance RGB and Video Scaling
The DVS 304 DVI features a high performance scaling engine with the capability to scale standard definition video, high definition video, and computer-video signals up and/or down in resolution. With the DVS 304 DVI, only a single RGBHV connection to the display is required, resulting in cost savings due to reduced installation time, cabling, and system programming. The DVS 304 DVI also delivers glitch-free switching between video and computer-video sources. Offering the capability to process both conventional video and high resolution multimedia sources, the DVS 304 DVI creates a single, optimally scaled output to match the native resolution of the display.

Variety of Input Formats
The four inputs of the DVS 304 DVI accommodate composite video, S-video, component video, and RGB. SDI Serial Digital Interface input is available as an option. The fourth input is flexible and fully configurable to accept any available analog video format from composite video to RGBHV. Additionally, with the exclusive Auto Input Format Detection mode, the DVS 304 DVI automatically detects and then processes the incoming signal format to this input. This powerful feature is particularly effective in simplifying system integration and operation when using a matrix switcher with the DVS 304 DVI.

Multiple Control Options
The DVS 304 DVI can be operated via the front panel, RS-232, optional IR remote control, contact closure, and over a network with IP Link. IP Link technology enables remote control and configuration, monitoring of critical functions, and management of any equipped product throughout a facility from any Ethernet connection. With the DVS 304 DVI, IP Link also allows for direct communication with Extron IP Link-enabled matrix switchers for quick interoperation and powerful system integration.
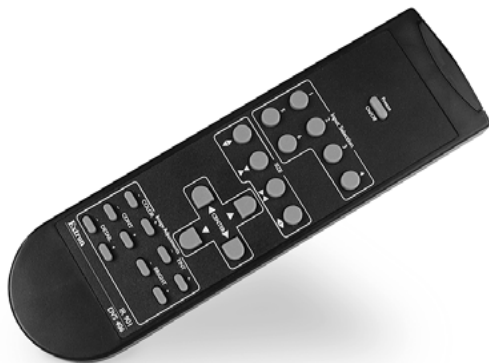
IR 902 Remote (Optional)

EDID Minder
The DVS 304 DVI features EDID Minder which enables automatic and continuous management of the EDID information between the computer-video input source and the display. By maintaining continuous EDID communication, EDID Minder ensures that the source powers up properly and reliably outputs content to the display.

Digital and Analog Scaled Outputs
The DVS 304 DVI offers simultaneous digital and analog scaled outputs through the DVI-I port. Simultaneous analog scaled output is also available on BNC connectors. A total of 68 output scan rates are available from VGA (640x480) to WUXGA (1920x1200) resolution, as well as HDTV at 720p, 1080i, and 1080p/60.

Audio Models Available
The DVS 304 DVI A and DVS 304 DVI AD offer four input audio switching for stereo unbalanced or balanced sources. Independent gain and attenuation controls are available for each input, and all audio connections are on captive screw connectors for ease of integration. The output volume control eliminates the need for a separate audio preamplifier in many A/V systems.

DVS 304 DVI AD

Integrator Friendly Features
The DVS 304 DVI is equipped with a comprehensive feature set for integrator friendly access and configuration, as well as user friendly operation. An on-screen display facilitates display of information pertaining to the selected input and adjustment of picture settings, including positioning, size, zoom, brightness, contrast, color, tint, and detail. Internal test patterns are available for calibration and setup. Configurations can be conveniently saved and recalled from up to three memory presets per input. To enhance presentations, a special PIP - picture-in-picture mode allows video and RGB sources to be combined within the same image.

IP Link® Ethernet Control
IP Link enables the DVS 304 DVI to be controlled and proactively monitored over a LAN, WAN, or the Internet. IP Link also enables the DVS 304 DVI to directly communicate with Extron IP Link-enabled matrix switchers for faster, streamlined system operation.

APPLICATIONS

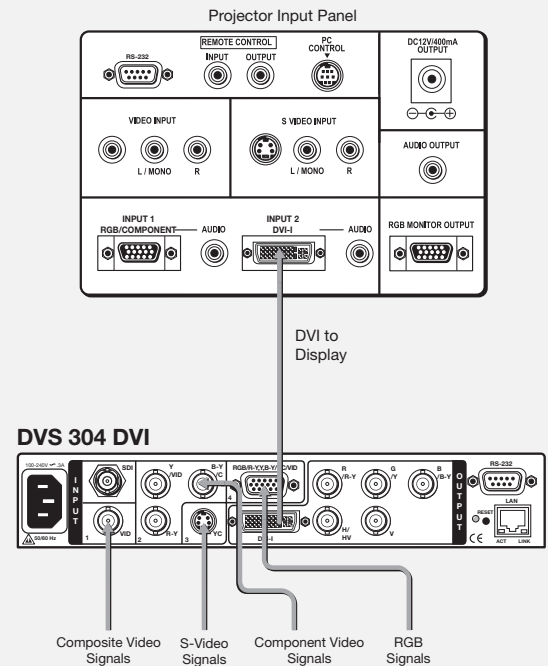## A/V System Integration using DVS 304 DVI Scaler

