

SL NEO 2000



Integrated Multi-Channel Playout with Graphics



Server line SL NEO 2000 provides cost-effective, simple, integrated multi-channel SD/HD playout solution

Combining baseband video, channel branding, graphics and automated workflow capabilities in a single rack-unit device, SkyLark offers maximum return on investment for broadcasters.

SL NEO 2000 dramatically reduces the amount of physical equipment needed to launch a single channel or to expand to multi-channel operations, such as those ones, that are dedicated to traveling, news, weather or sports.

Series 2000 contains a wide spectrum of models with various quantities of output channels, signal types, and MPEG transport streams, depending on the model.

Server-Client Architecture

This equipment is designed to operate in a networked environment in which each computer or process on the network is either a client or a server.

Servers SL NEO are powerful computers dedicated to managing media-storages, media & meta-data, ingest & playback operations, file encoding and decoding, online graphics rendering and device control.

Client software facilitates the transfer of server requests and the receipt of its replies, due to which users' commands may successfully implement the management of content, one or several broadcast channels.

For example, "Broadcast Client" Software module completely organizes play-out process: in the "broadcast" window there is a playlist that contains an assigned source for every list event.

Key Features and Benefits

- Simultaneous and independent 1...8 HD ch. playout (or 1...12 for SD), execution of playlists as a sequence of events;
- Generation of graphic layers, manual & automated graphics play-out using "secondary events" technology;
- Playback of file media materials with various compression & file containers, various resolution and frame rate (NTSC, PAL, 720p, 1080i), and on-fly up/down/cross-conversion with a change to the fps parameters;
- DVB/IPTV/WEB streaming in parallel with the generation of HD/SD SDI, with regulation of flow speeds and resolution;
- External Router control for source switching, in accordance with play-lists events;
- Layout and editing of play-lists using the built-in editors, import of play-lists from Excel and traffic systems;
- Automatic and Manual Import of media files with various types of compression and file containers from network to the server storage. Material is accessible for viewing, editing, and playback 2 seconds after the beginning of the import;
- Automatic background file transcoding during import if necessary: container/codecs exchange, sound level normalization;
- Automatic creation of proxy-copies of materials during importing files;
- Editing and trimming of clips directly within the playout process, real-time editing of playlist events while they are being executed, trimming of clips in a playlist of events, directly within the event implementation process;
- Export of media files from server to network workstations & NLE;
- Application of server backup schemes from N+1 to N+N for playout channels with automated on-line synchronization of playlists from all channels, including all graphic layers;
- Automatic copying of content into the backup server's storage.

The screenshot displays the SkyLark software interface. At the top, there is a menu bar (File, Edit, Window, Help) and a toolbar with buttons for Cue, Play, GoTo, Freeze, Next, StopSeq, Reset, HS Jumps, Hold, Alarm Clip, Append, Delete, and Auto Scroll. The main window shows a playlist table with columns: N, Group, Status, Start, Player, Title, In Point, Clio Dur, Out Point, Start Time, Cur Point, Stoo Time, Event Dur, and Tvue. The table contains 17 rows of events, including 'Clock Promo', 'Mamba Clients', 'Mamba Servers', 'Promo1', 'Promo3', 'SL Box', 'SL NEO Mediaservers', 'SL NEO Promo', 'SL NEO Servers', 'World News', and 'Z0102-1'. A 'Monitor - [Media Browser]' window is open on the right, showing a video preview of a 'World NEWS' broadcast with a globe background. At the bottom, there is a 'Play' window showing 'Mamba Servers' and a timeline with 'IN: 00:00:00:00' and 'OUT: 00:00:02:00'.

The embedded Web-Based Interface provides access to the system administrative functions associated with configuring and customizing the system.

During playout process, the SL NEO Servers carry out routing in accordance with the events in the playlists, control the external SD/HD SDI routers through RS-422/232/Ethernet interfaces using Harris/Leitch, Evertz, Network, Snell, Miranda and other protocols.

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Solution Description

The shift from a hardware to software-based model simplifies users' playout infrastructure, while being more cost effective and efficient.

Multiple channels can be launched quickly and easily, due to streamlined product integration.

The SL NEO system's flexibility allows for easy upgrading, enabling the addition of features such as IP Streaming, SD to HD migration, and device control.

SL NEO2000 allows operations to decide how and when to expand their channels and services.

