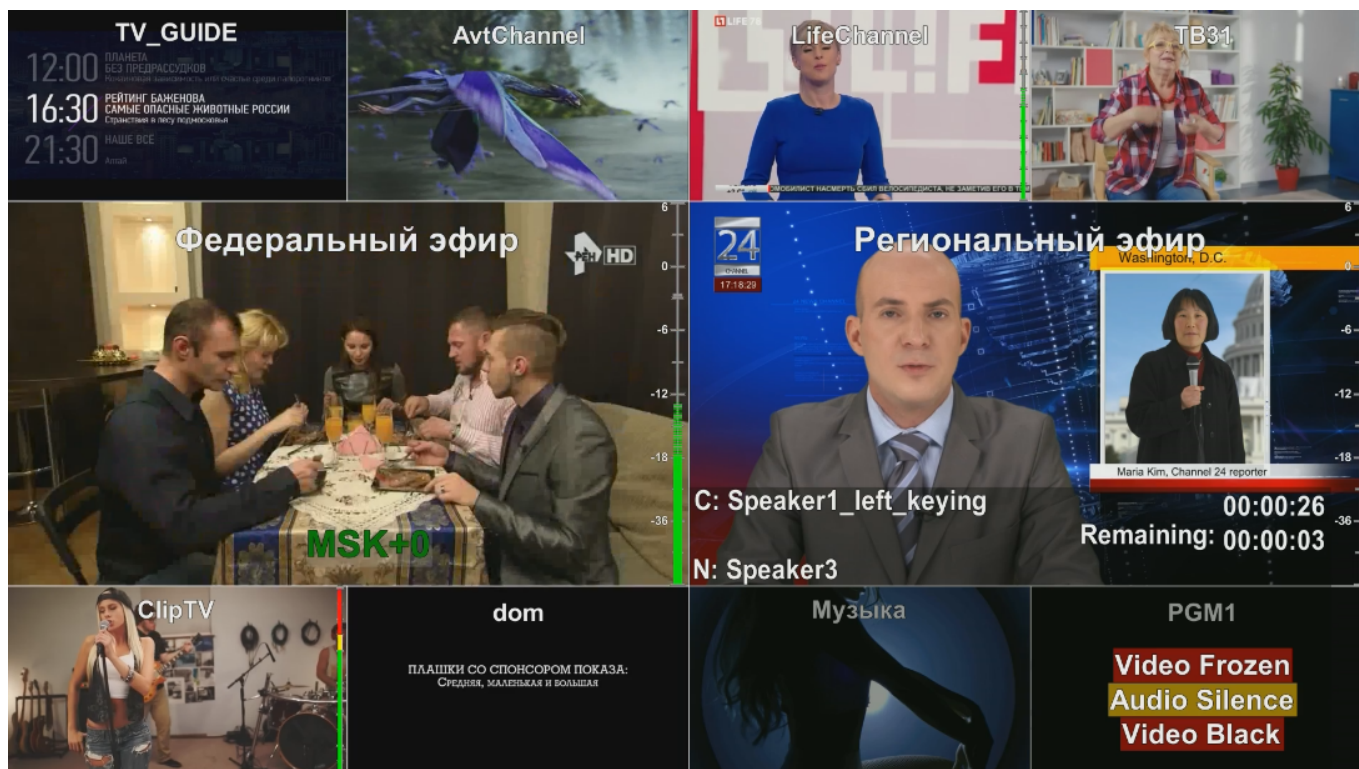
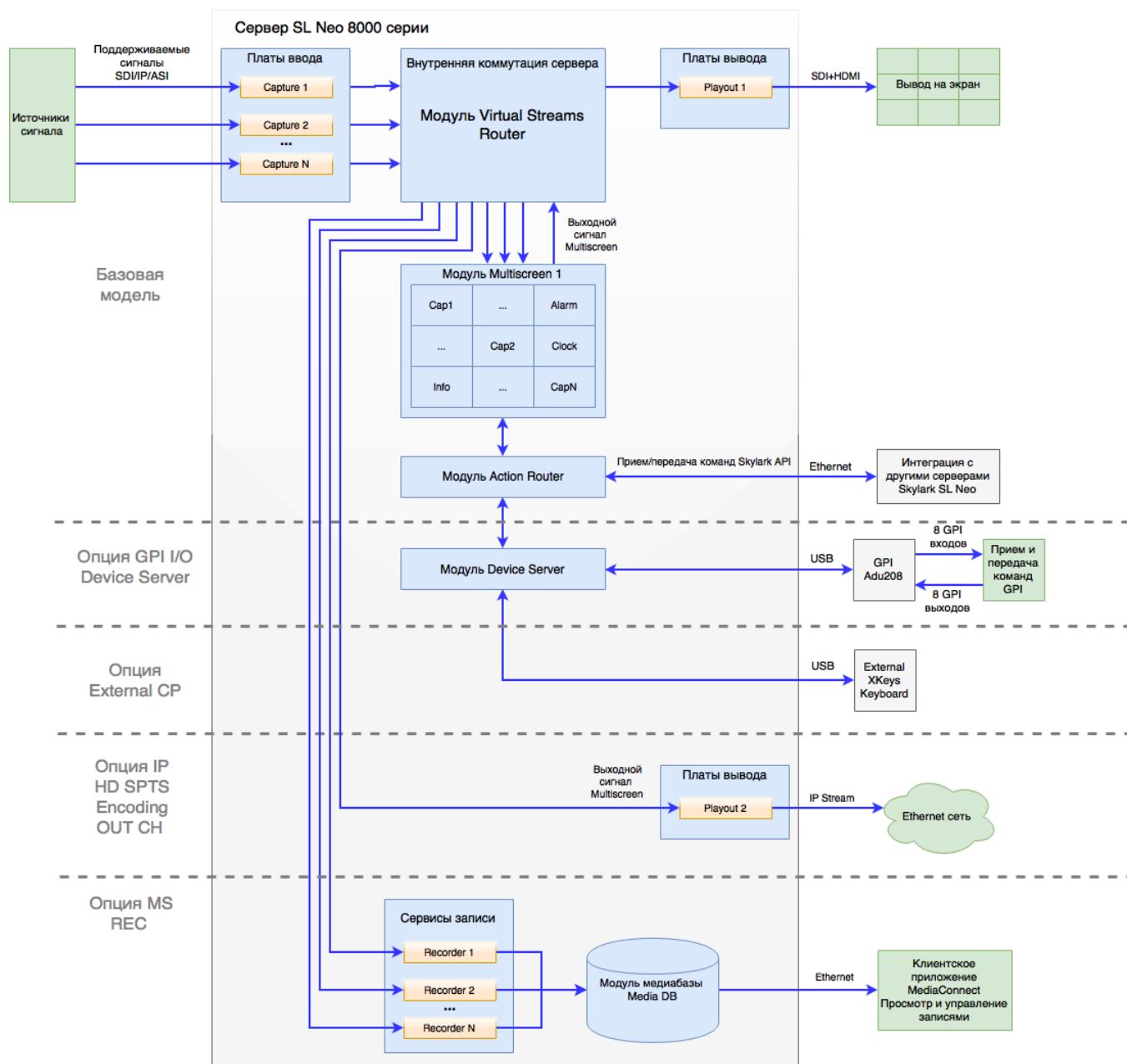


