# SLTitleMonitor

Program for viewing audio and video
in named regions and
on the Videoprocessor's output

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User's Guide

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Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

Shielded cables and I/O cards must be used for this equipment to comply with the relevant FCC regulations. Changes or modifications not expressly approved in writing by SoftLab-NSK Ltd. may void the user's authority to operate this equipment.

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Our company warrants this product against defects in materials and workmanship for a period of one year from the date of purchase. During the warranty period, products determined by us to be defective in form or function will be repaired or replaced at our option, at no charge. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or as a result of service or modification other than by us.

This warranty is in lieu of any other warranty expressed or implied. In no event shall we be held liable for incidental or consequential damages, such as lost revenue or lost business opportunities arising from the purchase of this product.

## Table of Content

# Introduction

The SLTitleMonitor program is used to view on computer's monitor audio and video from Videoprocessor: from its output or from a named region on title layer being processed by Videoprocessor (see note below).

Video is displayed in the main program window. Also, audio meter can be displayed in the main program window if necessary.

The program has an additional feature of copying the current frame (full/half frame, depending on the current mode) to the system clipboard.

Several program instances with different settings can be launched simultaneously. It allows controlling the work of different sources simultaneously, for example, monitoring video on a named region and on the output of one Videoprocessor or outputs of different Videoprocessors.

**Note:** 1. The Videoprocessor virtual device is a program module that processes audio/video, e.g., graphics overlaying. To use the Videoprocessor module an appropriate license is needed (except use in SLTitlePreview). The license availability depends on the product being used. Videoprocessors are set and controlled by using graphs.

2. Named region is a rectangular area of specified size on title layer being processed by the board/Videoprocessor. Device being used, coordinates (x, y and z) and region name are to be specified by user.

3. For more information on working with graphs, Videoprocessors and regions see the SLStreamer Lite, SLStreamer Pro Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes User's Guide.

The SLTilteMonitor is a part of the ForwardTS Software set.

**Note:** To control the audio and video from FD300/FD322/FD422 input or output use the FDPreview program. For more information see its User's Guide.
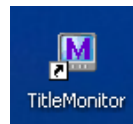
# Program Launch

## 1. Launching the program

The SLTitleMonitor program is launched by opening of the ~\SLTitleMonitor\SLTitleMonitor.exe file
where ~ denotes the full path to the folder where ForwardTS software set is installed.

If you choose to install the software into default folder, the full path to the file is the following:

C:\Program Files\ForwardTS\SLTitleMonitor\SLTitleMonitor.exe

You can also launch the program through:

- Start: Programs > ForwardTS > Tools > TitleMonitor;
- command line;
- program shortcut located on the desktop:



## 2. Format of Command Line

You can launch the program using the following command:

"full path to the program file" [#N] [-show]
where:

- square brackets denote that this parameter is optional and can be absent;
- #N denotes index of program instance. If index is not specified, instance #1 is launched:
  - # is mandatory character;
  - N is required index;
- -show is the Auto Show on Program Launch flag. If this flag is absent, the mode that were in use when you last quit the program is active.

**Note:** Specified format is also used when customizing the program shortcuts located on the desktop.

For example, to launch program instance #2 where video displaying is activated on launch, use the following command:
"C:\Program Files\ForwardTS\SLTitleMonitor\SLTitleMonitor.exe" #2 -show

## Program Interface

### 1. Main Program Window

When launching the program, its main window opens with the same settings that were in use when you last quit the program.

The main window's title bar displays information about the current session settings (1): source of your audio/video content, frame size and rate of the source.

The window's work area (2) is used to display video. Video is displayed with some frame rate (about 5-10 fps) that allows monitoring without overloading the system.

Audio meter can also be displayed in this workspace. Audio meter is displayed as a colored scale (3). If there are several audio tracks in the stream, audio meter displays also the identifier of the audio track to be monitored.

Commands to configure and control the playback are available from the system menu. To open the system menu, click the program icon (4) located on the window's title bar or use the Alt+Space hotkeys.
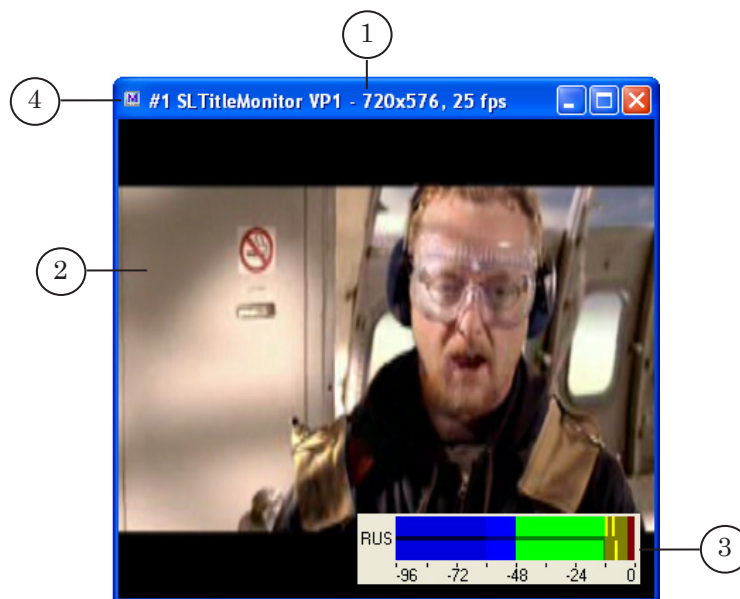


You can resize the window:

- to your liking by dragging and dropping the borders of the window;
- to a default size by using the following menu commands: 1/4, 2/3, 1/2, 1/1 of the frame size;
- to full screen size by using the menu command.