The solution's graphics capabilities help attract viewers and contribute to increased revenue through the ability to roll out multiple channels to new markets.

The choice of whether to use external storage or the standard integrated storage adds flexibility to content sharing.

Customers can customize to the level of video and branding performance that meets their needs: SD, HD or both.

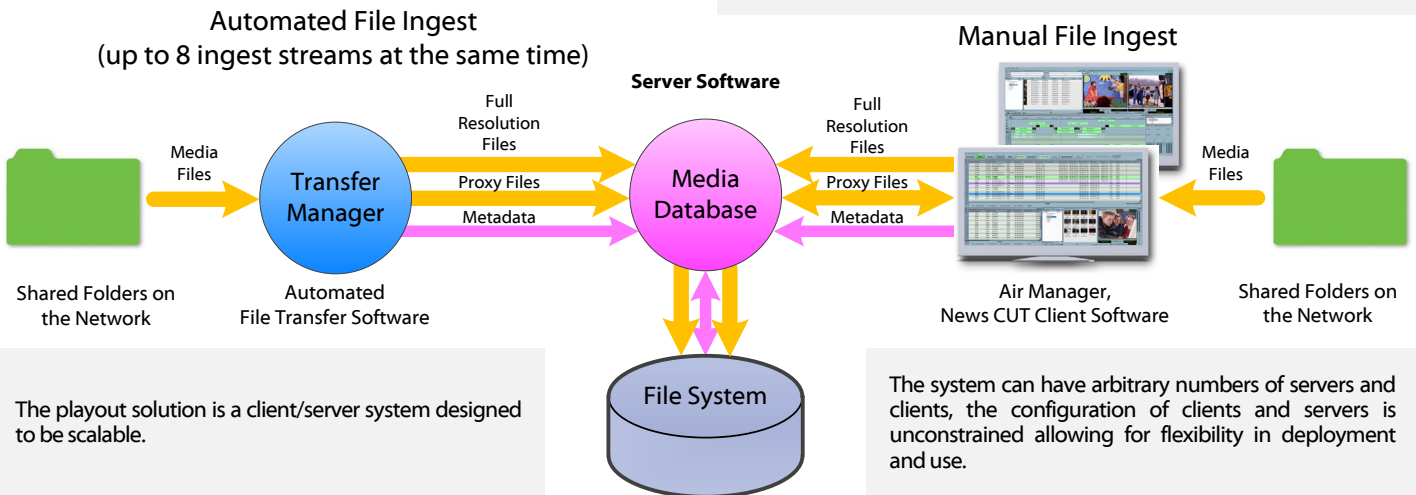
Other options and upgrades can be added quickly and easily with software licensing.

With SL NEO2000 broadcasters have the confidence of knowing they possess a simple, reliable and cost-effective solution with the features and functions needed for the efficient launch of multiple channels and services.

