

Integrated. Simple.



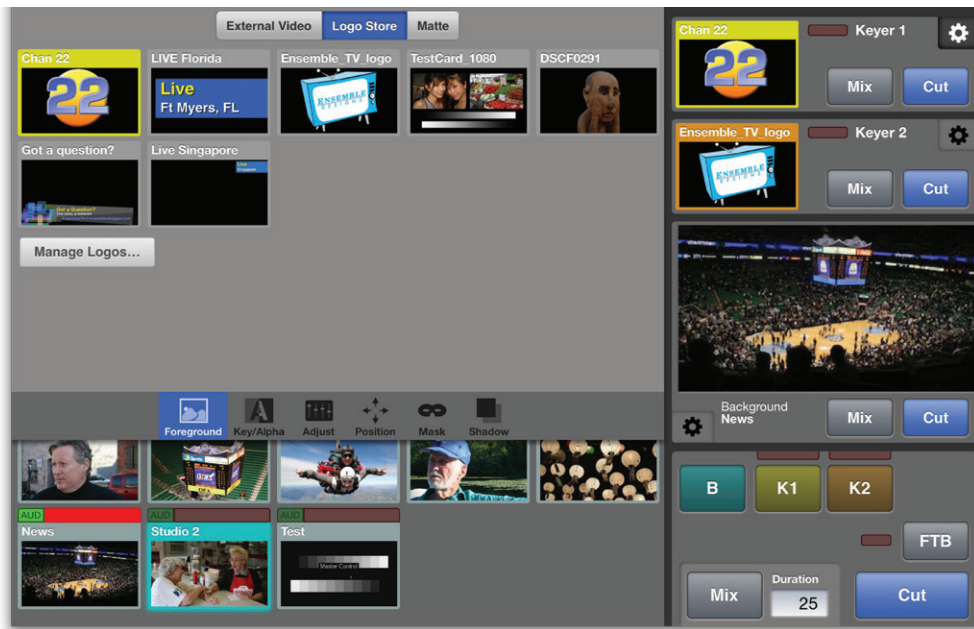
AVENUE™ Layering Engine Model P9425

Layering technology for broadcast, live venues and presentation. Multi-layer keying and mix/effects with an extraordinarily intuitive iPad interface and serial control

- Multi-layer keying and background transitions
- Linear, Luminance, and Additive Modes
- Internal LogoStore
- Built-in frame syncs on every input
- Audio breakaway and AFV
- Supports 16 channels of embedded audio
- Channel branding, small master control, centralcasting, fly-pack, remote truck
- EAS and downstream keyer option
- Hard surface operator control panel
- Packages available for ease of ordering



ENSEMBLE
DESIGNS



You have complete control over the configuration and operation of this powerful layering engine with a web interface, operation control panel, TCP/IP and serial control

More Than a Mix Effect

Use Ensemble's Avenue Layering Engine for broadcast, live venues and presentation. With two, independent linear keyers, program/preset background transitions, and audio mixing and breakaway, it's an agile and flexible solution to combining audio and video content. Inputs can be driven by SDI signals from cameras, remote feeds, character generators, graphic and stillstore systems and video servers. The full range of SDI signals from SD to HD and 3G formats are supported. Realtime processing and low latency make it easy to integrate – even in complex signal chains.

Powerful, Flexible Keying and Layering

The extensive features of the Avenue Layering Engine span a wide range of applications. This broad repertoire is matched by an intuitive interface that puts comprehensive control of every element at your fingertips. Keyer presets will recall the entire configuration of a layer with a single touch or keystroke.

The visual interface displays thumbnail views of connected sources and the content stored in the LogoStore. Input signals and control parameters are clearly presented and easily adjusted.

Hard Surface Operator Control Panel

The Avenue 5825 Layering Engine Control Panel is a real panel with real buttons to control keying and vision mixing functions positively and instantly.

