

▶ **Multiformat Solution for Compliance Recording & Air Logging**

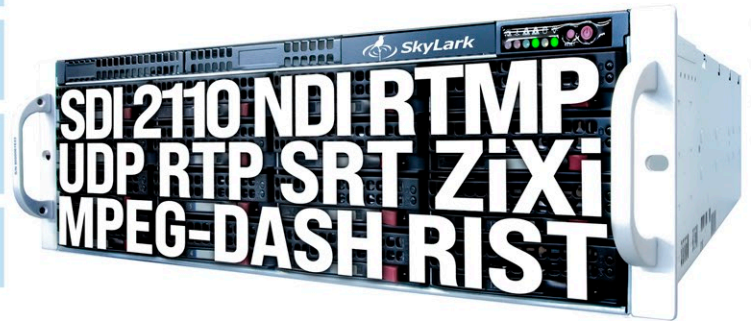
▶ **Up to 16x HD or 4x UHD Capture Ports and Recorders in the System Unit**

▶ **Mix of Capture Ports: SDI, HDMI, ASI, IP (depending on model & options)**

▶ **In Basic Configuration: SMPTE ST2110, NDI, HLS, RTMP, RTP, UDP, SRT, Zixi, RIST**

# SL NEO 6000 Servers

## Loggers & Compliance Recorders



## Main Features

### Time Tables, Recording Modes

Recording is provided automatically according to configurable rules based on time tables.

For each recorder you can select the cyclic recording mode with the content storage time in days and set up to 5 rules with the initial data: day of the week, start time and duration of the recording fragment.

The schedule recording mode for each channel is implemented and similar in functionality to the 1000 and 3000 series servers, including creating, editing and importing schedules files.

Full control over the recording processes is performed from the Air Manager client application or via web clients.

Event start types: Manually, by Hard Time, by external XML-RPC, VDCP or GPI commands, by data from incoming SCTE-104 or SCTE-35, DTMF tags, by matching of input video with pre-defined video fragment.

For each recording channel you can adjust the down-conversion of resolution and FPS, color space conversion, select the types of audio/video codecs and bitrates for optimal use of disk space.

The 6000 series servers allow you to overlay the actual date and time of recording on the video during recording.

For radio broadcast logging, audio-only recording mode is available.

### Closed Captions Recording

Servers SL NEO 6000 supports recording and storage of CEA-608, CEA-708, OP-42, OP-47 Closed Captions, MPEG2 EPG/Subtitles data in Media Database. Decoding and visualization of closed captions is available in the File Monitor window of the Air Manager client application.

### Functionality of the built-in SL NEO Media Database

- initial content cataloging: while recording, metadata is automatically generated: folder with date, recording time,
- quick multiuser access for browsing, preview, and for editing in News Cut: a few seconds after recording starts,
- content search in Server storage by txt metadata (10 text attribute fields in the standard SL NEO Server license).

### Automatic Content Marking

Content marking (adding and storing keyframes and other attributes in Media DB) during recording by external commands, markers and signs in the input streams:

- GPI, Hot Keys commands, SCTE-104, SCTE-35, DTMF data, detection of video freezes and black frames in input streams,
- searching for matches of video in the input signal with the stored reference video fragments.

### Input Streams Monitoring

SL NEO Media Platform offers two different technologies to monitor all I/O signals and internal system streams:

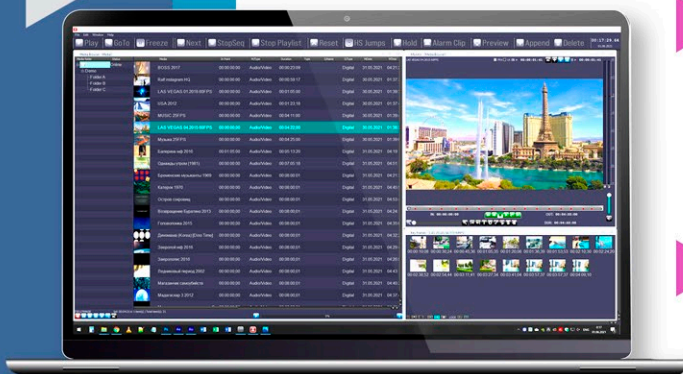
**1. Built-in MultiScreen Client application** allows PC-workstations to perform on-line monitoring of AV streams coming from all active capture, recording, encoding and other SL NEO Server Software Modules in Network (in proxy mode).

