Avid VENUE | S6L

Product Specifications

Avid VENUE | S6L delivers the unmatched processing power and sound clarity artists and engineers rely on to present the best show possible. From direct AAX and Waves plugin support and 128 tracks of Pro Tools® recording, to full system modularity and 300+ processing channels, the S6L unified platform gives you the mixing efficiency, creativity, and flexibility you need to meet the demands of any gig.

With five control surfaces, three engines, and four I/O racks to choose from—with 100% hardware, software, and show file compatibility across all—it's easy to configure and scale the perfect system for your needs.

Avid VENUE | S6L System Features

- Unified Platform with 100% hardware, software and Show file compatibility across all systems and components
- Five different control surface models, offering from 16- to 48-faders
- Three different engines, offering the processing and networking power needed for any show or installation
- Four different I/O units, offering precisely the audio and network connectivity you need for any situation
- Ability to share I/O across multiple networked systems
- Support for Luminex GigaCore AVB switches, to connect VENUE components in a redundant star configuration
- Use lightweight, inexpensive Cat5e cables for runs up to 100 meters, or fiber-optic cable for runs up to 500 meters
- Up to 192 input processing channels, each with built-in HEAT (Harmonically Enhanced Algorithm Technology) for "analog color," delay, High- and Low-Pass Filters, Dynamics, and 4-band fully parametric EQ
- Up to 123 output processing channels, each with a built-in High- and Low-Pass Filter, Compressor/Limiter, 7-band fully parametric EQ, and 31-band Graphic EQ
- Up to 99 mix buses (96 mix buses plus Main L-R, C/Mono), up to 24 mono stereo-linkable Matrixes, and 48 VCAs
- 400 plug-in rack slots for VENUE-compatible 64-bit AAX DSP plug-ins
- 128 channels of recording and playback (128 in x 128 out) with a compatible Pro Tools system, including true Virtual Soundcheck capability. Or with two compatible Pro Tools systems, one recorder (up to 128 channels) and one record/playback system
- Two-Track USB recording and playback
- VENUE Link, providing Pro Tools and VENUE interoperability and interconnection, including Pro Tools Transport control
- Dual MADI splits of Stage inputs on a per Stage 64 and/or Stage 32 basis (either 96 kHz or 48 kHz)
- Optional cards for Dante, additional MADI, Milan, and Waves SoundGrid
- Master Touch Screen—Central multi-touch screen provides Universe, Channel, and Meters views (all control surfaces except 16C)
- Master Live Module—Central module provides fader banking, assignable encoder functions, soft keys with displays, monitoring, snapshots, user-defined and snapshot- recallable fader layouts, touch and turn encoder, flex faders, and transport control
- Channel Touch Module (D-series only) Secondary touchscreen provides Meters view, various Channel views, and Parameter view
- Channel Fader Module—Provides 8 faders with dual channel meters, dynamics meters, and high-resolution OLED channel name displays, plus Mute, Solo, Safe, and other switches
- Channel Knob Module—32 touch-sensitive, tri-color encoders for parameter control, each with a high-resolution OLED display, Select switch, and In switch

S6L Control Surface Specifications

	S6L-48D	S6L-32D	S6L-24D	S6L-24C	S6L-16C
Integrated Touch Screens	1 Master Touch Screen, 5 Channel Touch Modules	1 Master Touch Screen, 3 Channel Touch Modules	1 Master Touch Screen, 2 Channel Touch Modules	1 Master Touch Screen	n/a
Faders	48 channel strips + 2	32 channel strips + 2	24 channel strips + 2	24 channel strips + 2	16 channel strips + 2
Channel Knob Modules (CKM)	5 CKMs, each with 32 color-coded encoders, 32 high-resolution displays, and tri-color indicators	3 CKMs, each with 32 color-coded encoders, 32 high-resolution displays, and tri-color indicators	2 CKMs, each with 32 color-coded encoders, 32 high-resolution displays, and tri-color indicators	1 CKM with 32 color-coded encoders, 32 high-resolution displays, and tri-color indicators	1 CKM with 32 color-coded encoders, 32 high-resolution displays, and tri-color indicators
Master Live Module	2 TFT displays with Soft Keys; Touch and Turn assignable encoder; 2 assignable faders; monitoring, layout and snapshot controls; transport controls and function buttons				
Metering	30-segment meters per channel, with pre- and post-fade metering options; Nominal indicator, Expander/Gate status and Compressor/Limiter gain reduction meters				
Analog inputs	8 XLR mic/line inputs with 48V and signal present LEDs				1 XLR mic/line input
Analog outputs	8 XLR outputs with mute and signal present LEDs				2 XLR outputs
Digital inputs	4 pairs of XLR stereo AES/EBU (8 channels total)				n/a
Digital outputs	4 pairs of XLR stereo AES/EBU (8 channels total)				n/a
Headphone outputs	2 independent 1/4-inch TRS stereo headphone jacks				1 1/4-inch TRS stereo headphone jack
Ancillary I/O	DVI-D video out, 4 USB 2.0 (2 rear, 1 front, 1 internal), ECx Ethernet port for wired/wireless remote control, GPIO (8 in/8 out), 2 footswitch, Linear Time Code input, MIDI I/O				
AVB Audio Network ports	4, each providing etherCON (copper) or SFP (fiber optic, Single- or Multi mode) connections				
Lights	Built-in			2x XLR	
Power supply	3 (2+1) redundant	2 (1+1) redundant, internal hot-swappable PSUs			Dual redundant, internal