The panel features a front panel LCD display that shows thumbnails of sources allowing instant verification of switching selections. When used alongside the award winning web browser interface that can be accessed with any web browser enabled device such as an iPad or laptop computer, all of the functionality of the powerful switching and keying system can be harnessed in a compact, easy-to-use control position. The control panel is connected via IP allowing access from anywhere on the network, and can be powered via POE for easy, single wire hook up. Source selection, cuts, dissolves, and three levels of keying can be independently controlled via the panel.

The Avenue 5825 panel works with other interfaces making it the perfect solution for use with automation. The operator can quickly and positively override automation functions in the event of a service disruption or equipment failure.



EAS and Downstream Keyer Option

Add the 9425-XK option for additional keying capability. The downstream keyer provides a third layer of keying, drawing from stills and animations in the Layering Engine's LogoStore. A basic character generator is included for producing a lower-third crawl.

The 9425-XK also provides CAP compliant EAS insertion. Three signals are from the external EAS receiver: a GPI command to put the announcement on air is fed from a 3rd party device, an RS-232 ASCII data that feeds the character generator is also fed from the 3rd party device, and a live audio signal that is to be played out with the scrolling CGEN. This signal is brought in through an input on the Layering Engine and it can be either embedded on an SDI signal or delivered as an AES stream.



LogoStore

Logos and Graphics created with paint and animation applications can be loaded into the Avenue Layering Engine's LogoStore through a web interface. These elements can then be keyed and combined with live video inputs. The user interface makes it easy to choose from multiple graphics in each keyer, even in a live environment.

The Positioning and Masking features can be applied to LogoStore content. Combined with Keyer Presets, these features allow a single logo to be used in a variety of ways. The LogoStore's non-volatile memory is a great solution to sourcing lower third supers, branding logos, watermarks, and even full screen titles.



Two key layers and a background source can be simultaneously combined to produce the program output



Foreground

Choose Foreground video from any of the SDI inputs, an internal matte generator, or the built in LogoStore to recall both still and animated graphics.



Adjust

The keyers support linear, luminance and additive keying from a variety of video sources. In linear and additive modes, external key signals are faithfully passed to the overlay combiners with the option of user adjustments to fine-tune the effect with hi/lo clip.



Key/Alpha

The Key (Alpha) signal can be selected automatically according to the chosen Foreground video, or chosen independently from any input. Use full screen Alpha, along with Mask and Position, to produce mortise effects with live content.



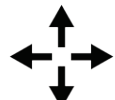
Mask

Apply masking to any key to exclude unwanted content, or create window inserts.



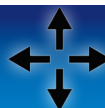
Shadow

Drop shadows can be added to any key. Adjust position and density to enhance the separation between Foreground and Background video.



Position

Position the overlay anywhere on the output raster. Positioning supports live video inputs as well as content from the LogoStore.