Multiscreen Processors IP-ASI-HD/SD SDI: SL NEO 8000

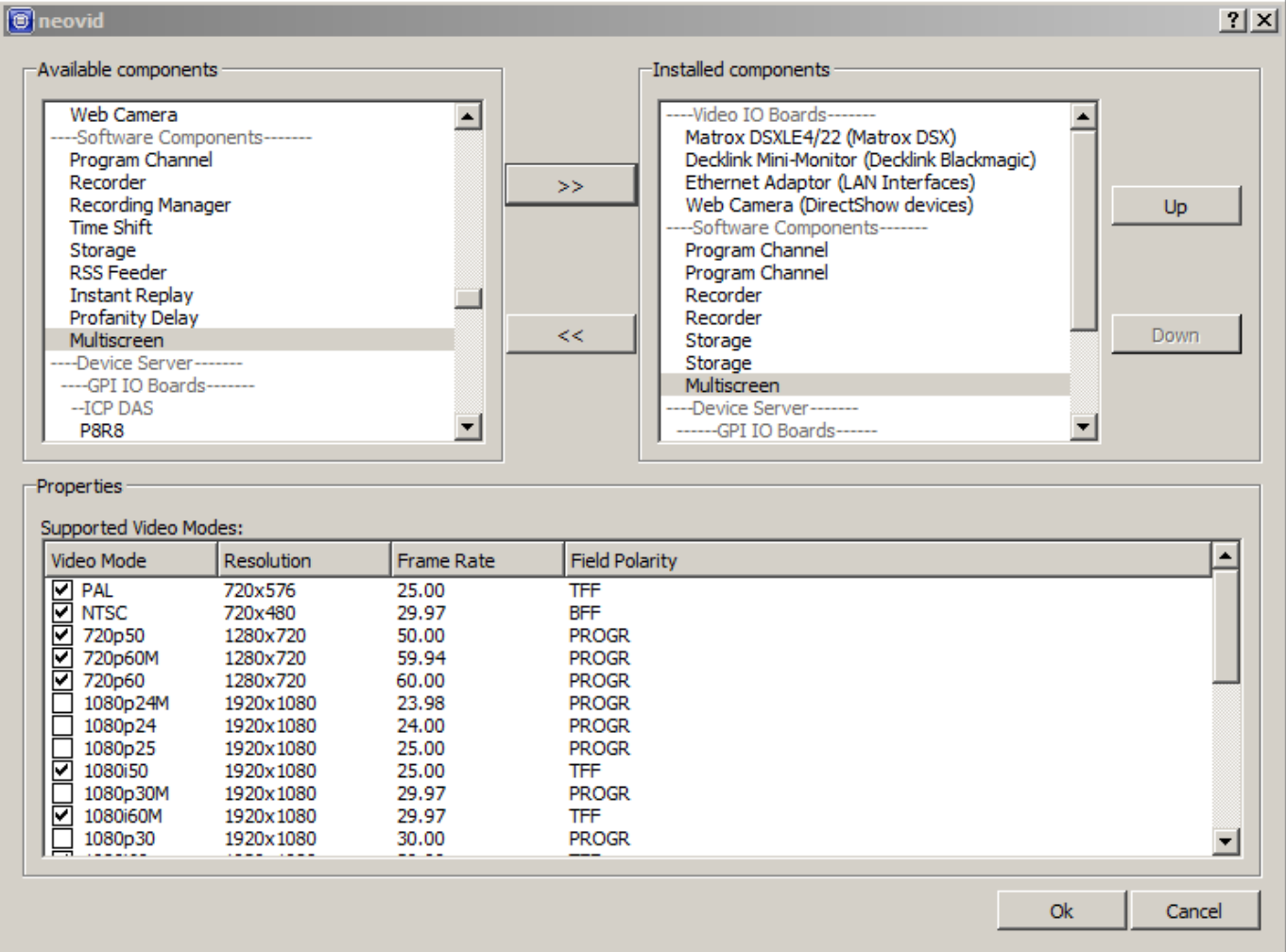
SL NEO 8000 processors open wide possibilities for organization of monitoring in TV hardwares, control centers and complexes, which need simultaneous displaying many signals. Processors work with input SPTS/MPTS ASI/IP and HD/SD SDI signals and allow random combinations of input streams types and formats.





Configuring Multiscreen Service

Configuring the service starts from adding the Multiscreen component in the [Configure Server Components](#) dialogue with the server turned off.