When using a scaler as the centerpiece of an A/V system, just a single connection to the display is required. The cost benefits include reduced installation time, less cabling, and minimal system programming. The DVS 304 DVI also offers high performance source switching superior to that of most flat-panel monitors and projectors.

Single cable run to display

- **Lowers material cost** – Cost savings provided by single cable purchase versus individual video/RGB cables

- **Reduces installation time** – Less labor involved with pulling and bundling of cables

- **Less points of failure** – Minimizes likelihood of connector termination issues and damage related to installation and normal use

- **Digital advantage** – A DVI connection to the display simplifies set-up and offers consistent image quality

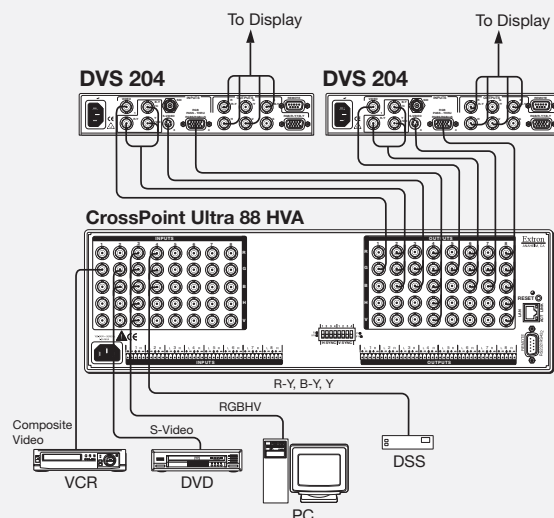### Simplified operation and control

- **Speeds up input switching time** – Display source switching between formats takes time. The DVS 304 DVI delivers just one common rate and resolution to the display, eliminating signal acquisition delay while streamlining presentations.

- **Minimizes system programming** – Consolidated switching allows for easy management of multiple signals in any system

Projector Input Panel

DVI to Display

DVS 304 DVI

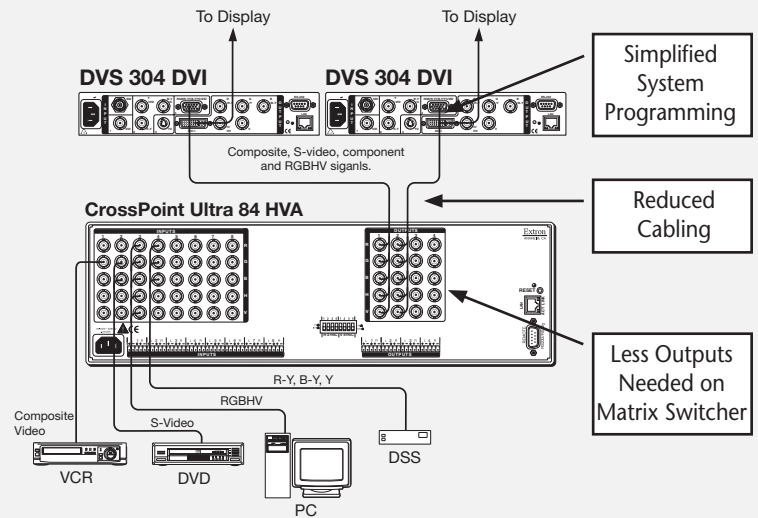Composite Video Signals | S-Video Signals | Component Video Signals | RGB Signals

Automatic Input Format Detection

Automatic Input Format Detection allows input four of the DVS 304 DVI to accept and automatically detect any video format present. This provides the ability to deliver multiple signal types to the DVS 304 DVI via a single cable using an external switcher, such as an Extron CrossPoint matrix switcher. The result is a streamlined system that provides significant cost savings, since fewer outputs are required on the matrix switcher.

Traditional Scaler & Matrix Design

To Display   To Display

DVS 204   DVS 204

CrossPoint Ultra 88 HVA

R-Y, B-Y, Y
RGBHV
Composite Video
VCR   DVD
S-Video
DSS
PC

DVS 304 DVI Scaler & Matrix Design

To Display   To Display

DVS 304 DVI   DVS 304 DVI

Composite, S-video, component and RGBHV siganls.