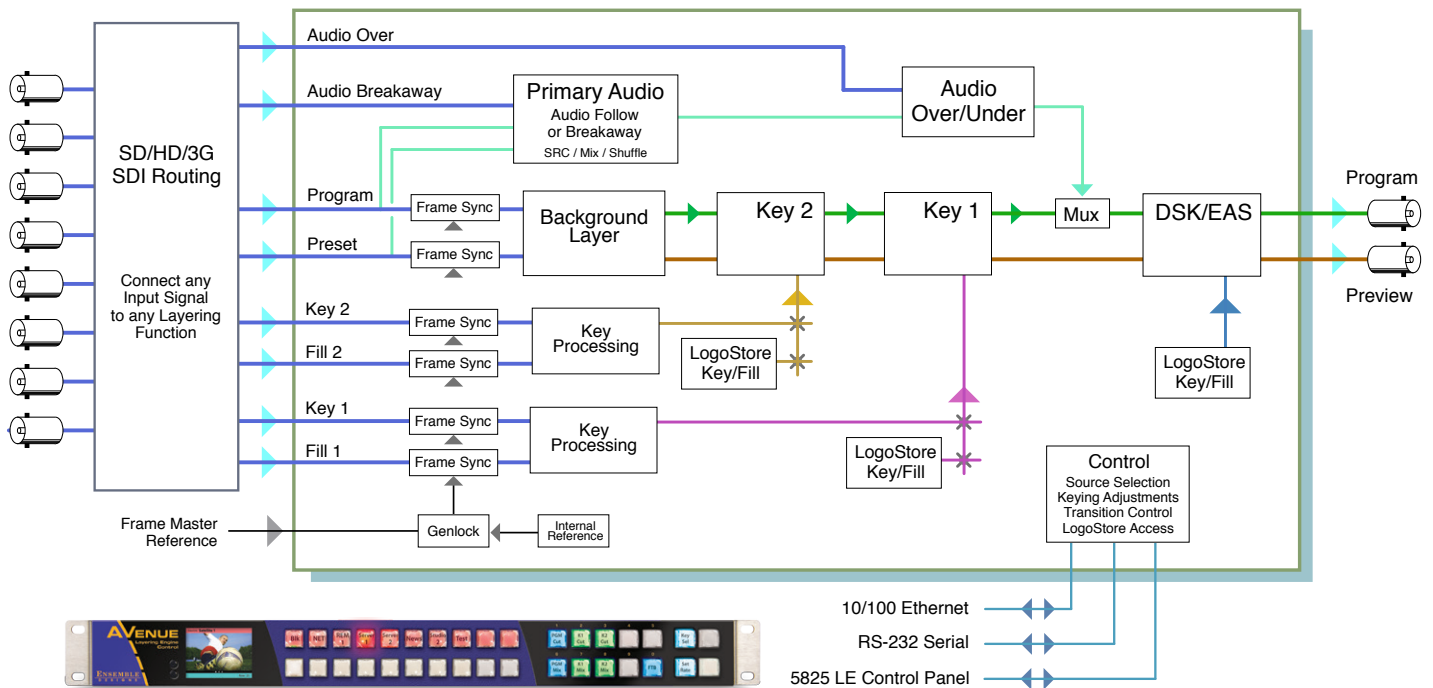
Timing and Synchronization

The Avenue Layering Engine genlocks to a house reference signal, allowing you to time the effects output to match system requirements in your facility. Even asynchronous (wild) sources can be used as inputs to the layering engine. Each input incorporates a frame synchronizer, automatically correcting each source to match system timing. When no external reference is available, as in a flypack system, a stable internal reference signal is used.