Video image always fills the window's work area completely. When resizing the window, the image is scaled automatically to the new size.

## 2. Main window's system menu

The system menu opens by clicking the program icon on the main window's title bar (or using the Alt + Space hotkeys or right-clicking the window's title bar).
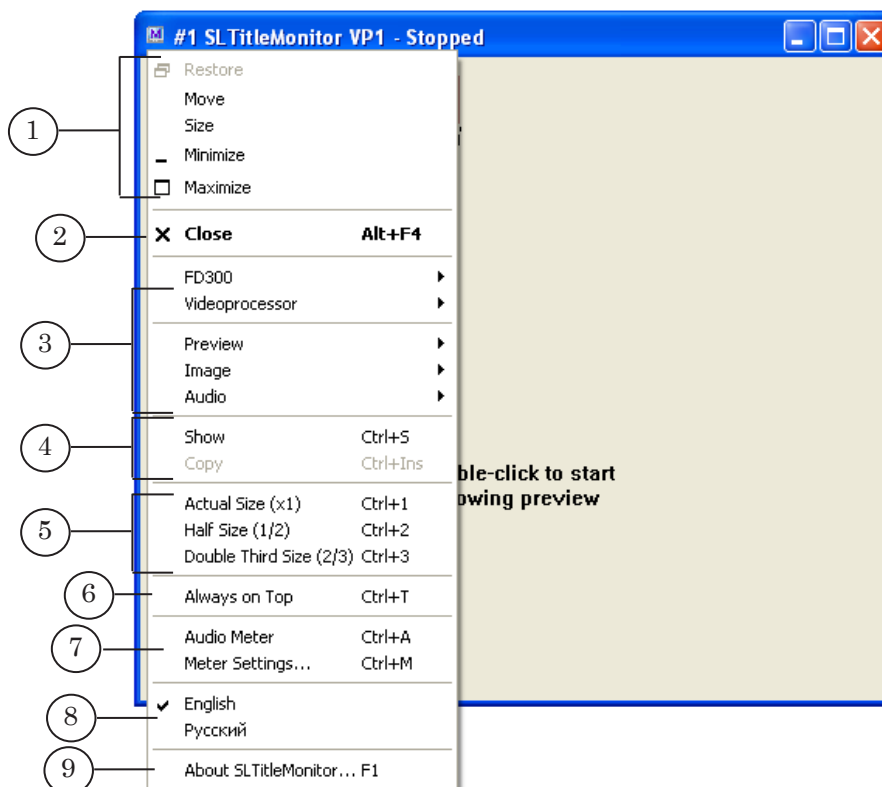


**Table.**      System menu commands

| Number | Submenu/ Command (Hot keys) | Description |
|---|---|---|
| 1, 6 | Controlling the position and size of window | |
| | Move | Move the window to another location on the screen. |
| | Size | Resize the window by dragging and dropping its borders. |
| | Minimize | Minimize the window to the icon in the taskbar. |
| | Maximize | Maximize the window to full screen. |
| | Always on Top (Ctrl+T) | Make the window topmost on the desktop. |
| 2 | Exiting the program | |
| | Close (Alt+F4) | Close the window. Used to finish working with the program. |

| Number | Submenu/ Command (Hot keys) | Description |
|---|---|---|
| 3 | Specifying the source to be controlled and video capture mode | |
| | Videoprocessor | Submenu that allows user to select the Videoprocessor device instance. |
| | #1 (Shift+1) #2 (Shift+2) ... #10 (Shift+0) ... | The submenu presents a list of numbers from 1 to 10. User can select any item regardless of whether the Videoprocessor with this number operates or not at the moment. But it is impossible to select a processor which does not run. If you try to do this, you get a warning message. Numbers of processors in use are to be specified by user when configuring graphs. To launch a Videoprocessor, launch the corresponding graph. |
| | Preview | Submenu that allows user to select a source on the selected Videoprocessor. Which commands are included to the menu depends on current Videoprocessor settings (i.e., on how many regions are being processed). |
| | Output (Ctrl+O) | Select the output of the specified Videoprocessor for monitoring (always in list). |
| | Region name 1 Region name 2 ... Region name N | List of named regions created for specified Videoprocessor. The list includes particular names specified by user when configuring regions. |
| | Refresh (Ctrl+F5) | Refresh the list of regions in the submenu. It is used to update the list of regions without restarting the program. |
| | Image | Submenu used to select one of the available video capture modes: full frame or half frame. In the half frame mode the program processes one field of video, but in the preview window it displays as full image. Frame size depends on the settings of the Videoprocessor/region being used. |
| | Full frame | Capture and displays both fields (half frames). Used by default. |
| | Top field | Capture and displays only top (even) field. |
| | Bottom field | Capture and displays only bottom (odd) field. |
| | Sound | Submenu used to select an audio track information on which is displayed on the meter. |