Launch the server. Configuring the Multiscreen component is implemented on the tab “Administrator Control Panel→Manage→Multiscreen→Multiscreen_N”.



Configuration has been modified

Discard Changes

Apply Changes

Don’t forget to save changes in the multiscreen configuration by pressing Apply Changes.

Playout Parameters Tab

Multiscreen 1

☒ Service Enabled Name: Multiscreen_1 ([Change](#))

[Playout Parameters](#) [Actions](#) [Layout](#)

General

Video mode:

Audio channels:

Report folder:

Horizontal Screen Margin:

Vertical Screen Margin:

Horizontal Window Margin:

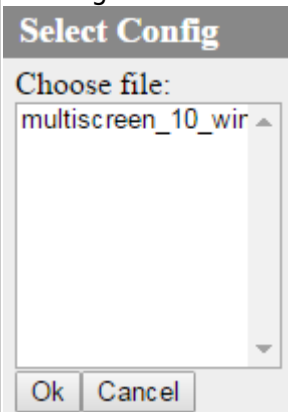
Vertical Window Margin:

☒ HQ Scaling

Color Mode:

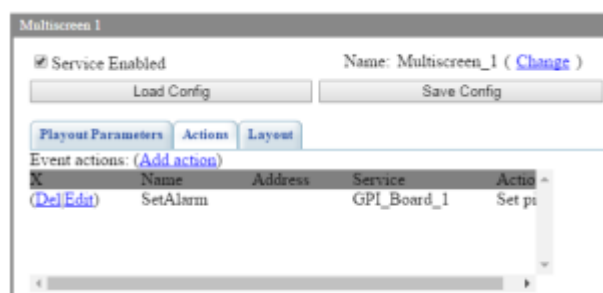
Window Grid Size (W, H): x

Font name:

Parameter	Value
Service Enabled	Activating the service
Load Config	Loading the xml file with the service configuration.  The file must be placed in the "C:\Program Files (x86)\SL NEO Media Platform\run\files\" folder.
Save Config	Saving the xml file with the full service configuration and settings.  The file will be saved into the "C:\Program Files (x86)\SL NEO Media Platform\run\files\" folder.
Video mode	Multiscreen module output format
Audio Channels	The number of audio channels in the output signal
Report folder	A path to the folder that will store notification logs (see below)
Horizontal Screen Margin	Setting the left and right margin value for the main screen (in pixels).
Vertical Screen Margin	Setting the top and bottom margin value for the main screen (in pixels).
Horizontal Window Margin	Setting the left and right margin value for every displayed window (in pixels).
Vertical Window Margin	Setting the top and bottom margin value for every displayed window (in pixels).

Parameter	Value
HQ Scaling	Window scaling quality in multiscreen. Unchecking allows reducing the CPU load.
Color Mode	Setting the color space for the multiscreen service output signal: * BT.601 * BT.709 * BT.2020 * SMPTE ST 2084 * ARIB STD-B67
Window Grid Size (W, H)	Visual editing area grid dimension. W - column number, H - row number. Starting from version 2.4.74 , the maximum grid dimension has been increased from 16x16 to 100x100 and can be set arbitrarily.
Font name	Selecting a preliminarily set system font that will be used for displaying names of windows and text elements