E6L Engine Specifications

The E6L engine provides the real-time processing engine for input and output channels, and Pro Tools | HDX DSP processing card(s) for AAX DSP plug-ins. The E6L engine also provides connections for synchronization, control and utility in a 5U rack-mountable enclosure. The E6L-192, E6L-144, and the E6L-112 provide the following features and capabilities in their basic configuration:

	E6L-192	**E6L-144**	**E6L-112**
Sample rates	96 kHz	96 kHz	96 kHz
Input channels	192	144	112
Input processing (per channel)	HEAT, Delay, HPF, LPF, 4-band PEQ, Expander/Gate, Compressor/Limiter, 4 pre-fader + 4 post-fader plug-in inserts, 1 pre-fader + 1 post-fader hardware inserts		
Mix buses	96 + L-R, C/Mono	64 + L-R, C/Mono	48 + L-R, C/Mono
Output processing (per channel)	HPF, LPF, 7-band PEQ, 31-band Graphic EQ, Compressor/Limiter, Delay, 4 pre-fader + 4 post-fader plug-in inserts, 1 pre-fader + 1 post-fader hardware inserts		
Matrix	24 x 24	16 x 16	16 x 16
VCAs	48		
Monitor buses	2 stereo, each with independent control and routing		
Graphic EQs (31-band)	Every output		
Plug-in support	1 x HDX-192 DSP card, expandable to up to four HDX cards	1 x HDX-192 DSP card, expandable to up to two HDX cards	1 x HDX-192 DSP card, expandable up to two HDX cards
Plug-in slots	400		
Pro Tools Recording/Playback	Record/play back up to 128 audio tracks via Ethernet AVB		
AVB Audio Network Ports	4, each providing etherCON (copper) or SFP (fiber optic, Single- or Multi mode) connections		
I/O Sharing	Supports combinations of Stage 64, Stage 32s, and Stage 16 racks, up to 192 inputs total (requires two AVB-192 Ethernet AVB Network Cards to share I/O)		
Word Clock I/O	Input and Output, BNC, 75 Ohm coaxial		
USB ports	5 USB 2.0 ports (2 front, 2 back, 1 internal)		
Power supply	3 (2+1) redundant, internal hot-swappable PSUs		Dual redundant, internal
Rack spaces	5U		

I/O Rack Specifications

I/O Rack	Stage 64
Maximum I/O	64 analog and/or digital input channels, 32 analog and/or digital output channels
I/O card slots	12 (8 for input cards, 4 for output cards)
Sample rates	96 kHz
AVB Audio Network Ports	2, each providing etherCON (copper) or SFP (fiber optic) connections
Maximum cable length	Copper: 100 meters (328 feet); Fiber: 500 meters (1,640.4 feet) for Multi-Mode, 10,000 meters (32,808 feet) for Single Mode Fiber
MADI Outs	2 BNC; digital split outputs of Stage 64 inputs at 48 or 96 kHz; supports 64 channel MADI formats
Headphone confidence monitor	1/4-inch TRS stereo headphone jack with volume control; display for channel selection
Word Clock Out	BNC, 75 Ohm coaxial
Power supply	Dual redundant internal PSUs
Rack spaces	10U