**2. Optional SDI/HDMI and/or IP/ASI Multiscreen HD Monitor Output** is needed to view all input/output/internal AV streams from all active SL NEO Server Software Modules in multiview mode with an overlay of audio levels. Built-in up/down/fps conversion allows signals with different resolution and frame rates to be displayed together on the same display (in full HD or UHD mode).

Alarms will alert the operator to abnormal situations such as freeze frame or "black" field, when audio levels are exceeded or undershot.

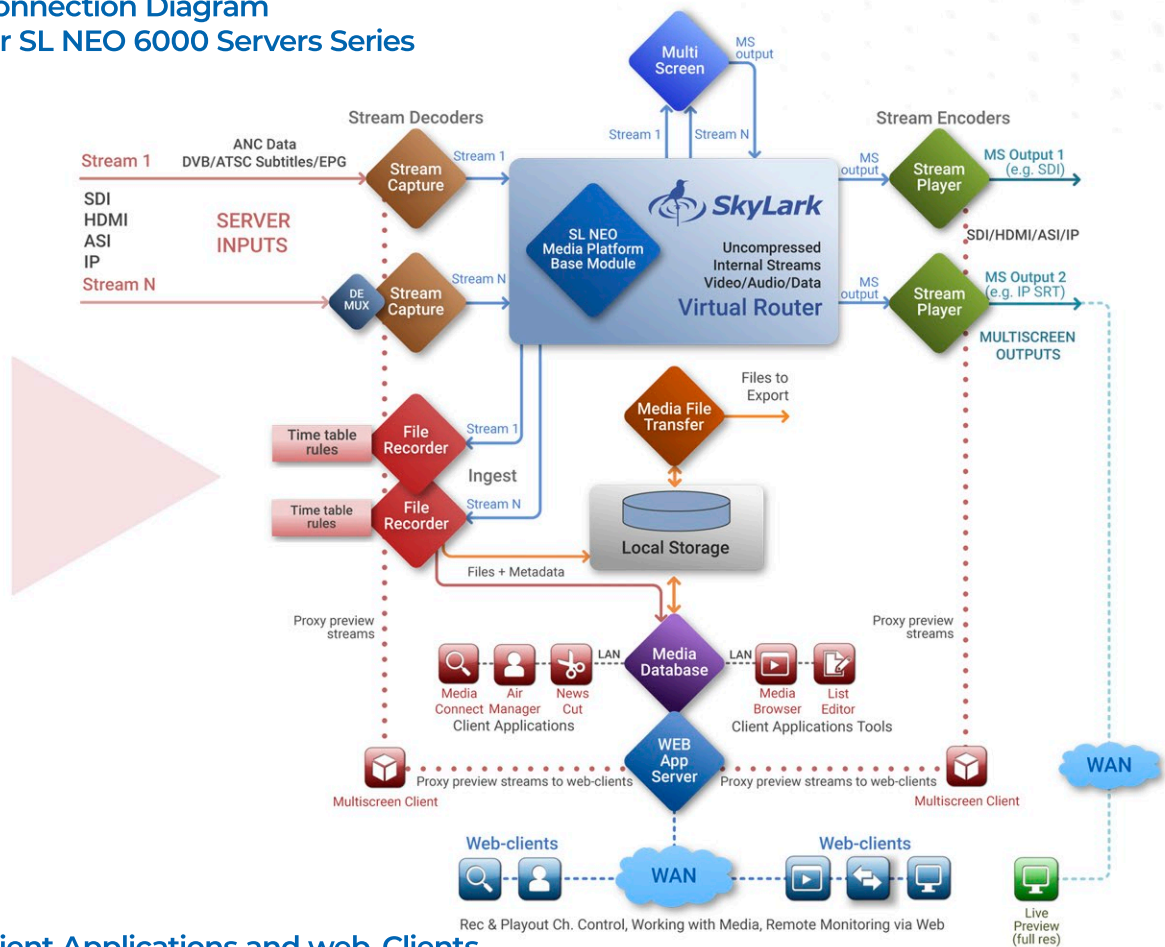
Integration with File Recorder modules allows you to visualize TC/Text information about current recording event.

For the SL NEO 6000 Servers, the Optional Multiscreen Monitor Output and built-in MultiScreen Client application allow you to monitor all signals/streams of the server Capture and Recording modules inputs.