| Number | Submenu/ Command (Hot keys) | Description |
|---|---|---|
| | Common (language not set) | Basic audio track. The command is used if the stream being processed by Videoprocessor consists of no more than one audio track. |
| | <sound #1>/audio track name 1 <sound #2>/audio track name 2 <sound #3>/audio track name 3 | A list of audio tracks in the stream. The list is used if the stream consists of more than one audio track. The list consists of as many items as there are audio streams being processed by the Videoprocessor, which is indicated by user during the graph configuration. The list by default displays track identifiers or particular names if they were specified by user during setting. |
| | Next sound (Tab) | Select the track following the current one in the list in the submenu. The program cycles through audio tracks. |
| | Refresh list (Ctrl+F5) | Refresh the list of audio tracks in the submenu. It is used to update the list of audio tracks without restarting the program. |
| 4 | Controlling the displaying of audio/video in the window and copying | |
| | Show (Ctrl+S or double left click) | Enable/disable showing. |
| | Copy (Ctrl+Ins) | Copy current image (frame or half frame depending on the mode) to the system clipboard. |
| 5 | Selecting the window's size from standard options. Size is set proportionally to full frame size depending on actual settings of the source: Videoprocessor or region. Image in the window is scaled always to fill completely the window's work area. | |
| | Actual Size (x1) (Ctrl+1) | Original full size of the frame. |
| | Half Size (1/2) (Ctrl+2) | 1/2 of the full size of the frame. |
| | Double Third Size (2/3) (Ctrl+3) | 2/3 of the full size of the frame. |
| | Quarter Size (1/4) (Ctrl+4) | 1/4 of the full size of the frame. |
| 7 | Setting and controlling the audio meter | |
| | Audio meter | Enable/disable the displaying of audio meter in the preview window. |

| Number | Submenu/ Command (Hot keys) | Description |
|---|---|---|
| | Meter Settings… (Ctrl+M) | Open the settings window. In the window user can set the meter location in the main window's work area and its view. |
| 8 | Selecting the interface language | |
| | English | |
| | Russian | |
| 9 | Opening help dialog box | |
| | About SLTitleMonitor… | Display the Software version being used. |

## 3. Audio Meter Settings Window

You can set the view and properties of audio meter in the Meter Settings… window.

To open this window, use the Meter Settings… main window system menu command (Ctrl + M). Also, if meter is displayed in the main window, you can invoke this command from the context menu which opens by right-clicking on the meter.
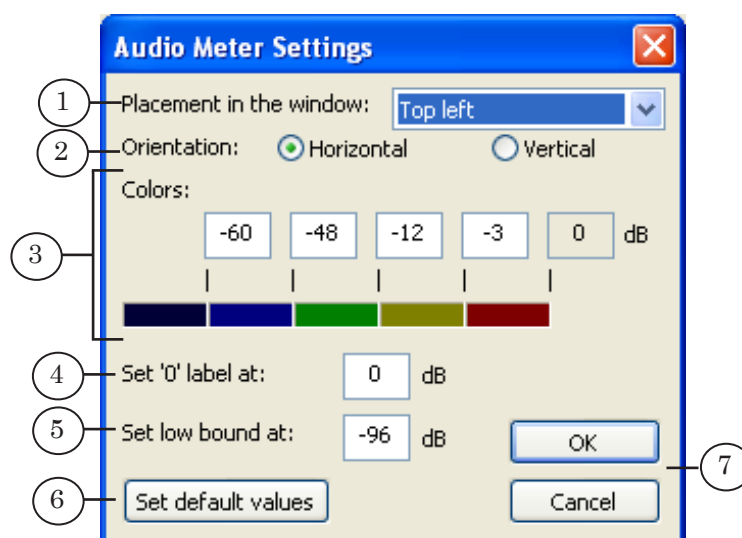


The Meter Settings… window has the following control elements:

- Placement in the window (1) – list to select meter's placement in the main window;
- Orientation (2) – radio button to select meter's mode: if the scale is to be placed horizontally or vertically;
- Colors (3) – group of elements to establish a correspondence between volume level and color;

- Set '0' label at (4) – box to enter real volume level value that shall correspond to the 0 dB level on the meter (maximum volume level);
- Set low bound at (5) – box to enter level that shall correspond to the meter low bound (sets the meter range);
- Set default values (6) – used to reset default settings of the meter;
- OK and Cancel (7) – used to close the settings window applying new settings or without changes respectively.

## Work with the program

### 1. Examining audio/video in a named region and at the Videoprocessor output

Let us consider an example of use of the SLTitleMonitor program. Let we need to insert local advertisement into IP stream.

### 1.1. Before starting

To configure and control the broadcasting on air according to required scheme, you need to use the SLStreamer Pro and the FDOnAir applications:

1. Let we have two graphs created in SLStreamer Pro:
   - IP_background (1) used for reception of audio and video from IP stream;
   - vp_ip used for broadcasting over IP network.

   The graphs are running (2).

✔ **Important:** For further configuration in FDOnAir and working with audio/video streams the graphs shall be run.

2. In the graph intended for receiving audio/video from the stream the output is a region (3) named LIVE_new (4) processed by Videoprocessor #1 (5).