I/O Rack	Stage 32
Maximum I/O	32 analog and/or digital input/output channels
I/O card slots	4
Sample rates	96 kHz
AVB Audio Network Ports	2, each providing etherCON (copper) or SFP (fiber optic) connections
Maximum cable length	Copper: 100 meters (328 feet); Fiber: 500 meters (1,640.4 feet) for Multi-Mode, 10,000 meters (32,808 feet) for Single Mode Fiber
MADI Outs	Single MADI output offers direct split of up to 32 inputs
Headphone confidence monitor	n/a
Word Clock Out	n/a
Power supply	Dual redundant internal PSUs
Rack spaces	5U

I/O Rack	Stage 16
Maximum I/O	16 analog input channels, 8 analog output channels, 4 AES digital output channels (on two stereo connectors)
Sample rates	96 kHz (with S6L systems), 48 kHz (with S3L-X/S3L systems)
AVB Audio Network Ports	2 Neutrik etherCON RJ-45 Ethernet Network ports
Maximum cable length	100 meters (328 feet)
Power supply	Internal universal PSU (100V to 240V nominal 50–60 Hz) accepting standard IEC AC power cables
Rack spaces	4U

I/O Rack	Local 16
Maximum I/O	8 XLR mic/line inputs, 8 XLR outputs, 4 pairs of XLR stereo AES/EBU inputs (8 channels total), 4 pairs of XLR stereo AES/EBU outputs (8 channels total)
I/O card slots	n/a
Sample rates	96 kHz
AVB Audio Network Ports	2, each providing etherCON (copper) or SFP (fiber optic) connections
Maximum cable length	Copper: 100 meters (328 feet); Fiber: 500 meters (1,640.4 feet) for Multi-Mode, 10,000 meters (32,808 feet) for Single Mode Fiber
MADI Outs	n/a
Headphone confidence monitor	n/a
Word Clock Out	n/a
Power supply	Dual redundant internal PSUs
Rack spaces	3U

Audio Specifications

System Processing

Parameter	Value
Internal Sample Frequency	96 kHz
Internal Processing	Up to 64-bit floating point
Processing Delay	As low as 2.27 ms (Stage 64 analog input, through Mains L-R bus to Stage 64 analog output, redundant star)

Analog Mic/Line Inputs

Parameter	S6L Control Surface Analog Inputs (XLR)	SRI-192 Analog Input Card
Connector	8 XLR-F	8 XLR-F
Sample rate	96 kHz	96 kHz
Phantom Power	+48V	+48V
Input Sensitivity	+14 dBu (+/-0.25 dB) @1 kHz, Pad Off +34 dBu (+/-0.25 dB) @1 kHz, Pad On	+14 dBu (+/-0.25 dB) @1 kHz, Pad Off, +34 dBu (+/-0.25 dB) @1 kHz, Pad On
Pad Depth	20 dB (+/- 0.25 dB), 1 kHz, 50 Ohm	20 dB (+/- 0.25 dB), 1 kHz, 50 Ohm
Gain Accuracy	±0.25 dB @ all gains	±0.25 dB @ all gains
Gain	+10 dB to +60 dB Pad Off –10 dB to +40 dB Pad On	+10 d B to +60 dB Pad Off, –10 dB to +40 dB Pad On
Input Impedance	~4 k Ohms	~4 k Ohms
Frequency Response	20 Hz - 20 kHz -0.2 dB @ all gains	20 Hz - 20 kHz ±0.1 dB @ all gains
THD+N	‹0.0004% @+2 dBu, @1 kHz, @20 dB gain, 20 Hz-20 kHz filter, ‹0.0005% 20-20 kHz, @+10 dBu, @10 dB gain, 20 Hz-20 kHz filter	‹0.0004% @+2 dBu, @1 kHz, @20 dB gain, 20 Hz-20 kHz filter, ‹0.0005% 20-20 kHz, @+10 dBu, @10 dB gain, 20 Hz-20 kHz filter
EIN	–127 dB, 150 Ohm source, 20 Hz - 20 kHz	–127 dB, 150 Ohm source, 20 Hz - 20 kHz
Converter Group Delay	12.6/Fs = 0.131 ms	12.6/Fs = 0.131 ms
Dynamic Range	›118 dB, A - weighted @ 1 kHz	›118 dB, A - weighted @ 1 kHz
CMRR	›60 dB @60 Hz ›80 dB Typical, @100 Hz, 20 dB gain ›70 dB Typical, 20 Hz-20 kHz, 20 dB gain	›60 dB @60 Hz ›90 dB Typical, @100 Hz, 20 dB gain ›80 dB Typical, 20 Hz-20 kHz, 20 dB gain
LEDs	Signal Present (green), +48V (red)	Signal Present (green), +48V (red)