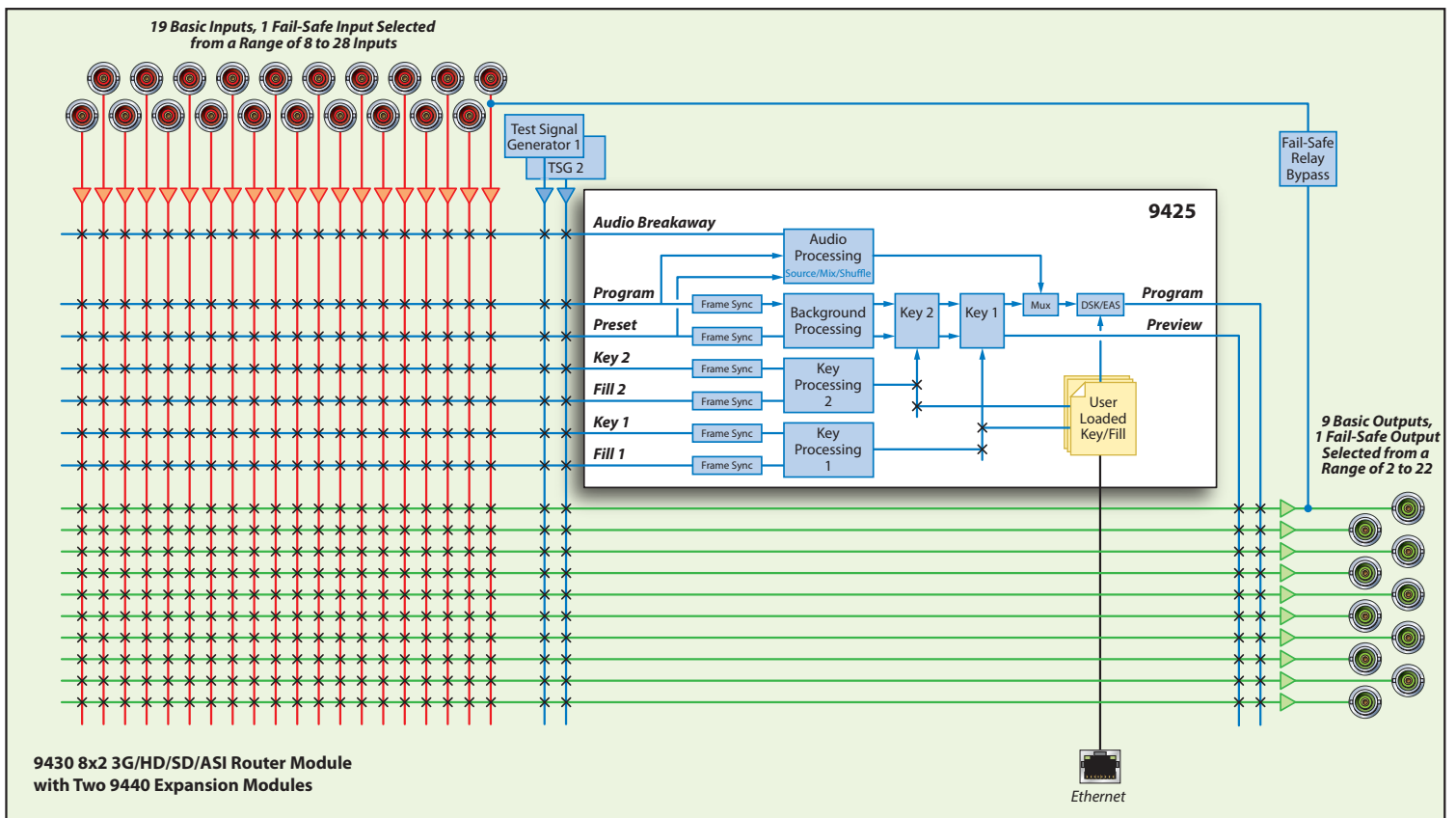
Complete Audio

Comprehensive audio support is built-in to the Avenue Layering Engine. The primary audio output can be taken automatically from the embedded content in the currently selected background video source. This AFV (Audio Follow Video) mode will produce smooth, pop-free audio transitions that duplicate the background video – whether cutting or mixing. Alternately, the audio can be selected independently (Audio Breakaway) of the background video so that it comes from the embedded content of any connected source.

16 channels of embedded audio are supported throughout the entire processing chain. The channel swapping feature of the SDI port configuration tool allows full customization on an input by input basis.



Any of the P9425's eight inputs can be used as background video, key fill or source, or audio breakaway. Program and look-ahead preview outputs are provided. Occupies just one module slot in the Avenue frame.



System example: Here is an example of a 30-port system that is configured with 20 inputs and 10 outputs. Program, preview and all sources are routable, as shown. 3 module slots are used in the Avenue frame.

Any input source or the Layering Engine outputs can be routed to any destination. This configuration consumes only 3 module slots in the 3RU Avenue frame. This flexible architecture puts video effects, audio mixing and routing functionality in a single, convenient package. Alternate configurations are available for every application, from remote trucks to news bureaus to presentation. Connect a source with a single cable and it's simultaneously available to both routing and effects. Ports can be configured as inputs or outputs which means you can configure the system as needed, for example, 28x2, 23x7 or 15x15.

Signal Performance

SDI I/O ports support SD, HD, and 3G data rates. The full 10 bit SDI resolution is carried throughout all of the background, foreground, and alpha paths. Internal processing is performed at even higher resolution so that the final, composited effect is true to every nuance and the subtle details in the original sources.