Audio track of the input program has the RUS identifier (6).

3. In the second graph (7) intended for broadcasting the stream on air Videoprocessor #1 (8) is specified as input device.



For outputting to the stream the audio track with the RUS identifier (9) is selected.

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4. Local advertisement is inserted into the stream and audio/video is broadcasted using FDOnAir. The application is configured to work with Videoprocessor #1 (10). To manage passthrough video from IP input, the Video Input 1 command and button (11) are configured.
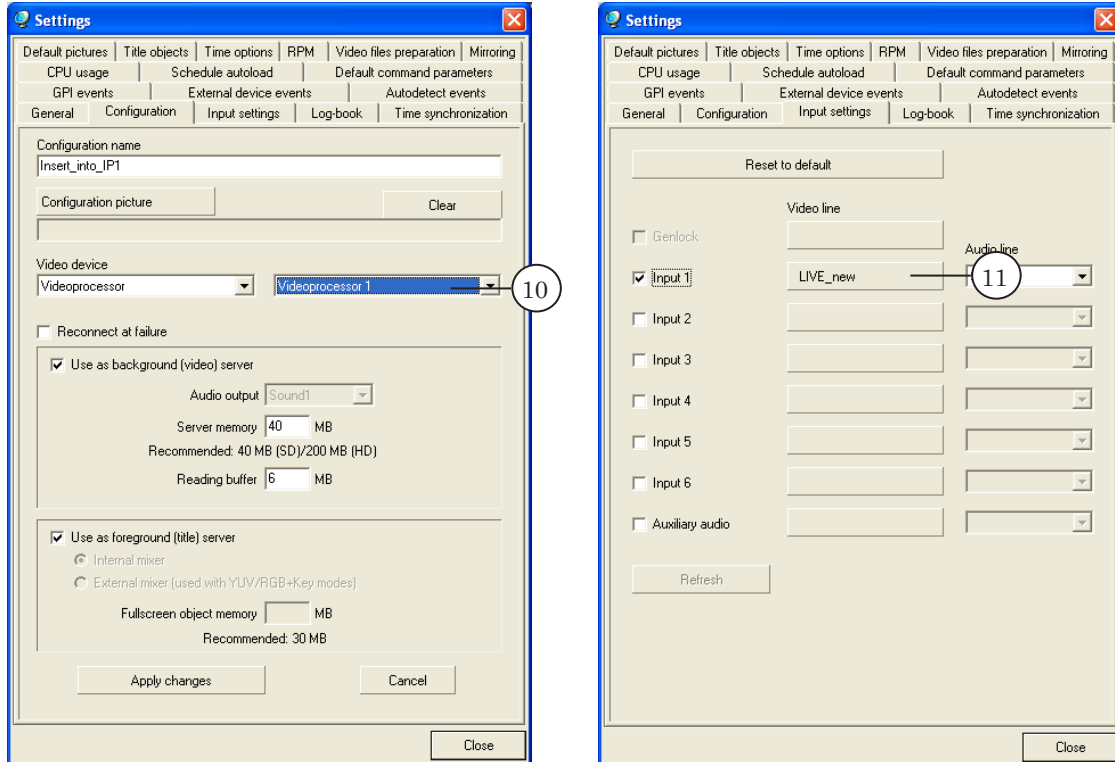


5. FDOnAir schedule includes commands for broadcasting on air video from IP stream (12) and video clips from the hard disk (13).

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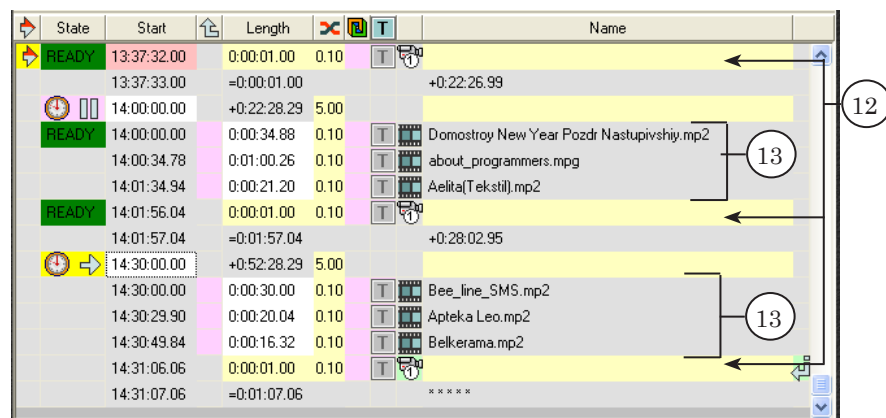
## 1.2. Configuring SLTitleMonitor

To monitor audio and video from the input stream (i.e., in the LIVE_new named region) and those that are broadcasted on air by FDOnAir (i.e. at the Videoprocessor's output) do the following:

1. Create on the desktop two shortcuts of the SLTitleMonitor program (1) (for the 1st and 2nd program instances).
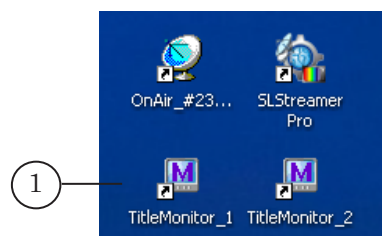


2. Using the shortcut launch the 1st SLTitleMonitor instance. Configure it for monitoring audio/video at the Videoprocessor's output. To configure it, use the system menu commands (steps 3–7). To open the menu, click on the icon located on the program's window title bar (2).