CrossPoint Ultra 84 HVA

R-Y, B-Y, Y
RGBHV
Composite Video
VCR   DVD
S-Video
DSS
PC

Simplified System Programming

Reduced Cabling

Less Outputs Needed on Matrix Switcher

FEATURES

- **RGB, HDTV, and video scaling** – RGB computer-video, high definition video, and standard definition video sources can all be scaled to the desired output resolution.

- **RGB upscaling and downscaling** – The DVS 304 DVI features an advanced scaling engine with high quality upscaling and downscaling of high resolution computer-video signals.

- **68 selectable output rates from 640x480 to 1920x1200, including HDTV 1080p/60** – A total of 68 output scan rates are available including computer-video rates up to WUXGA, 480p, 576p, and HDTV rates at 720p, 1080i, and 1080p/60.

- **Simultaneous digital and analog RGB or component video outputs** – Digital and analog outputs on DVI-I, and analog output on BNCs are provided for driving up to three display devices.

- **EDID Minder** – A selectable feature that enables automatic and continuous EDID management between the computer-video input source and the display. EDID Minder generates emulated EDID data based on the current output rate of the DVS 304 DVI. It can also automatically capture and store EDID information from the display, and generate EDID data from selectable rates to match the native resolution of the display. EDID Minder ensures that the source powers up properly and reliably outputs content to the display.

- **Auto Input Format Detection** – Input four of the DVS 304 DVI can be set to detect the incoming signal format, automatically reconfiguring itself to provide the appropriate decoding and signal processing. This feature can reduce the number of required outputs for a matrix switcher, lowering system cost while improving manageability.

- **Auto-switching between inputs** – The DVS 304 DVI can automatically switch between input sources. With auto-switching, the DVS 304 DVI can also accommodate additional inputs when connected to the outputs of a larger presentation switcher, such as the MPS 112.

- **IP Link Ethernet control** – Ethernet-enabled A/V products, such as the DVS 304 DVI, can be managed and supported by a technician or administrator at any time from any authorized Web client. IP Link also enables the DVS 304 DVI to directly communicate with Extron IP Link-enabled matrix switchers for faster, streamlined system operation.

- **Auto-Image setup** – For expedited presentation set-up, the DVS 304 DVI automatically optimizes the image by analyzing and then adjusting to the incoming source, eliminating complex and time-consuming set-up procedures.

- **On-screen display** – The DVS 304 DVI features an on-screen display which displays status information pertaining to the currently selected input, and facilitates easy adjustment of picture settings.

- **On-screen input labels** – An on-screen text label may be assigned to input four for each incoming signal. The label can be up to 16 characters and input via RS-232 or IP Link. This feature is especially useful when identifying incoming signals from a matrix switcher.

- **Audio switching and output volume control** – The DVS 304 DVI A and DVS 304 DVI AD feature audio switching for four stereo balanced or unbalanced input sources. In addition to master volume control and muting, gain or attenuation can be adjusted for each input to eliminate noticeable differences when switching between sources.

- **Audio input gain and attenuation**

- **Picture controls for brightness, contrast, color, tint, detail, and horizontal and vertical positioning, sizing, and zoom** – Three memory presets are available for each input to store all image settings.

- **Internal test patterns for calibration and setup** – Three test patterns are available, including a crop pattern, color bars, and alternating pixels. A blue-only mode is provided for proper setup of video color and tint levels.

- **PIP - picture-in-picture mode** – A special PIP mode, activated through the RS-232 or IP Link port, or IR remote control, allows a video source to be displayed within an RGB image, or vice versa. The PIP mode features adjustable window sizing and positioning.

- **Aspect ratio conversion** – Any video input can be adjusted horizontally and vertically to meet a specific aspect ratio requirement. Alternatively, the input aspect ratio may be specified as 4:3 or 16:9 and fixed. For example, the user can save and recall specific settings to match various video aspect ratios from DVDs.

- **3:2 NTSC and 2:2 PAL pulldown detection** – Advanced film mode processing techniques help maximize image detail and sharpness for NTSC or PAL sources that originated from film.

- **Quad standard video decoding** – The DVS 304 DVI uses a digital, four-line adaptive comb filter to decode NTSC 3.58, NTSC 4.43, PAL, and SECAM for integration into systems worldwide.