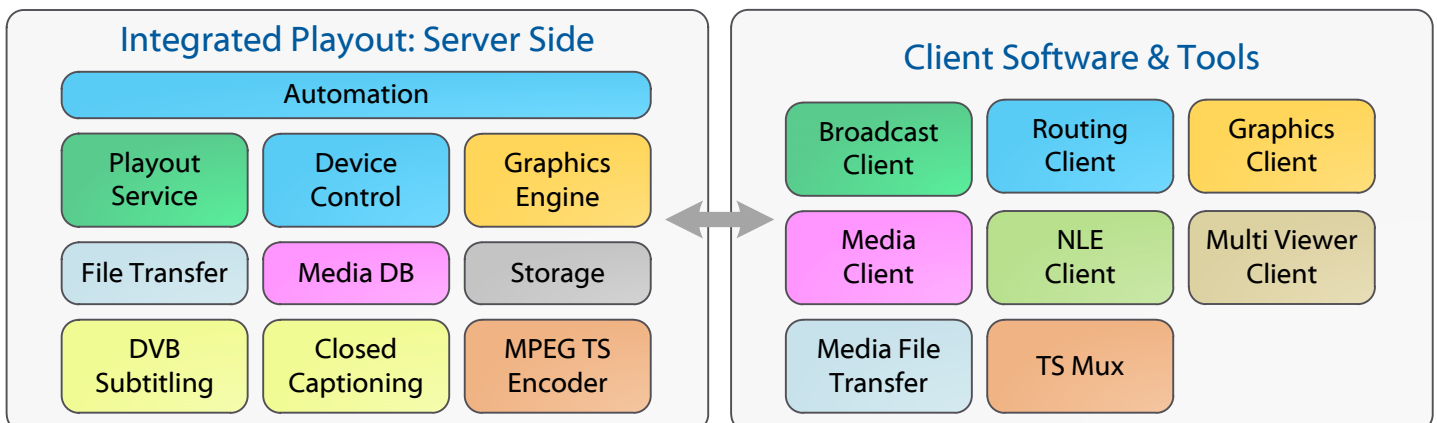
Technical Specifications

- Video Formats (depends on model): SD: 625i, 25 f/s, or 525i, 29.97 f/s, HD: 1080i, 25 or 29.97 f/s, 720p, 50 or 59.94 f/s;
- Outputs (depends on model): 1...12 Channels SD/HD SDI/CVBS/ YUV, Analog/AES/SDI Embedded Audio, MPTS/SPTS over DVB ASI/ IP, UDP/RTP Unicast/Multicast, FEC (option), HDMI, DVI (VGA...UWXGA);
- Audio: 4 AES/EBU pairs per video I/O channel, 8 pairs embedded per video I/O channel 16-, 20- or 24-bit PCM, 48 kHz;
- SD/HD File Decoding: AVID DNxHD (120, 145, 185, 220 Mbit/s), Panasonic (DVCPRO25, DVCPRO50, DVCProHD), Sony XDCAM IMX (30, 40, 50), XDCAM HD 422, HDV, AVCHD, DV25, MPEG-2 IBP GOP, H.264, X.264, Apple Pro Res, Uncompressed 32-bit video;
- File Containers: AVI, MOV, MP4, MXF D-10/OP1A, RAW DV/DIF, MPEG PS/TS, MPG, BMP, TGA, PNG, PSD;
- Genlock Reference (depends on model): SD: Bi-level sync input, HD: Tri-level sync input;
- Timecode/NTP Support: NTP client over Ethernet, LTC in (option);
- GPI I/O: Inputs 4...16 (option), Outputs 4...16 (option);
- Remote Serial Interface: 4...8 RS-232/422 ports for switchers/ routers control (option). Supported Routers Protocols: Harris/Leitch, Neveion, Evertz, Snell, Miranda and other;
- Dimensions (depends on model): 1...6RU, Weight (5...50 kg);
- Power Supply: Dual hot-swappable; Voltage: AC 115 to 120 V, 200 to 240 V, auto select.

Two Ways for File Ingest: Auto and Manual



SL NEO 2000 Base Server & Client Software Modules, Components and Tools



SL NEO 2000 Models

Ordering Information



What's included: fully configured and ready for work server platform with pre-installed video IO boards, pre-installed SL NEO Server and Client software bundle, software codecs, 1 client software license for an additional client workstation.

1-year standard warranty, 1-year telephone/e-mail technical support.

2100/2300 Models. Media-Players with multi-layer graphics and built-in broadcast automation system.

Channel In a Box: Multichannel HD/SD or SD-only configuration for automated payout, optional built-in encoding to ASI/IP TS, on-fly UP/DOWN/CROSS conversion, content management, automated media-file transfer, collective networked workflows and much more. All in one server system.

HD/SD models with SDI output (optional additional IP/ASI outputs)

Base Model	Inputs	Outputs	Video IO platform	Signal types
Matrox DSX LE3 based models				
SL NEO 2301 M4	0	1	Matrox DSX LE3	HD/SD SDI+AE
SL NEO 2302 M8	0	2	Matrox DSX LE3	HD/SD SDI+AE
SL NEO 2304 M8	0	4	Matrox DSX LE3	HD/SD SDI+AE
SL NEO 2306 M8	0	6	Matrox DSX LE3	HD/SD SDI+AE
SL NEO 2308 M8	0	8	Matrox DSX LE3	HD/SD SDI+AE
BlackMagic Decklink based models				
SL NEO 2301 B4	0	1	Decklink SDI	HD/SD SDI+AE
SL NEO 2302 B8	0	2	Decklink DUO	HD/SD SDI+AE
SL NEO 2304 B8	0	4	Decklink QUAD	HD/SD SDI+AE
SL NEO 2306 B8	0	6	Decklink DUO/QUAD	HD/SD SDI+AE
SL NEO 2308 B8	0	8	Decklink QUAD	HD/SD SDI+AE