Integration and Expansion

The basic Avenue Layering Engine configuration provides 8 input ports and 2 outputs. Expansion is easy – it integrates seamlessly into the Avenue Flexible Matrix Router. When installed in one of the router's option positions, the Avenue Layering Engine gains full access to all of the router sources. And the program and look-ahead preview outputs become available as sources to be routed to any of the output destinations.

Control Interface

The web browser iPad interface and the operation control panel put clear and complete control over the Avenue Layering Engine in the hands of an operator. Automation control over Ethernet TCP/IP, SNMP, and RS-232 serial interfaces, using industry standard as well as product specific protocols, provide support for a wide variety of applications. Use an iPad or web browser to quickly and easily create keyed presets that can be recalled on-air by automation systems. Automation commands can be overridden using the operation control panel.

Order Info

P9425 includes: 9425 Layering Engine (sub module)
9430 8 x 2 Router Module

Options

- 5825 Layering Engine Control Panel with LCD Display
- 9425-XK DSK and EAS Inserter Software Key Option
- 9440 Expansion Module: Adds 10 user configurable I/O ports
One or two 9440s may be added
- 9435-4CS Quad Clean Switch sub module: Four independent clean switches
9435-4CS may be added to one 9440 (Expansion Position #1)
- P94214 3G/HD/SD 20 port Layering Engine Package



For a complete signal processing chain, put Multiviewers, SPGs, sync changeover, logo inserters, upconverters, routers and keyers in the same Avenue frame. Ensemble's signal processing equipment is used in television stations and video facilities worldwide.

9430 Specifications

Inputs

| | |
|------------------|--|
| Number | Eight |
| Signal Type | HD Serial Digital 2.97 Gb/s, SMPTE 424M, 425M HD Serial Digital 1.485 Gb/s, SMPTE 274M, 292M or 296M SD Serial Digital 270 Mb/s, SMPTE 259M DVB-ASI at 270 Mb/s, SMPTE 310M, AES3id |
| Impedance | 75Ω |
| Return Loss | >15dB to 1.485 GHz |
| Max Cable Length | 270 Mb/s 300 meters Belden 1694A 1.485 Gb/s 100 meters Belden 1694A 2.97 Gb/s 70 meters Belden 1694A |

Automatic Cable Input Equalization

Outputs

| | |
|-------------|--------------------|
| Number | Two |
| Signal Type | Follows input |
| Impedance | 75Ω |
| Return Loss | >15dB to 1.485 GHz |
| Output DC | None (AC coupled) |

Reference

| | |
|-------------|---|
| Number | One via frame master ref input |
| Signal Type | Composite black, Tri-Level Sync, 10 MHz |

Standards Supported

1080p 50, 59.94, 60 Hz, SMPTE 424M, 425M
Level A, Level B (9435 Level A only)
1080i 50, 59.94 or 60 Hz, SMPTE 274M -4,5,6
720p 50, 59.94 or 60 Hz, SMPTE 296M -1,2,3
1080p 23.98, 24 or 25 Hz, SMPTE 274M -9,10,11
1080sF 23.98, 24 or 25 Hz, RP211 -14,15,16
625i 50, 525i 59.94, SMPTE 259M

General Specifications

| | |
|-------------------|------------------------------------|
| Power Consumption | 9430 with 9425 sub module 30 watts |
| Temperature Range | 0 to 40°C ambient (all specs met) |
| Relative Humidity | 0 to 95% noncondensing |
| Altitude | 0 to 10,000 ft |

9430 module cannot be installed in slot 3 of a 1RU frame when 5035 System Control module is installed