- **Optional IR 902 handheld IR remote control**

- **RS-232 serial control port** – Using serial commands, the DVS 304 DVI can be controlled and configured via the Extron Windows®-based control program, or integrated into third-party control systems. Extron products use the SIS™ - Simple Instruction Set command protocol, a set of basic ASCII code commands that allow for quick and easy programming.

- **Front panel security lockout**

- **Rack-mountable 1U metal enclosure** – The DVS 304 DVI and DVS 304 DVI D feature a half rack width enclosure. The DVS 304 DVI A and DVS 304 DVI AD are housed in a full rack width enclosure.

SPECIFICATIONS

VIDEO INPUT

Number/signal type .... 1 (RGBHV, RGBS, RGsB) pass-through,
RGBHV, RGBS, RGsB, RGBcvS, component
video, S-video, composite video
1 component video (Y, R-Y, B-Y), S-video,
composite video
1 S-video, 1 SDI (optional, DVS 304 DVI
D and DVS 304 DVI AD only)
1 composite video

Nominal level .... 1 Vp-p for Y of component video and
S-video, and for composite video
0.7 Vp-p for RGB and for R-Y and B-Y of
component video
0.3 Vp-p for C of S-video

Horizontal frequency .... 15 kHz to 100 kHz

Vertical frequency .... 50 Hz to 120 Hz

Resolution range .... 640x480 to 1920x1200, 480p, 576p,
720p, 1080i, 1080p

VIDEO OUTPUT

Number/signal type .... 1 scaled or pass-through RGBHV, RGBS,
RGsB; or scaled component video
(Y, R-Y, B-Y)
1 DVI-I (analog and digital, DVI 1.0,
HDMI 1.2)

Connectors .... 5 female BNC
1 female DVI-I

Nominal level .... 1 Vp-p for Y of component video and for
G of RGsB
0.7 Vp-p for RGB and for R-Y and B-Y of
component video

Minimum/maximum levels .... 0.0 V to 1.0 Vp-p

Impedance .... 75 ohms

SYNC

Standards .... NTSC 3.58, NTSC 4.43, PAL, SECAM

Input level .... 2.75 V to 5.0 Vp-p for RGBHV or RGBS
0.6 Vp-p for component video tri-level
sync
0.3 Vp-p for component video bi-level
sync or RGsB

AUDIO — DVS 304 DVI A, DVS 304 DVI AD

Gain .... Unbalanced output: 0 dB; balanced
output: +6 dB

Frequency response .... 20 Hz to 20 kHz, ±0.05 dB

AUDIO INPUT— DVS 304 DVI A, DVS 304 DVI AD

Number/signal type .... 4 stereo, balanced/unbalanced

Connectors .... (4) 3.5 mm captive screw connector,
5 pole

AUDIO OUTPUT— DVS 304 DVI A, DVS 304 DVI AD

Number/signal type .... 1 stereo, balanced/unbalanced

Connectors .... (1) 3.5 mm captive screw connector,
5 pole

Impedance .... 50 ohms unbalanced, 100 ohms
balanced

Gain error .... ±0.1 dB channel to channel

Maximum level (Hi-Z) .... >+21 dBu, balanced or unbalanced at
1% THD+N

Maximum level (600 ohm) .... >+15 dBm, balanced or unbalanced at
1% THD+N

Output volume range .... 0 to 100 (-52 dB to 0 dB) in 0.5 dB
increments from steps 4 to 100, 1 dB
increment from step 0 to 3)

Serial control port .... RS-232, 9-pin female D connector
Ethernet control port .... 1 RJ-45 female connector
Contact closure .... 9-pin female D connector (same as
RS-232 connector)
IR controller module .... Extron IR 902 (optional)

GENERAL

Power .... 100 VAC to 240 VAC, 50-60 Hz, 30 watts,
internal

Temperature/humidity .... Storage: -40 to +158 ˚F (-40 to +70 ˚C) /
10% to 90%, noncondensing
Operating: +32 to +122 ˚F (0 to +50 ˚C)
/ 10% to 90%, noncondensing

Mounting
Rack mount
    DVS 304 DVI, DVS 304 DVI D .... Yes, with optional rack shelf kit
    DVS 304 DVI A, DVS 304 DVI AD .... Yes, with included brackets.
Enclosure type .... Metal
Enclosure dimensions
DVS 304 DVI, DVS 304 DVI D .... 1.75" H x 8.75" W x 10.5" D (1U high,
half rack wide)
(4.4 cm H x 22.2 cm W x 26.7 cm D)
(Depth excludes connectors and knobs.)
DVS 304 DVI A, DVS 304 DVI AD ...... 1.75" H x 17.5" W x 10.5" D (1U high,
full rack wide)
(4.4 cm H x 44.4 cm W x 26.7 cm D)
(Depth excludes connectors and knobs.
Width excludes rack ears.)