Analog Line Outputs

Parameter	S6L Control Surface Analog Outputs (XLR)	SRO-192 Analog Output Card
Connector	(8) XLR-M	(8) XLR-M
Sample rate	96 kHz	96 kHz
Output Sensitivity	+24 dBu (+/-0.25 dB) @1 kHz, 100 k ohm	+24 dBu (+/-0.05 dB) @1 kHz, 100 K ohm
Gain Accuracy	±0.25 dB, 20-20 kHz, all gain settings	±0.25 dB, 20-20 kHz, all gain settings
Frequency Response	20-20 kHz, –0.15 dB	–0.1 dB, 20-20 kHz
THD+N	‹0.0005% @1 kHz, –5 dBFS ‹0.0005%, 20-20 kHz, @–5 dBFS	‹0.0006% @1 kHz, –5 dBFS ‹0.0008%, 20-20 kHz, @–3 dBFS
Converter Group Delay	7/Fs = 0.073 ms	7/Fs = 0.073 ms
Dynamic Range	›117.5 dB, A-weighted @1 kHz	›116 dB, A-weighted @1 kHz
Mute Depth	›125 dB @1 kHz, @–10 dBFS ›115 dB 20-20 kHz, @–10 dBFS	›125 dB @1 kHz, @–10 dBFS ›115 dB 20-20 kHz, @–10 dBFS
Output Impedance	100 Ohms Differential	100 Ohms Differential
Crosstalk	›120 dB @1 kHz, @–10 dBFS ›100 dB 20-20 kHz, @–10 dBFS	›120 dB, @1 kHz, @–10 dBFS ›100 dB, 20-20 kHz, @–10 dBFS
LEDs	Signal Present, Mute	Signal Present (green), Mute (red)

S6L Control Surface Digital I/O

Parameter	S6L Control Surface Digital Inputs	S6L Control Surface Digital Outputs
Connector	(4) XLR-F	(4) XLR-M
Format	AES 3 (AES/EBU)	AES 3 (AES/EBU)
Word Length	24-bit	24-bit
Termination	110 Ohms	110 Ohms
Max Cable Length	328 feet (100 meters)	328 feet (100 meters)
Supported Sample Rates	24 kHz to 210 kHz per input pair (SRC is always active)	96 kHz
Level	n/a	~3.6V pp maximum (i.e., +/- 1.8V)
Channel Status Info	n/a	Pro Audio 96 kHz, No Emphasis
Dithering	n/a	No
LEDs	n/a	Signal Present (green), Mute (red) per AES pairs

DSI-192 Digital Input Card

Parameter	AES Digital Inputs	ADAT Digital Inputs	Word Clock Out
Connector	(4) XLR-F	TOSLINK Optical	BNC-F
Format	AES 3 (AES/EBU)	ADAT, 8-channel @ 48 kHz, 4 channels @ 96 kHz, 2 channels @ 192 kHz (selectable within software)	Word Clock Out
Word Length	24-bit	24-bit	n/a
Termination	110 Ohms	110 Ohms	n/a
Max Cable Length	328 feet (100 meters)	n/a	n/a
Supported Sample Rates	24 kHz to 210 kHz per input pair (SRC is always active)	24 kHz - 210 kHz	n/a
Source Impedance	n/a	n/a	75 Ohm
Drive Level	n/a	n/a	2.5 pk-pk into 75 Ohm load
LEDs	Lock, SRC On	Lock, SRC On	n/a

DSO-192 Digital Output Card

Parameter	AES Digital Outputs	ADAT Digital Outputs
Connector	(4) XLR-M	TOSLINK Optical
Format	AES 3 (AES/EBU)	ADAT, 8-channel @ 48 kHz, 4 channels @ 96 kHz, 2 channels @ 192 kHz
Word Length	24-bit	24-bit
Termination	110 Ohms	110 Ohms
Max Cable Length	328 feet (100 meters)	n/a
Supported Sample Rates	96 kHz	96 kHz
LEDs	Lock, SRC On	Lock, SRC On
Impedance	110 Ohm	n/a
Level	~3.6 Vpp maximum (i.e., +/- 1.8V)n/a	n/a
Channel Status Info	Pro Audio 96 kHz, No Emphasis	n/a
Dithering	No	No
LEDs	Signal Present (green), Mute (red) per AES pairs	Signal Present