Actions Tab

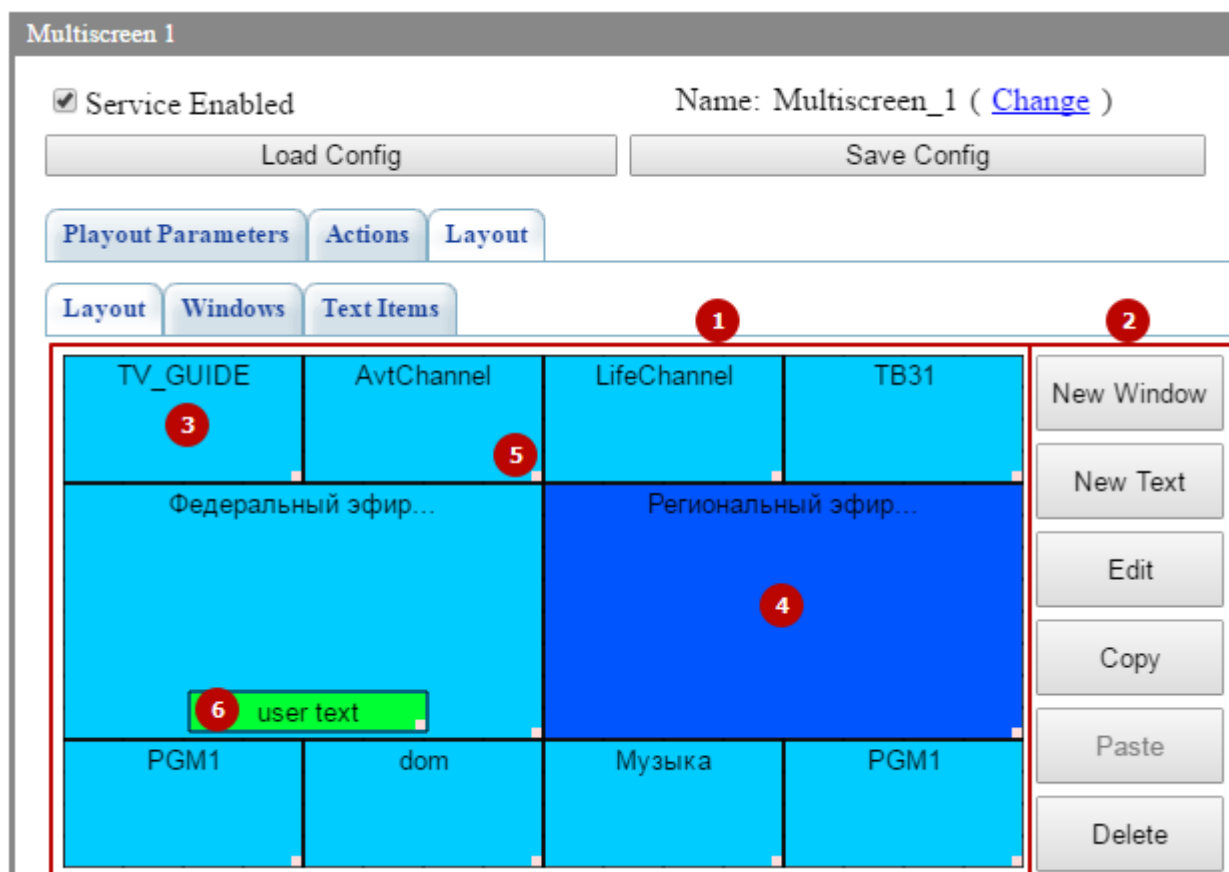


The tab allows users to configure sending [actions](#) to other Skylark services in case of triggering the following events: * **Alarm Set** - alarm activated * **All Alarms Clear** - all alarms are cancelled

Layout Tab

Layout

The tab stores the multiscreen layout visual editing area that allows positioning and scaling output windows by the Drag and Drop function.



- The multiscreen layout visual editing area - Window control buttons (creating, copying, deleting) - The window for multimedia information output (image and video) - The selected information output window The selected window can be dragged, resized and managed by Edit, Copy, Paste and Delete buttons. Hold the left mouse button and move it to change the window position in the visual editing mode. - The "chip" in the window right bottom corner is used to resize it. Hold the left mouse button and move it to resize the window in the visual editing mode. - The text information output window

Windows

The Windows tab contains the list of created windows.

Multiscreen 1

☒ Service Enabled

Name: Multiscreen_1 ([Change](#))

Load Config

Save Config

Playout Parameters

Actions

Layout

Layout

Windows

Text Items

Windows: ([Add](#))

X	Name	Input Service
(Del Edit)	Федеральный эфир	file://C:\Program Files (x86)\SL
(Del Edit)	Региональный эфир	shm_pal://Program_1
(Del Edit)	TV_GUIDE	file://C:\Program Files (x86)\SL
(Del Edit)	AvtChannel	file://C:\Program Files (x86)\SL

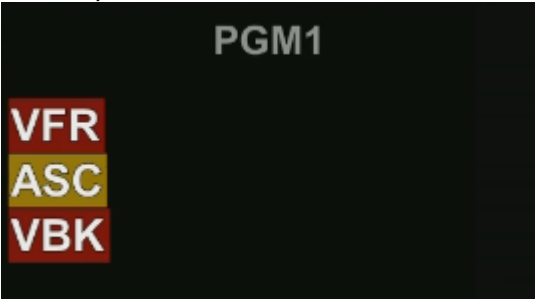
Settings of the creating/editing window dialogue. The dialogue is opened by clicking New Window or Add.

Parameter	Value
General Settings	
Edit Window	
Window Name:	Региональный эфир
Source type:	LIVE ▾
Source name:	Program_1 ▾
LayoutInformation OverlayAlarmsAudio ConfigurationActions	
Position and Size Position (X, Y): 9 ▾ , 5 ▾ Size (W, H): 8 ▾ x 8 ▾ ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db): -18 ▾ Audio Position: Right ▾ ☒ Inside Window Audio Bar Width: Auto ▾ Audio Bar Margin: 0 ▴▾ ☒ Display Numbers Font Size: Auto ▾ Title Options Title Foreground: ☐ Opacity: Title Background: ☒ Opacity: Title Position: Top ▾ Font Size: Auto ▾ ☒ Inside Window Border Size: 5 ▴▾ Border Color: ☐	

Ok

Cancel

Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир Source type: LIVE Source name: Program_1	
Layout Information Overlay Alarms Audio Configuration Actions	
Position and Size Position (X, Y): 9 , 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db): -18 Audio Position: Right ☒ Inside Window Audio Bar Width: Auto Audio Bar Margin: 0 ☒ Display Numbers Font Size: Auto Title Options Title Foreground: Opacity: Title Background: Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color:	
Ok Cancel	
Source type	Setting the signal source type: * FILE - selecting a logo file placed in the server folder C:\Program Files\SL NEO Media Platform\run\files (displaying a list of files from this folder). * URL - selecting a logo file at the local or network disk, or SL NEO database (the corresponding database must be specified in Program Channel settings). * LIVE - receiving video with or without an alpha-channel from the external/internal signal source. * NONE the stream source for the window is not defined.
Source name	The option defines the signal source depending on Source type settings.
Layout Tab	
Position (X,Y)	Coordinates of the window left top corner in the visual editing grid. The coordinate count starts from the left top corner of the visual editing area. X - the X offset, Y - the Y offset.
Size (W,H)	The window size in the visual editing grid (W - width, H - height).

Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир	
Source type: LIVE	
Source name: Program_1	
Layout Information Overlay Alarms Audio Configuration Actions	
Position and Size Position (X, Y): 9 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db) -18 Audio Position: Right ☒ Inside Window Audio Bar Width: Auto Audio Bar Margin: 0 ☒ Display Numbers Font Size: Auto Title Options Title Foreground: ☐ Opacity: Title Background: ☒ Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color: ☐	
Ok Cancel	
Large Alarms	Setting the notification size within the window. If the option is inactive, reductions are displayed:  If the option is active, full messages are shown: 
Audio Bars	Displaying the audio bar for the signal source of the selected window.
Base Audio Level (dB)	Configuring offset of the basic level in decibels: from 6dB to -18dB.

Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир	
Source type: LIVE	
Source name: Program_1	
Layout Information Overlay Alarms Audio Configuration Actions	
Position and Size Position (X, Y): 9 , 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db) -18 Audio Position: Right ☒ Inside Window Audio Bar Width Auto Audio Bar Margin 0 ☒ Display Numbers Font Size Auto Title Options Title Foreground: Opacity: Title Background: Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color:	
Ok Cancel	
Audio Position	Configuring horizontal bar positioning: Right or Left.
Inside Window	Configuring bar positioning relative to the window. ON - the bar will be inside the window, OF - the bar will be located outside the window, not to overlap the signal source image.
Audio Bar Width	The audio bar width: from 1 to 9 or Auto.
Audio Bar Margin	The audio bar margin from the window edge: from 0 to 19.
Display Numbers	Activates displaying the digital scale.
Font Size	Setting the digital scale symbol size: from 1 to 9 or Auto.
Title Foreground	The window title text color.
Opacity	The slider adjusts text transparency from transparent (far left side) to the opaque (far right side) state.
Title Background	Background color.
Opacity	The slider adjusts background transparency from transparent (far left side) to the opaque (far right side) state.
Title Position	The window title position: top or bottom.

Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир	
Source type: LIVE	
Source name: Program_1	
Layout Information Overlay Alarms Audio Configuration Actions	
Position and Size Position (X, Y): 9 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db): -18 Audio Position: Right ☒ Inside Window Audio Bar Width: Auto Audio Bar Margin: 0 ☒ Display Numbers Font Size: Auto Title Options Title Foreground: ☐ Opacity: Title Background: ☒ Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color: ☐	
OkCancel	
Font Size	Font size: from 1 to 47 or Auto.
Inside Window	Configuring title positioning relative to the window. ON - the title will be inside the window, OF - the title will be located outside the window, not to overlap the signal source image.
Border Size	Adjusting the window frame width in pixels: from 0 to 99, 0 - the frame is absent. To avoid the effect of thin lines shaking on some screens, it is recommended to increase the set value to 5.
Border Color	The window frame color.
Information Overlay	

Parameter	Value
-----------	-------

General Settings

Edit Window

Window Name: Региональный эфир

Source type: LIVE

Source name: Program_1

Layout

Information Overlay

Alarms

Audio Configuration

Actions

Position and Size

Position (X, Y): 9 , 5

Size (W, H): 8 x 8

☐ Large Alarms

Audio Bar Options

☒ Audio Bars

Base Audio Level (db): -18

Audio Position: Right

☒ Inside Window

Audio Bar Width: Auto

Audio Bar Margin: 0

☒ Display Numbers

Font Size: Auto

Title Options

Title Foreground: ☐

Opacity:

Title Background: ☐

Opacity:

Title Position: Top

Font Size: Auto

☒ Inside Window

Border Size: 5

Border Color: ☐

Ok

Cancel

Edit Window

Window Name: Региональный эфир

Source type: LIVE

Source name: Program_1

Layout

Information Overlay

Alarms

Audio Configuration

Actions

☒ Display Information

Service Type: Program Channel

Remote Host: localhost

Service Number: 1

☒ Background

Ok

Cancel

Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир	
Source type: LIVE	
Source name: Program_1	
Layout Information Overlay Alarms Audio Configuration Actions	
Position and Size Position (X, Y): 9 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db): -18 Audio Position: Right ☒ Inside Window Audio Bar Width: Auto Audio Bar Margin: 0 ☒ Display Numbers Font Size: Auto Title Options Title Foreground: ☐ Opacity: Title Background: ☒ Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color: ☐	
Ok Cancel	
Display Information	Activated output of information received via API from Program Channel or Recorder services. 24 CHANNEL 17:22:03 Региональный эфир C: Speaker1_left_keying N: Speaker3 00:00:01 Remaining: 00:00:28
Service Type	Data source type: Program Channel or Recorder (recording service).
Remote Host	IP address of the data source server. If the data source is a local machine, specify the value 127.0.0.1.

Parameter

Value

General Settings

Edit Window

Window Name:Региональный эфир

Source type:LIVE

Source name:Program_1

Layout

Information Overlay

Alarms

Audio Configuration

Actions

Position and Size

Position (X, Y):9, 5

Size (W, H):8 x 8

☐ Large Alarms

Audio Bar Options

☒ Audio Bars

Base Audio Level (db):-18

Audio Position:Right

☒ Inside Window

Audio Bar Width:Auto

Audio Bar Margin:0

☒ Display Numbers

Font Size:Auto

Title Options

Title Foreground:☐

Opacity:

Title Background:☒

Opacity:

Title Position:Top

Font Size:Auto

☒ Inside Window

Border Size:5

Border Color:☐

Ok

Cancel

Service Number

The sequence number of the data source service.

Background

Activates displaying background.

Alarms

Edit Window

Window Name:Региональный эфир

Source type:LIVE

Source name:Program_1

Layout

Information Overlay

Alarms

Audio Configuration

Actions

Alarms: (Add)

X	Type	Subtype
(Del>Edit)	stilldetect	still
(Del>Edit)	alevel	lower
(Del>Edit)	stilldetect	black

Ok

Cancel

Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир	
Source type: LIVE	
Source name: Program_1	
Layout Information Overlay Alarms Audio Configuration Actions	
Position and Size Position (X, Y): 9 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db): -18 Audio Position: Right ☒ Inside Window Audio Bar Width: Auto Audio Bar Margin: 0 ☒ Display Numbers Font Size: Auto Title Options Title Foreground: ☐ Opacity: Title Background: ☒ Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color: ☐	
Ok Cancel	
The page allows configuring notifications for the window.	
Add Alarm	
Alarm Type: Still Detect	
Alarm Sub-Type: Still	
Delay: 30	
Threshold: 0	
Ok Cancel	
Alarm Type and Alarm Sub-Type	Defining the notification type: * Still Detect - notifications for the image, * Still - still frame detection, * Black - black burst detection, * Audio Level - notifications for audio, * Silence - silence detection, * Overload - overload detection.
Delay	Configuring a delay before the notification triggers.
Threshold	Configuring the triggering threshold of notifications for audio, in dB.
Audio Configuration	

Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир Source type: LIVE Source name: Program_1 Layout Information Overlay Alarms Audio Configuration Actions Position and Size Position (X, Y): 9, 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db): -18 Audio Position: Right ☒ Inside Window Audio Bar Width: Auto Audio Bar Margin: 0 ☒ Display Numbers Font Size: Auto Title Options Title Foreground: Opacity: Title Background: Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color: Ok Cancel	
Edit Window	
Window Name: Региональный эфир Source type: LIVE Source name: Program_1 Layout Information Overlay Alarms Audio Configuration Actions Audio channels: 1 Audio Layout: (Add) X Name Ok Cancel	
Audio Channels	The number of audio channels in the source displayed in the given window.
Layout name	The audio output template title.

Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир	
Source type: LIVE	
Source name: Program_1	
LayoutInformation OverlayAlarmsAudio ConfigurationActions	
Position and Size Position (X, Y): 9 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db) -18 Audio Position: Right ☒ Inside Window Audio Bar Width Auto Audio Bar Margin 0 ☒ Display Numbers Font Size Auto Title Options Title Foreground: Opacity: Title Background: Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color:	

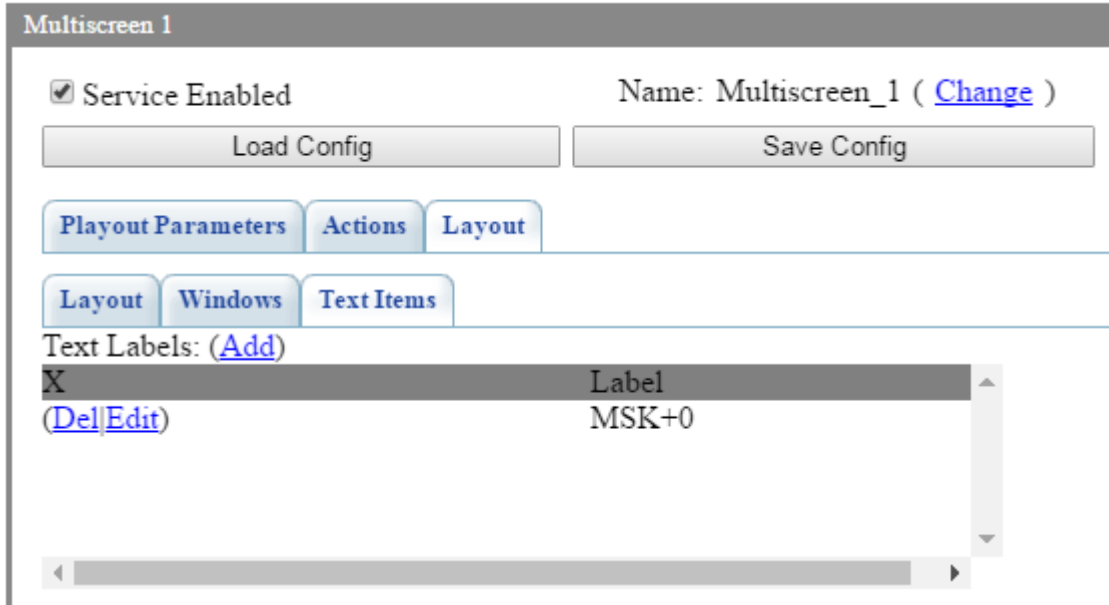
Parameter	Value
General Settings	
Edit Window	
Window Name: Региональный эфир	
Source type: LIVE	
Source name: Program_1	
LayoutInformation OverlayAlarmsAudio ConfigurationActions	
Position and Size Position (X, Y): 9 , 5 Size (W, H): 8 x 8 ☐ Large Alarms Audio Bar Options ☒ Audio Bars Base Audio Level (db) -18 Audio Position: Right ☒ Inside Window Audio Bar Width Auto Audio Bar Margin 0 ☒ Display Numbers Font Size Auto Title Options Title Foreground: Opacity: Title Background: Opacity: Title Position: Top Font Size: Auto ☒ Inside Window Border Size: 5 Border Color:	

Ok

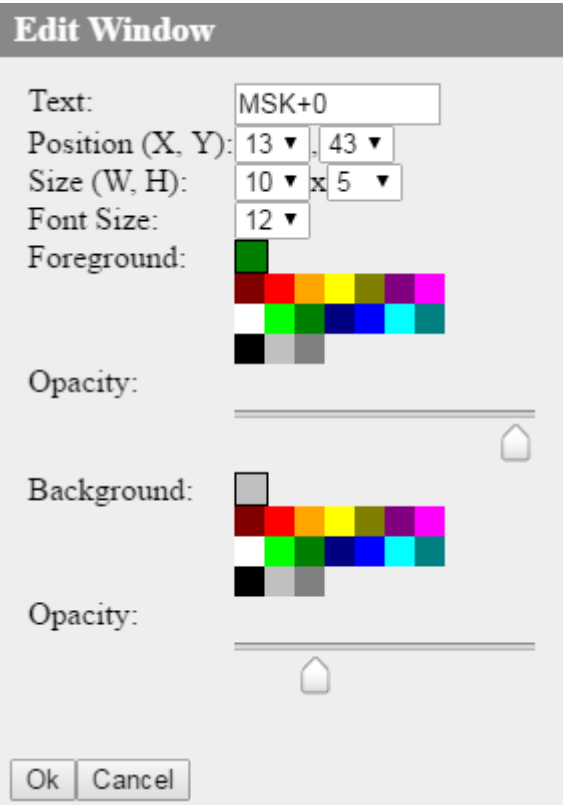
Cancel

Text Items

The tab contains the list of created text elements.



The dialogue for editing text elements.



Parameter	Value
Text	Displayed text.
Position (X,Y)	Coordinates of the window left top corner in the visual editing grid. The coordinate count starts from the left top corner of the visual editing area. X - the X offset, Y - the Y offset.
Size (W,H)	The window size in the visual editing grid (W - width, H - height).
Font Size	Font size: from 1 to 47 or Auto.
Title Foreground	The text color.
Foreground Opacity	The slider adjusts text transparency from transparent (far left side) to the opaque (far right side) state.
Background	Background color.