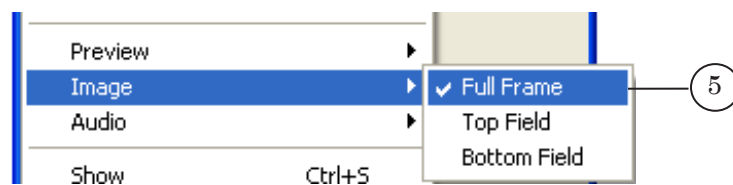3. Select a Videoprocessor to be monitored: Videoprocessor >#1 (3).
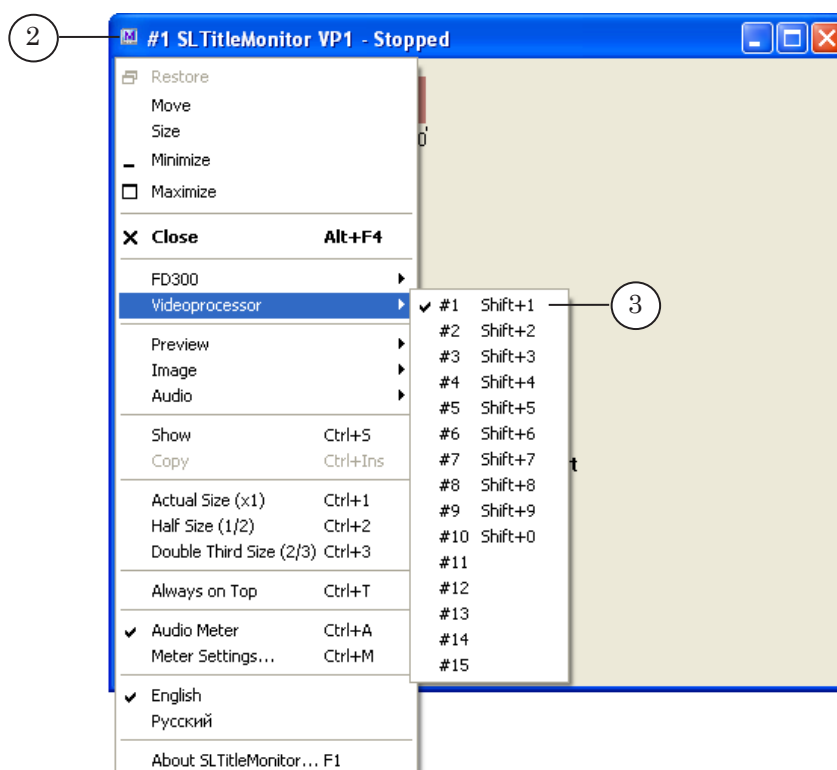
✔ **Important:** You may select a source only when displaying in the window is stopped.

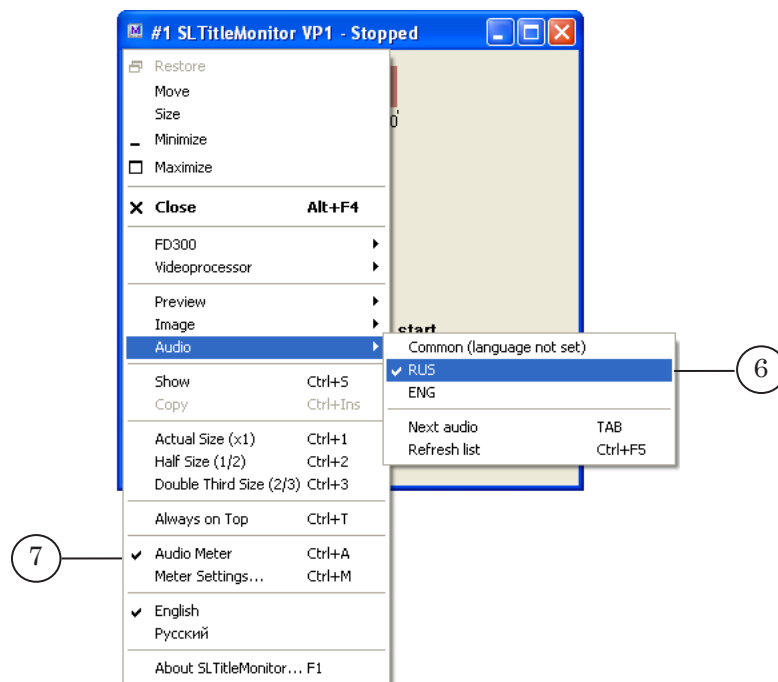4. Using the Preview submenu, select Output (4) as the source of audio/video to be monitored.
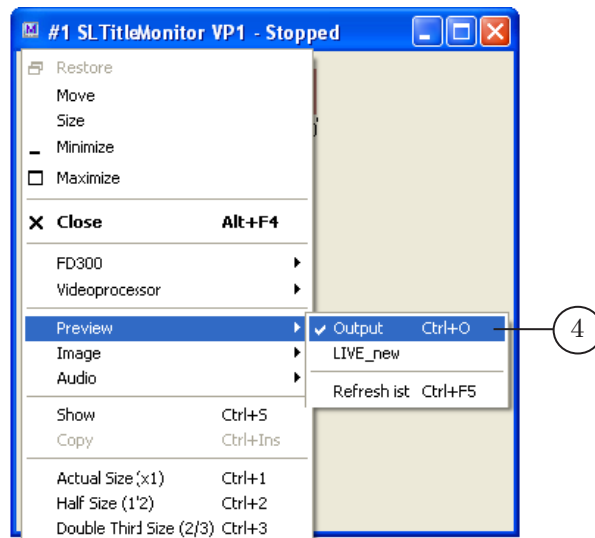