HD/SD models with MPEG-2/H.264 ASI TS or SD SDI outputs

Dektec DTA based models

SL NEO 2301 D4	0	1	Dektec DTA	ASI SPTS/SD SDI+AE
SL NEO 2302 D8	0	2	Dektec DTA	ASI SPTS/SD SDI+AE
SL NEO 2304 D8	0	4	Dektec DTA	ASI SPTS/SD SDI+AE

HD/SD models with MPEG-2/H.264 IP UDP/RTP TS outputs

SL NEO 2301 E4	0	1	Onboard Ethernet	IP SPTS
SL NEO 2302 E8	0	2	Onboard Ethernet	IP SPTS
SL NEO 2304 E8	0	4	Onboard Ethernet	IP SPTS

SD-only models with SDI outputs (optional additional IP/ASI outputs)

Base Model	Inputs	Outputs	Video IO platform	Signal types
Matrox DSX.SD and DSX LE3 based models				
SL NEO 2101 M4	0	1	Matrox DSX.SD	CVBS/YUV/SDI+AE/AA
SL NEO 2102 M4	0	2	Matrox DSX.SD	CVBS/YUV/SDI+AE/AA
SL NEO 2104 M4	0	4	Matrox DSX LE3	SD SDI+AE
SL NEO 2106 M8	0	6	Matrox DSX LE3	SD SDI+AE
SL NEO 2108 M8	0	8	Matrox DSX LE3	SD SDI+AE
SL NEO 21012M8	0	12	Matrox DSX LE3	SD SDI+AE
BlackMagic Decklink based models				
SL NEO 2101 B4	0	1	Decklink SDI	SD SDI+AE
SL NEO 2102 B4	0	2	Decklink DUO	SD SDI+AE

SL NEO 2104 B4	0	4	Decklink QUAD	SD SDI+AE
SL NEO 2106 B8	0	6	Decklink DUO/QUAD	SD SDI+AE
SL NEO 2108 B8	0	8	Decklink QUAD	SD SDI+AE
SL NEO 21012B8	0	12	Decklink QUAD	SD SDI+AE

SD-only models with MPEG-2/H.264 ASI TS or SD SDI outputs

Dektec DTA based models

SL NEO 2101 D4	0	1	Dektec DTA	ASI SPTS/SD SDI+AE
SL NEO 2102 D4	0	2	Dektec DTA	ASI SPTS/SD SDI+AE
SL NEO 2104 D4	0	4	Dektec DTA	ASI SPTS/SD SDI+AE
SL NEO 2106 D8	0	6	Dektec DTA	ASI SPTS/SD SDI+AE
SL NEO 2108 D8	0	8	Dektec DTA	ASI SPTS/SD SDI+AE

SD-only models with MPEG-2/H.264 IP UDP/RTP TS outputs

SL NEO 2101 E4	0	1	Onboard Ethernet	IP SPTS
SL NEO 2102 E4	0	2	Onboard Ethernet	IP SPTS
SL NEO 2104 E4	0	4	Onboard Ethernet	IP SPTS
SL NEO 2106 E8	0	6	Onboard Ethernet	IP SPTS
SL NEO 2108 E8	0	8	Onboard Ethernet	IP SPTS

2400 Models. Media-Players for production

Multichannel HD/SD or SD-only configurations for content production (play-list based or manual clip playback, no graphics).

HD/SD models with SDI outputs

Base Model	Inputs	Outputs	Video IO platform	Signal types
Matrox DSX LE3 based models				
SL NEO 2401 M2	0	1	Matrox DSX LE3	HD/SD SDI+AE
SL NEO 2402 M2	0	2	Matrox DSX LE3	HD/SD SDI+AE
SL NEO 2404 M2	0	4	Matrox DSX LE3	HD/SD SDI+AE
SL NEO 2406 M2	0	6	Matrox DSX LE3	HD/SD SDI+AE
SL NEO 2408 M2	0	8	Matrox DSX LE3	HD/SD SDI+AE
BlackMagic Decklink based models				
SL NEO 2401 B2	0	1	Decklink SDI	HD/SD SDI+AE
SL NEO 2402 B2	0	2	Decklink DUO	HD/SD SDI+AE
SL NEO 2404 B2	0	4	Decklink QUAD	HD/SD SDI+AE
SL NEO 2406 B2	0	6	Decklink DUO/QUAD	HD/SD SDI+AE
SL NEO 2408 B2	0	8	Decklink QUAD	HD/SD SDI+AE