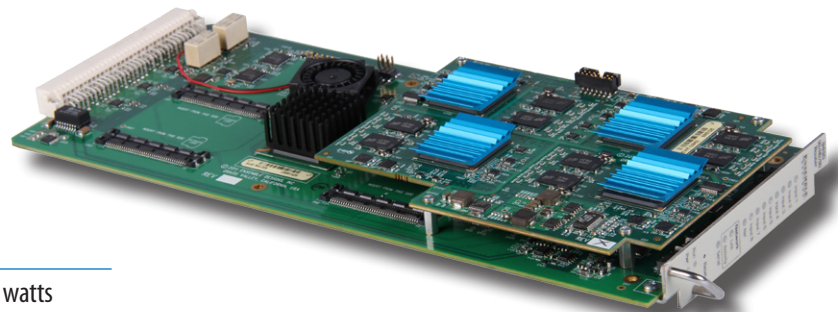
9440 Specifications

Inputs

| | |
|-------------|------------------------------|
| Number | Up to ten, user configurable |
| Signal Type | Same as 9430 |
| Impedance | 75Ω |
| Return Loss | >15dB to 1.485 GHz |

Outputs

| | |
|-------------|------------------------------|
| Number | Up to ten, user configurable |
| Signal Type | Follows input |
| Impedance | 75Ω |
| Return Loss | >15dB to 1.485 GHz |
| Output DC | None (AC coupled) |



The P9425 uses just one module slot in an Avenue 3RU or 1RU frame.

Who is Ensemble Designs?

By Engineers, For Engineers

In 1989, a former television station engineer who loved designing and building video equipment, decided to start a new company. He relished the idea of taking an existing group of equipment and adding a few special pieces in order to create an even more elegant ensemble. So, he designed and built his first product and the company was born.

Focused On What You Need

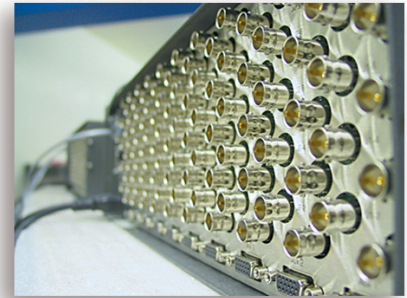
As the company has grown, more former TV station engineers have joined Ensemble Designs and this wealth of practical experience fuels the company's innovation. Everyone at the company is focused on providing the very equipment you need to complete your ensemble of video and audio gear. We offer those special pieces that tie everything together so that when combined, the whole ensemble is exactly what you need.

Notably Great Service for You

We listen to you – just tell us what you need and we'll do our best to build it. We are completely focused on you and the equipment you need. Being privately held means we don't have to worry about a big board of directors or anything else that might take attention away from real business. And, you can be sure that when you call a real person will answer the phone. We love this business and we're here to stay.

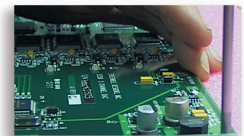
Bricks and Mortar of Your Facility

The bricks and mortar of a facility include pieces like up/downconverters, audio embedders, video converters, routers, multiviewers, keyers, protection switches and SPGs for SD, HD and 3Gb/s. That's what we're focused on, that's all we do – we make proven and reliable signal processing and infrastructure gear for broadcasters worldwide, for you.



Avenue frames handle 270 Mb/s, 1.5 Gb/s and 3 Gb/s signals, audio and MPEG signals. Used worldwide in broadcast, mobile, production, and post.

Use audio embedders, sync pulse generators, upconverters, logo inserters and routers all together in one frame.



Come on by and visit us. Drop in for lunch and a tour!

Clearly, Ensemble wants to be in the broadcast equipment business. It's so rare anymore to find a company of this caliber that has not been gobbled up by a large corporation. They are privately held so they don't have to please the money people. They really put their efforts into building products and working with customers.

I'm really happy with the Avenue products and Ensemble's service, and even more important my engineers are happy. We've continued to upgrade the product and add more cards. We will be rebuilding our production control room and we will use Avenue again.

**Don McKay, Vice President Engineering
Oregon Public Broadcasting**



And consider our BrightEye product line when you need palm-sized video and audio processing.

