

IP2PostPlay



Recording streaming audio and video
into PostPlay storages

*Revision as of
January 24, 2017*

User's Guide



Notice

The information in this document is subject to change without prior notice in order to improve reliability, design, or function and does not represent a commitment on the part of this company.

In no event will we be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or the inability to use the product or documentation, even if advised of the possibility of such damages.

Copyright © 1997–2017 SoftLab-NSK Co., Ltd.
All Rights Reserved.

No part of this reference manual may be reproduced or transmitted in any form or by any means without the prior written permission of this company.

Throughout this manual, we make reference to product names that are trademarks of other companies. We are using these names for identification purposes only, with no intention of infringement of the trademarks.

FCC Information

FCC ID:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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 Co., Ltd. may void the user's authority to operate this equipment.

Limited Warranty

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 Contents

Introduction.....	5
Plugin General Information	6
Plugin characteristics	6
Installing and registering the plugin	7
1. Installation variations	7
2. Main Product: Forward TA/Forward TP (FD300 board)	7
3. Main Product: Forward TA/Forward TP (FD322/FD422/FD842 board)	9
4. Main Product: Forward TS-IP/Forward TS-ASI	11
Recording streaming audio and video data into storage	13
General Procedure.....	13
PostPlayStorageConfig. Storages management.....	14
1. Purpose	14
2. Start.....	14
3. Main Window	14
4. Creating and configuring storages. General procedure.....	15
5. Storages Configuration Wizard.....	17
5.1. Storage Number	17
5.2. Time Shift	17
5.3. Storage Names	18
5.4. Video Preview	18
5.5. Codec Settings	19
5.6. Audio parameters	20
5.7. Disk space	21
5.8. Storage Summary	23
5.9. Finishing set up	23
6. Deleting a storage	24
7. Clearing a storage.....	25
Receiving a stream from an IP source. Settings and management.....	26
1. Starting the SLStreamer Pro program.....	26
2. Creating a graph using the Input_IP template	27
3. Graph node set up.....	29
3.1. Input device	29
3.2. Input program	31
3.3. Output program	32
3.4. Output Device	33
4. Finish graph set up.....	35
5. Task. Creating and managing	35
5.1. Creating a task	35
5.2. Adding the graph to the task	36



5.3. Adding the task to the schedule. Starting task 37





Introduction

The IP2PostPlay plugin is designed to record streaming audio and video data, received through an IP or ASI interface, into the PostPlay storage.

Note: PostPlay is a broadcast delay system based on the FD300/FD322/FD422/FD842 board. The PostPlay system is designed to record and store audio and video data received through a TV signal, as well as allowing access to PostPlay storages for viewing and playing audio and videos.

The system supports broadcasting with time shifts, from several minutes to several days in two different modes:

- fixed time shift without a schedule change (the FDTimeShift program is used);
- with a schedule change (the FDOOnAir program is used).

For more information on working with the PostPlay system and a description of the programs it contains, see the [«PostPlay System»](#) user's guide.

The IP2PostPlay plugin is an additional program option, and can be purchased as an addition to the following SoftLab-NSK products:

- Forward TA;
- Forward TP;
- Forward TS-IP, Forward TS-ASI.

There are different versions of the plugin that differ in their licenses for the video format they work with:

- IP2PostPlay (SD) – SD-video;
- IP2PostPlay (HD) – HD-video.

The plugin contains one license that allows the recording of one program into storage.

This guide contains the following information:
general procedure of plugin installation,
short description of the PostPlayStorageConfig program,
general workflow of setting up the recording streaming data into PostPlay storage.



Plugin General Information

Plugin characteristics

The installation of the IP2PostPlay plugin adds the following features:

- an interface for creating and managing PostPlay storages – PostPlayStorageConfig program;
- an interface for creating and managing graphs for receiving/editing/transmitting streaming audio and video (if these functions are not present in the main product) – the SLStreamer Lite and SLStreamer Pro programs;
- a function of capturing from TS data into PostPlay storage. The typical product delivery includes 1 license for 1 input channel.