# SL NEO 6000 Servers Loggers & Compliance Recorders

## Software Modules Connection Diagram for SL NEO 6000 Servers Series



## Client Applications and web-Clients

**Air Manager** is the main client application with integrated tools for control multiple recording channels, editing schedules, searching, browsing, importing/exporting content.

The **Media Browser** window displays the Media Database contents of each of the SL NEO servers to which you have a network connection, allow to quick search, preview, trimming and manual exporting of fragments.

The **File Monitor** window is used to view the clips selected in the Media Browser. File Monitor video and audio can be redirected from the video card of the client station to the SDI/HDMI Output Board to view content in Full Res on an external video monitor, with an overlay of audio levels and timecode.

**News CUT** - is a Network client application for collective editing.

Source materials are stored in a database of one or more SL NEO servers, all News CUT users have network access to the database and full res or proxy.

Thanks to the growing file technology, it is possible to edit materials that are in the process of recording.

News CUT is very similar to the standard NLE editors in its feature set, allowing you to assemble multi-track compositions on TimeLine, add simple Mix/Wipe transitions and layer graphics such as texts, placeholders, backgrounds, warped video, animation and Voice-over.

Editing results are stored in the server Media Database as XML text descriptions and can be rendered and exported to separate mediafiles.



When building cloud-based systems, installing client applications is not always possible or feasible.

For cases where the server components of the compliance recording system are located in one or more data centers and the records are viewed via the Internet, **SL NEO Web Applications Server** has been developed. It allows remote clients to work via a web browser.

All basic functions are available for web clients: record management, content search, browsing, trimming and manual file export.



The Name of the Base Model of the SL NEO Server is made up of the values of the 5 variables located after the name of the product line:

**SL NEO S F.C.P H A**

S	F	C	P	H	A
First Digit of the SL NEO Series Number	Maximum Video Operating Mode	Number of Capture Ports or REC CH	Number of PGM CH or Output Ports	Type of Hardware I/O Board (Brand)	Useful capacity of the Array in Tb
<b>SERIES</b>	<b>FORMAT</b>	<b>CAPTURE</b>	<b>PLAYOUT</b>	<b>HARDWARE</b>	<b>ARRAY</b>
S = 6 - 6000 Series Compliance Recorders	F = 2 - HD 1080i 50/60 F = 3 - 3G 1080p 50/60 F = 4 - UHD 2160p 50/60	for F = 2, C = 4...16 for F = 3, C = 4...16 for F = 4, C = 2...4	P = 0 P = 0 P = 0	H = D - Dektect DTA H = A - Dektect DTA H = M - Matrox DSX LE3/4 H = N - Nvidia NIC H = E - Onboard 1GbE Port H = B - BlackMagic SDI I/O H = H - BlackMagic HDMI	SDI + Audio Embedded DVB/ATSC ASI (SPTS) SDI + Audio Embedded IP: SMPTE ST 2110/2022-7 IP: NDI, HLS, RTMP SPTS IP: RTP, UDP, SRT, Zixi SDI + Audio Embedded HDMI + Audio Embedded

For Base Models 6000 Series:

C = No. of Capture Ports = No. of REC CH  
P = 0 (no PGM CH, no Output Ports)

### Technical Specifications for SL NEO 6000 Servers

Hardware configuration, including CPU/HDD models, number and types of I/O Boards depends on the selected SL NEO Server Model and set of Options.

#### Server Hardware

Supermicro 2...4U chassis, two power supply modules in hot backup.  
One or two Intel Xeon Gold CPU, 48/96Gb DDR4 RAM,  
SSD for OS, two onboard 1GbE ports.  
Built-in hardware RAID-10, 8x or 16x SE SAS 3.5" RE 8 or 16Tb array useful capacity.  
OS Windows Server 2022 x64

#### Capture Ports & REC Channels

Capture Ports HD/SD: 4...16, Capture Ports UltraHD: 2...4  
REC Channels HD/SD: 4...16, REC Channels Ultra HD: 2...4

#### Down Conversion when Recording:

SD Recording: no down-conversion, or down to 360x288  
HD Recording: down to 640x350 or down to 960x540  
UHD recording: down to 960x540