Parameter	Value
Background Opacity	The slider adjusts background transparency from transparent (far left side) to the opaque (far right side) state.

Mail Tab

Starting from version [2.4.88](#), there is the option to send emails in case of triggering alarm events.

Multiscreen 1

☒ Service Enabled
Name: Multiscreen_1 ([Change](#))

Load Config
Save Config

Playout Parameters
Actions
Layout
Email

☒ Enable Email Alarm Logging

SMTP Server Address:

SMTP Port:

SMTP Username:

SMTP Password:

Destination Email:

Activation Subject:

Deactivation Subject:

Minutes to Resend:

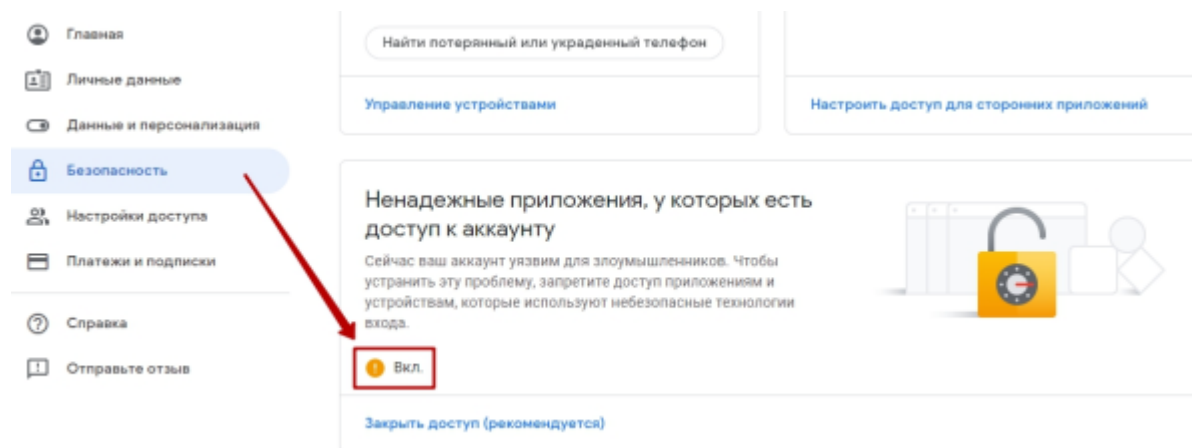
Parameter	Value
Enable Email Alarm Logging	Activating the email service
SMTP Server Address	The mailing SMTP server address. For Gmail: smtp.gmail.com
SMTP Port	The mailing SMTP server port. For Gmail: 587
SMTP Username	Username. For Gmail: your mailbox
SMTP Password	User password. For Gmail: your mailbox or app password
Destination Email	The receiver's email
Activation Subject	The message subject that will be specified in case of Alarm event activation
Deactivation Subject	The message subject that will be specified in case of Alarm event deactivation
Minutes to Resend	The number of minutes before resending the message about an active Alarm event.

You will receive emails to your in-box in case of starting or ending Alarm events. Message examples:
"2019-02-0 5 17:25:42: ALARM: shm_pal://Capture_1: Audio Silence".

Configuring Gmail Account

In case of using Gmail with the active two-factor authentication, it is necessary to create an app password.

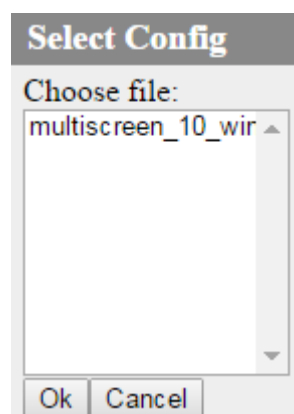
If two-factor authentication is disabled, grant access of unreliable apps to the account.