Software and hardware options for the SL NEO 2000 series

Option name	Description
HP/Dell Chassis	HP/Dell Hardware Platform
AES IN/OUT	AES I/O Hardware Option
Additional ASI SPTS output	
ASI HD SPTS OUT	1x Additional HD ASI SPTS IN or OUT Ch. via Dektec DTA
ASI SD SPTS OUT	1x Additional SD ASI SPTS IN or OUT Ch. via Dektec DTA
Additional IP SPTS output	
IP HD SPTS Program OUT CH	1x Additional HD IP SPTS Playout Ch. via Onboard Ethernet Port
IP SD SPTS Program OUT CH	1x Additional SD IP SPTS Playout Ch. via Onboard Ethernet Port
IP HD SPTS Encoding OUT CH	1x Additional HD IP SPTS Encoding Ch. via Onboard Ethernet Port
IP SD SPTS Encoding OUT CH	1x Additional SD IP SPTS Encoding Ch. via Onboard Ethernet Port
Transport Stream Multiplexer/Demultiplexer/Cherry-picker	
SL NEO TS MUX	Mux Software Option for IP/ASI TS
IPTV/WEB-streaming	
Hardware IP FEC	Hardware IP FEC Forward error correction
Wowza Engine	Software Platform for web streaming

Additional MultiScreen (HD SDI/HDMI) outputs

4 CH MultiScreen OUT	1x Additional HD SDI/HDMI Ch. Output
8 CH MultiScreen OUT	1x Additional HD SDI/HDMI Ch. Output
12 CH MultiScreen OUT	1x Additional HD SDI/HDMI Ch. Output

Internal RAID-array expansion

Up to 8/12/16/24/36/48TB Storage

Device control, Device server

RS-422/1394 VTR Device Server	1...4 x VTR Control for Ingest (RS-422 PCIe board included)
AV Router Device Server	AV Router Server for Multiuser Control on Client PC
AV Router Device Server for Automatic Ingest or Program Switching	AV Router Server for Frame Accurate Program Switching
GPI I/O Device Server	GPI Device Control (1...8 ports, ext. USB GPI module included)
External CP	External USB Control Panel (10...80 keys)

Automated file transfer, backup and redundancy for playout automation

Media File Transfer Software	Automatic File/SL NEO Clips Transfer use Transfer Rules
Main-Backup Playout Sync	Main and Backup Playlist Sync Option (for 1 Output Program)

Multilanguage support, closed-captioning

DVB Audio Multitrack	Multilanguage support option for IP/ASI I/O TS (for 1 Program Output)
DVB Subtitle	Subtitles generation option for IP/ASI Output TS (for 1 Program Output)
Closed Captioning Subtitle	Closed captions generation for live-shows for SDI Output (for 1 Program Output)

Client workstation software for SL NEO Media-Servers

Name	Description
Air Manager Client Software	Ingest/Playout Ch. Control, Graphics/Playlist Editors, MAM Client
News Cut Client Software	Networked fast NLE with Proxy Support
Multiscreen Client Software	Networked Client for Live I/O ch. Monitoring on Client PC
Routing Client Software	AV Router Multiuser Control Software from Client PC
Full Client Software Kit	All Clients Software Modules Included

Model Designation: SL NEO ABCDEF

A	Server Series 1...7
B	1...2 - SD models, 3...4 - HD/SD models
C	Number of Inputs (Live & Rec Channels)
D	Number of Outputs (Playout Channels)
E	I/O Board Type/Brand Name or TS Interface Type: M Matrox DSX Series D DekTec DTA Series B BlackMagic DeckLink Series E Ethernet, Onboard Ethernet Port
F	Internal Storage Capacity (Tb): 4 4 Tb, Hardware RAID-10, 4xHDD RE 2Tb 8 8 Tb, Hardware RAID-10, 8xHDD RE 2Tb

I/O Signals & Streams Designations:

CVBS	Composite Video	ASI
AA	Audio Analogue	IP
SDI	Digital Video SDI	
AE	Embedded Audio in SDI	
AES	AES I/O available in some models with Matrox DSX Boards	

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