#### Video Formats and Color Spaces

625i/525i, 720p, 1080i/1080p, 2K cinema 2048x1080p, 2160p  
25/29.97/50/59.94/60 fps  
Color Spacing: BT.601/709/2020, SMPTE ST2084, ARIB STD-B67

#### Input Streams: Interfaces, Protocols, Codecs

SDI: SD/HD/3...12G SDI, 4x 3G SDI/Embedded Audio  
IP: SMPTE ST 2110, SMPTE ST 2022-7  
IP: NDI, HLS, RTMP, UDP, RTP, SRT, Zixi, RIST, MPEG-DASH  
DVB/ATSC IP UDP/RTP Unicast/Multicast SPTS/MPTS  
DVB/ATSC ASI: SPTS/MPTS  
Video Codecs: MPEG2/H.264/HEVC  
Audio: 48kHz/16/24 bit PCM, ADPCM, MPEG-1 L-II/III, AAC, AC3

#### Input Ancillary/MPEG2 TS Data

OP-42/47 Teletext, Closed Captions  
CEA-608/708 Closed Captions  
DVB/ATSC Subtitles, EPG  
SCTE-104/SCTE-35 markers with metadata  
VBI/VANC Data: VITC, AFD, WSS

#### Other Protocols

SNMP (SL NEO Software)

### Ordering Information

To order the SL NEO 1000 Series Server, send us the following information:

- Base Model Name,
- Recording Channels formats (HD/3G/UHD, fps) and number,
- Capture Ports types (SDI/HDMI/ASI/Ethernet) and number,
- Types and protocols for incoming IP Streams,
- Codecs and bitrates for Media Files,
- Information about the ANC Data in the input signals/streams,
- Type (internal, external) and useful capacity of RAID-array,
- Required Hardware and Software Options,
- Required Client Licenses.

The Client Applications are pre-installed on the server platform, and one set of Client Software for installation on a workstation is included with each SL NEO Server.

Example:	SL NEO 62.16.0 D8
Max mode:	HD 1080i 50/60
Number of Capture Ports and REC Channels	16
Number of PGM Channels and Output Ports	0
Hardware: Dektect DTA	I/O: SDI + Audio Embedded
Internal Array:	Useful capacity 8 Tb

#### Video Codecs (Recording to Files)

##### SD/HD

DV25, DVCPRO25, DVCPRO50, DVCPROHD100, HDV  
IMX 30/40/50  
XDCAM EX SP/HQ, XDCAM HD LP/SP/HQ.422  
DNxHD 120/145/180/220  
AVCHD  
XAVC 50/100/200, XAVC Long GOP  
AVC-Ultra 50/100/200  
AVC-Ultra Long G (12/25/50)  
PRORES HQ/SD/LT  
MPEG-2 I-Frames/Long GOP  
H.264 L I-Frames/Long GOP

#### Audio Codecs (Recording to Files)

RAW 16/24 Bit PCM, ADPCM, MPEG-1 L-II/III, AAC, AC3

#### File Containers

MXF-OP1a, MXF-D10  
Avid MXF (OP-Atom)  
Microsoft AVI, MPEG PS/TS  
QuickTime MOV, DV DIFF  
MP4, MPG, GXF

### Hardware & Software Options

#### Hardware Options

GPIO (Including one of supported USB GPIO and Software License, up to 8 IO Ports:  
Ontrak ADU200, ADU2X8)  
Increase Internal RAID Array Capacity  
2x SSD in RAID-1 for System

#### Additional Hardware Ports

SD/HD/3/6/12G, 4x3G SDI, HDMI, ASI I/O Ports  
NVIDIA ConnectX 10/25/40/50/100/200G Ports for SMPTE ST2110/2022-7  
1G Ethernet Ports for UDP/RTP IP with SMPTE 2022-1 FEC  
Standard 1/10G Ethernet Ports for IP Streams, Control, File Transfer  
AES I/O for Matrox DSX Boards

#### Software Options

Transfer Manager PRO, Web Application Server

#### Client Applications

Air Manager, News Cut

#### Additional I/O Ports & Channels (SD/HD or UHD Software Licenses)

Capture Port (SDI/HDMI, ASI/IP with DeMux and Stream Decoding, all supported Protocols)

Output Port (SDI/HDMI, ASI/IP with Stream Encoding, all supported Protocols)

MultiScreen Processor (4, 8, 16 or 24 Inputs Software License)

REC Channel