Export and Import of Settings

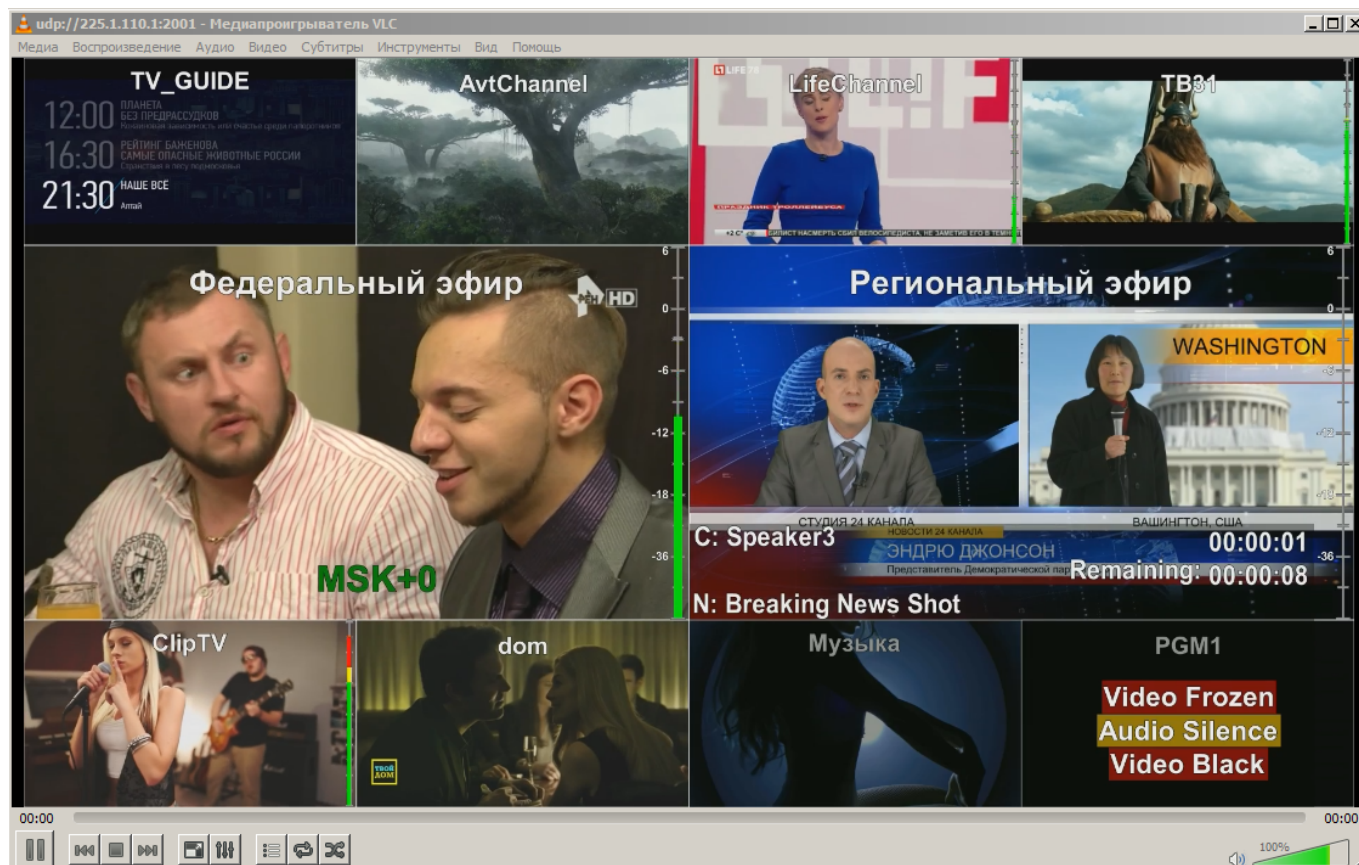


The complete configuration and server settings may be saved into an XMP file in the folder "C:\Program Files (x86)\SL NEO Media Platform\run\files\". To save settings, press: "Manage→Multiscreens→Multiscreen_N→Save Config".



All multiscreen settings can be loaded from a config XML file placed in the folder: "C:\Program Files (x86)\SL NEO Media Platform\run\files\". To load settings, press: "Manage→Multiscreens→Multiscreen_N→Load Config".

IP Output Option



This feature allows the 8000 series server to broadcast an IP TS with an image, formed by the multiscreen service.

GPI I/O Option

The option allows GPI control of third-party devices. For instance, turning on the signal lamp and sound alarm in the broadcast control room, in case of triggering Alarm actions.

External CP Option

The 8000 series server can be provided with an X-Keys keyboard.

MS REC Option

The 8000 series server can include built-in multi-channel recorders.

Synchronization with Program Channel and Recorder



Every multiscreen window can display information received via API from Program Channel or Recorder services.

Lines	Displayed information	Description
Recorder		
1	C: NAME HH:MM:SS	The recorded clip name. The second parameter is the time code value from the start of recording. If recording is stopped, the “-:-:-” value is displayed.
2	Remaining: HH:MM:SS	The time left till the end of recording (displayed only while recording).
Program Channel		
1	C: NAME HH:MM:SS	The name of a played clip, or the first clip with an empty Status value. The second parameter is the time code value from the start of playback. If playback is stopped, the “-:-:-” value is displayed.
2	Remaining: HH:MM:SS	
3	N: NAME	The name of the next clip.

The **XCL** message means that the multiscreen service does not receive information from the configured data source (XML-RPC Connection Lost). Make sure to specify the server IP address and the service number correctly in multiscreen settings, and the remote Skylark server to be on and launched.

Alarms

Visualization

The multiscreen module allows configuring visualization of pop-up notifications for the window with the triggered detector. The configuring procedure is described above.

Notification examples:

Small notifications	
Full notifications	

Logging

The multiscreen module automatically saves notification logs, if a path to the folder is specified in the field: "Manage→Multiscreens→Playout Parameters→Multiscreen_N→Report folder".

The set folder will contain subfolders and log files: "REPORT_FOLDER\YYYY_MM\log_YYYY_MM_DD-NN", where: YYYY - current year, MM - month, DD - day, NN - the log sequence number starting with "00". Every reboot of the service increases the sequence number.

Log File Format:

PARAM1: PARAM2: PARAM3: PARAM4

Parameters description: * PARAM1 - Time in the "HH:MM:SS" format, where HH - hours, MM - minutes, SS - seconds, II - milliseconds. | * PARAM1 - ALARM - the event start, END ALARM - the event end. * PARAM2 - the signal source URI from the Source name field. Example: "shm_pal://Capture_1". * PARAM3 - Notification type: Audio Silence - silence, Video Black - black burst, Video Frozen - freeze frame.

Log file example:

```
17:51:18.92: ALARM: shm_pal://Capture_1: Audio Silence
17:51:28.97: ALARM: shm_pal://Capture_1: Audio Silence
17:51:39.00: ALARM: shm_pal://Capture_1: Audio Silence
17:51:49.05: ALARM: shm_pal://Capture_1: Audio Silence
17:51:51.29: ALARM: shm_pal://Capture_1: Video Black
17:51:52.29: ALARM: shm_pal://Capture_1: Video Frozen
17:51:56.68: END ALARM: shm_pal://Capture_1: Video Frozen
17:51:56.72: END ALARM: shm_pal://Capture_1: Video Black
17:51:59.08: ALARM: shm_pal://Capture_1: Audio Silence
17:52:00.56: ALARM: shm_pal://Capture_1: Video Frozen
17:52:00.60: ALARM: shm_pal://Capture_1: Audio Silence
17:52:03.00: END ALARM: shm_pal://Capture_1: Video Frozen
```

Multiscreen Service Actions

Description of Multiscreen Service Actions

From:

<https://wiki.skylark.tv/> - **wiki.skylark.tv**

Permanent link:

https://wiki.skylark.tv/manual/sl_neo_8000_multiscreen_processors

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