Product weight
DVS 304 DVI, DVS 304 DVI D .... 3.3 lbs (1.5 kg)
DVS 304 DVI A .... 6.5 lbs (2.9 kg)
DVS 304 DVI AD .... 6.8 lbs (3.1 kg)
Regulatory compliance
Safety .... CE, c-UL, UL
EMI/EMC .... CE, C-tick, FCC Class A, ICES,
VCCI Class A
MTBF .... 30,000 hours
Warranty .... 3 years parts and labor
NOTE: All nominal levels are at ±10%.
NOTE: Specifications are subject to change without notice.

Model	Version Description	Part number
DVS 304 DVI	Standard Version	60-1027-01
DVS 304 DVI A	With Audio Switching	60-1027-02
DVS 304 DVI D	With SDI Input	60-1027-03
DVS 304 DVI AD	With SDI Input and Audio Switching	60-1027-04

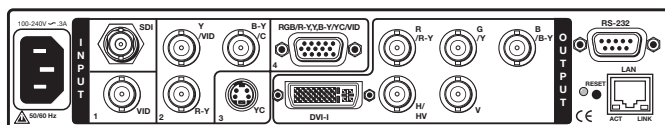# APPLICATION DRAWING
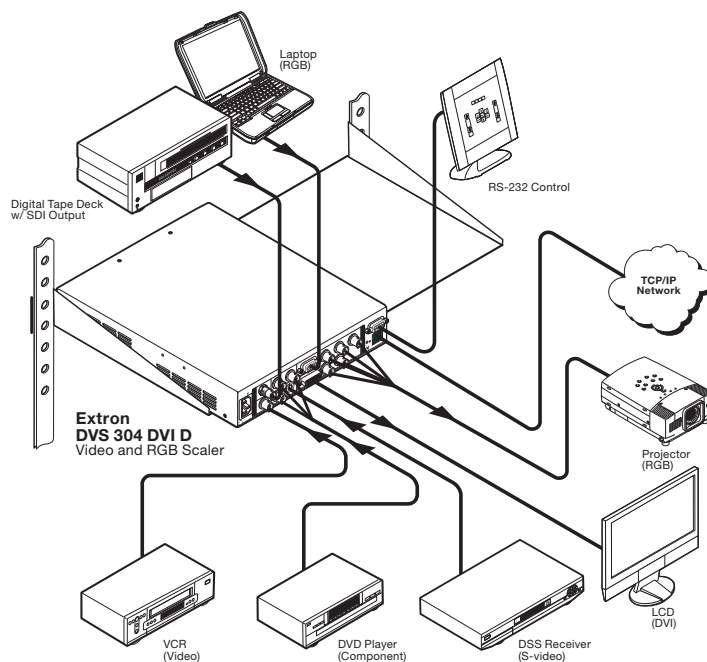
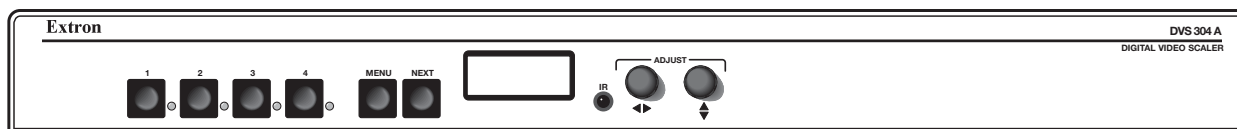# PANEL DRAWINGS
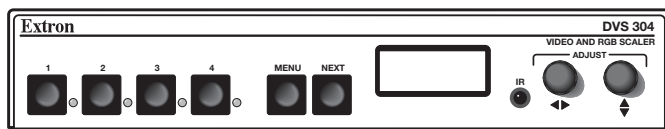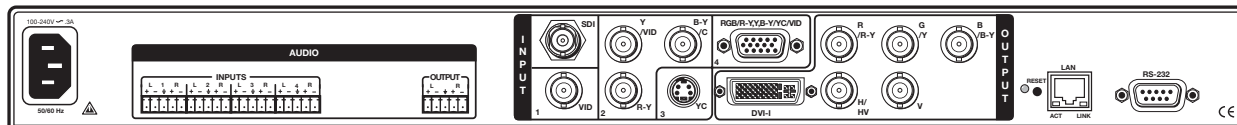

DVS 304 DVI D - Front

DVS 304 DVI D - Back

DVS 304 DVI AD - Front

DVS 304 DVI AD - Back

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