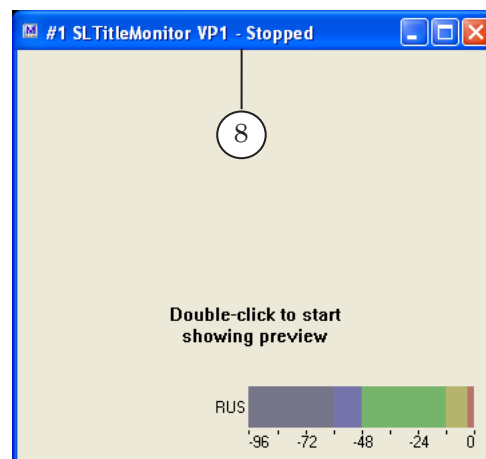5. Using the Image submenu, select required capture and displaying mode. E.g., Full Frame (5).

6. Select an audio track information on which is to be displayed on the volume level meter. In our case, the audio track with the RUS identifier (6).
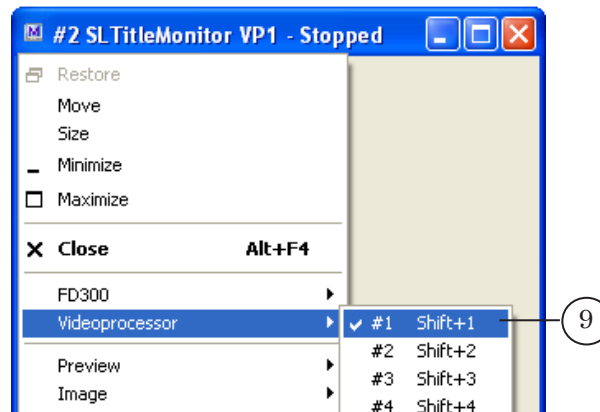


7. To display audio meter in the preview window, select the Audio Meter menu item (7) if deselected.

8. The first SLTitleMonitor instance is configured to monitor audio/video at the output of Videoprocessor #1 (8).



9. Launch the second SLTitleMonitor instance, using the corresponding shortcut. Configure it for monitoring audio/video at a named region (in our case, LIVE_new) of the Videoprocessor (steps 10-14).
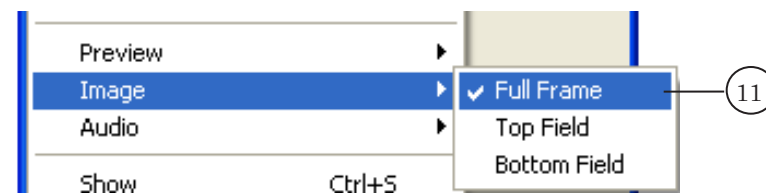
10. Select a Videoprocessor to be monitored: Videoprocessor >#1 (9).



11. Using the Preview submenu, select required named region (10) as the source of audio/video to be monitored (in this case, LIVE_new).
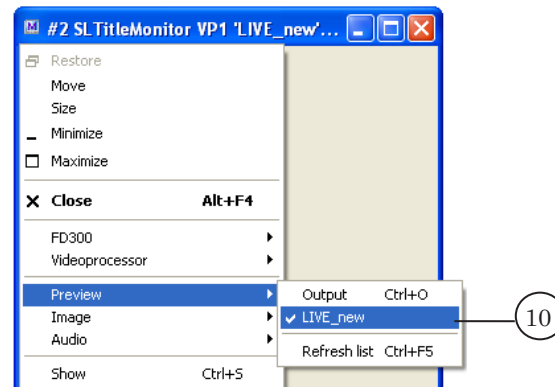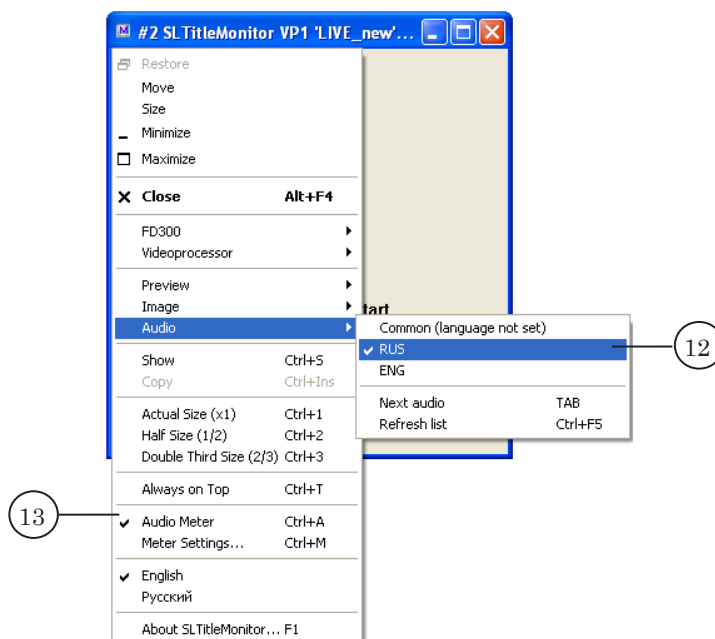


12. Using the Image submenu, select required capture and displaying mode. E.g. Full Frame (11).

13. Select an audio track information on which is to be displayed on the volume level meter. In this case: the audio track with the RUS identifier (12).



14. To display audio meter in the preview window, select the Audio Meter menu item (13) if deselected.

15. The second SLTitleMonitor instance is configured to monitor audio/video at the LIVE_new named region of the Videoprocessor #1 (14).
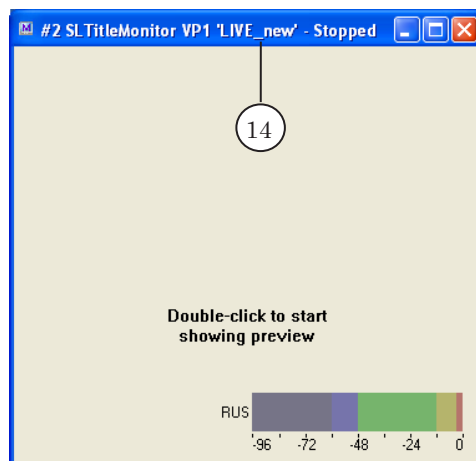


16. To display the video in the windows, double click on the work area of each of them or select the Show command in the system menu. In the first window audio/video from the Videoprocessor's output is displayed; in the second one audio/video from the LIVE_new named region.

## 1.3. Monitoring of audio and video at input and output of FDOnAir

Images below present two screenshots of the screen.

The first one was taken when the passthrough video from the input 1 (i.e. according to our settings, from IP stream) command was being executed (1). In the SLTitleMonitor #1 (2) video being broadcasted on air by FDOnAir is displayed, in the instance #2 window (3) video from the FDOnAir input is displayed.

The second image presents broadcast of video from the hard disk (4). Video is being broadcasted on air (5) while audio and video from IP stream are still coming to the input (6).
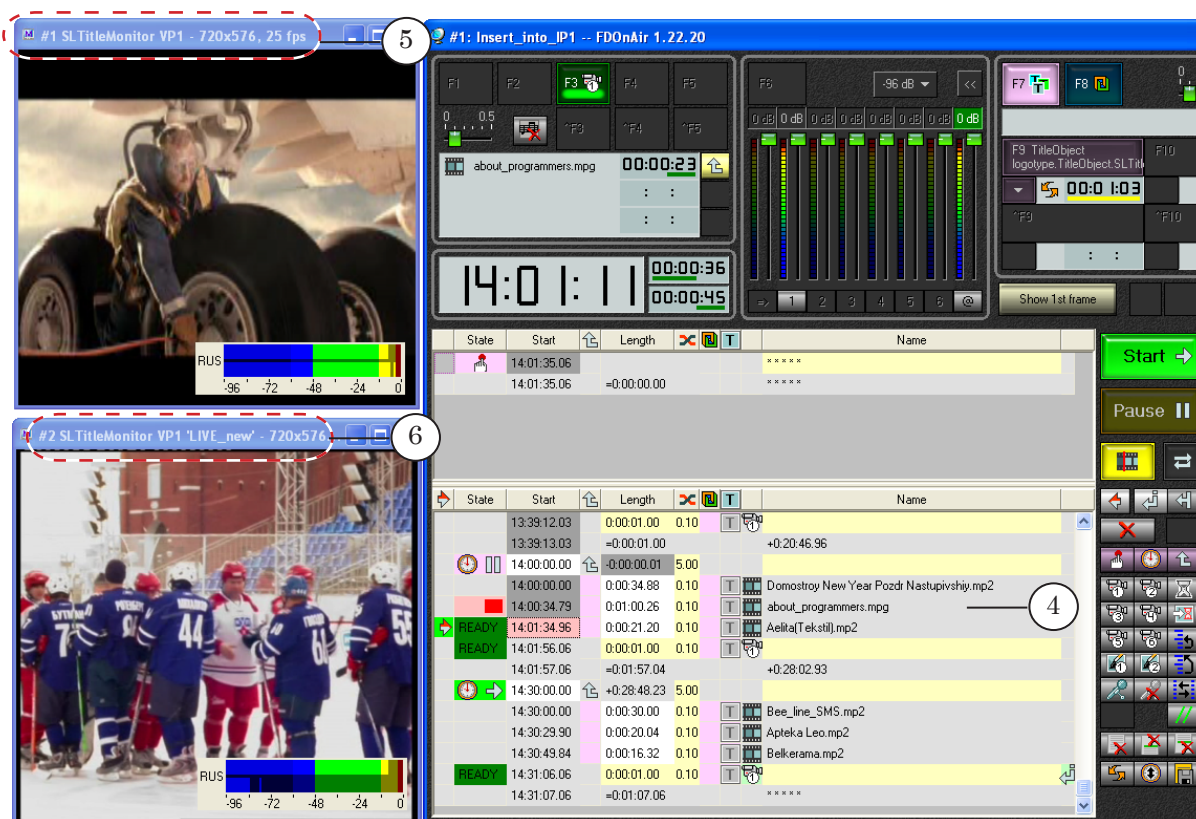
## 2. Copying the frame to the clipboard

You can copy the frame being displayed in the window to the system clipboard. To do this, use the Copy menu command (or hotkeys Ctrl + Ins). Depending on the current video capture mode, the image is copied as full or half frame.

From the clipboard the image may be pasted to any graphic editor, e.g. Paint, Photoshop, etc.

✔  **Important:** The size of the image being copied to the clipboard depends on the Videoprocessor/region frame size and current video capture mode (full frame or half frame) and does not depend on current program window size.

## 3. Configuring the shortcut for different program instances

You can launch several SLTitleMonitor instances with different settings simultaneously, allowing you to monitor video and audio at different sources.

To launch different program instances use their shortcuts on the desktop. To configure a shortcut for particular instance, do the following:

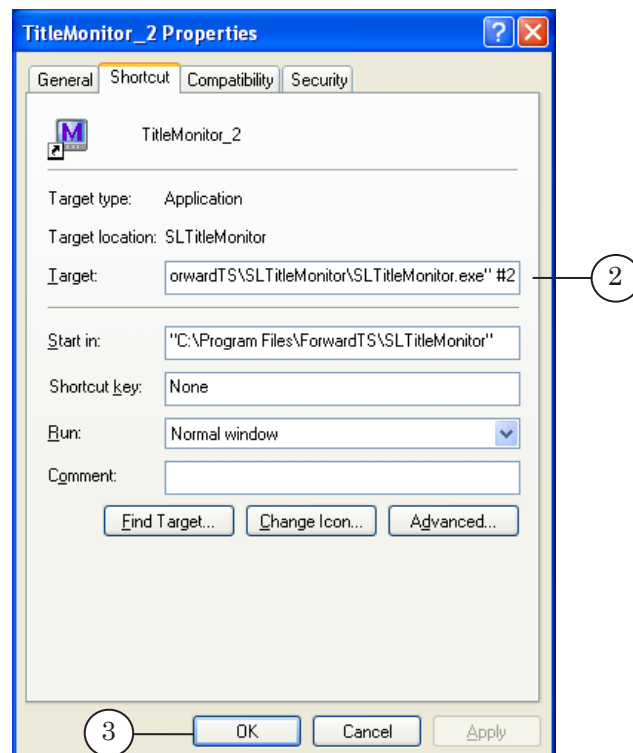1.  Create new shortcut of SLTitleMonitor.

2. Right-click on the shortcut and select Properties (1) in the opened context menu.
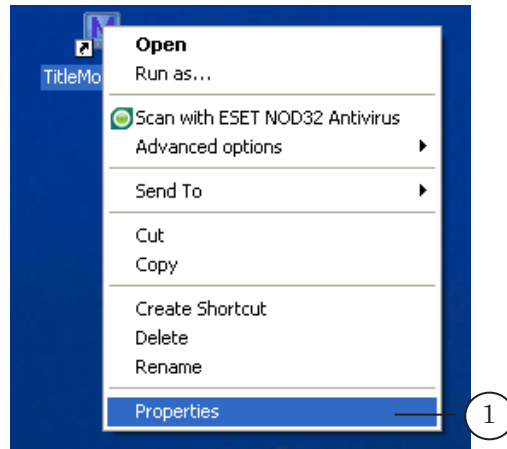


3. In the Properties window edit the program launch command located on the Target field (2). You need to type the number of the instance which you want to be launched using this shortcut.

   E.g., to launch the instance number 2, type:
   "C:\Program Files\ForwardT Software\SLTitleMonitor\SLTitleMonitor.exe" #2



4. Click OK (3) to close the settings window.

5. Launch the program by double clicking on the configured shortcut.

6. Using the system menu, configure the settings of this

instance, selecting Videoprocessor you intend to use, source (output/ named region) and video capture mode.

7. When closing the program window, all settings of the instance are saved and restored the next time the application is launched.

# Useful Links

**Forward T Product Line: Description, Software Delivery, Documentation, Ready Solutions**

http://www.softlab-nsk.com/forward/index.html

**Forward TS Product Line: Description, Software Delivery, Documentation**

http://www.softlab-nsk.com/forward/streaming.html

**Support**

e-mail: forward@sl.iae.nsk.su

forward@softlab-nsk.com

forward@softlab.tv

**Forum**

http://www.softlab-nsk.com/forum (currently available in Russian only)

**Documentation for Additional Information:**

1. SLStreamer Lite, SLStreamer Pro.Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes

2. FDPreview. Program for Previewing of Audio and Video Data on Boards Inputs/Outputs. User's Guide

3. FDOnAir. Broadcast Automation. User's Guide

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