Note: For more information on working with the SLStreamer Pro and SLStreamer Lite programs, see the [«SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes»](#) user`s guide.



Installing and registering the plugin

1. Installation variations

The IP2PostPlay set and its installation procedure depend on the main product, to which the plugin is to be added. The following variations will have different installation procedures (see below sections):

- Forward TA/Forward TP based on the FD300 board;
- Forward TA/Forward TP based on a FDExt board: FD322/FD422/FD842;
- Forward TS-IP/Forward TS-ASI.

The installation of the plugin software is done by a plugin installer. The installer file: ForwardTxPlugins_Setup_xx_xx_xx.exe, where xx_xx_xx is the software version.

Note: All necessary software components and additional instructions can be found on the SoftLab-NSK website, on the Downloads page: <http://www.softlab.tv/forward/download.html>.

2. Main Product: Forward TA/Forward TP (FD300 board)

If the plugin is to be added to a Forward TA/Forward TP product based on a FD300 board, the plugin set will contain a USB HASP HL key as well as a registration file.

Note: The registration file can be recorded on the installation disk or sent over via email. The registration file will have the **reg** extension. On the installation disk the file will be in the **Registration** folder.

In order to install the plugin, complete the following:

1. Make sure that the main product's registration is active. If not, activate it. For more information, see the «[ForwardT Software setup](#)» user's guide.
2. Activate the IP2PostPlay plugin registration:
 1. Double-click on the registration file – the necessary information will be added to the Windows system registry. Restart the computer.
 2. Install the HASP HL key driver onto the computer using an installer. The driver installer is located in the HASPDrivers folder on the installation disk.

Note: The HASP HL key drivers are also available on the SoftLab-NSK website, on the Downloads page: <http://www.softlab.tv/forward/download.html>.

3. Insert the HASP key into the computer's USB port.

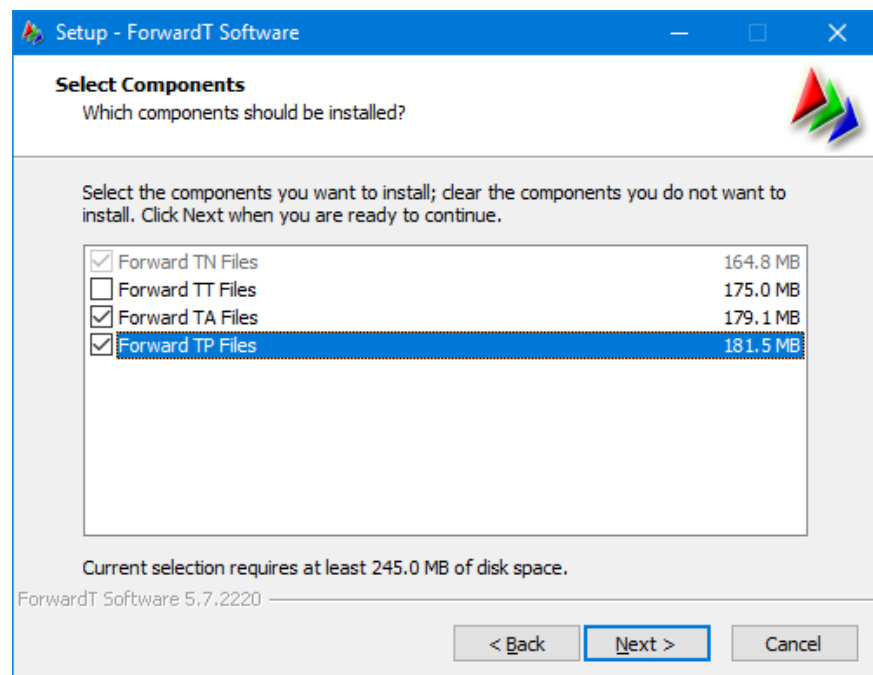
✓ **Important:** The key must be inserted in the USB port and remain inserted continuously while installing and using the software!



3. Install the ForwardT Software in the following situations:
 - the software is not installed;
 - the installed software version is outdated (it is necessary for the main product's and plugin installer versions to be identical);
 - the software components already installed are intended only for work with Forward TA product.

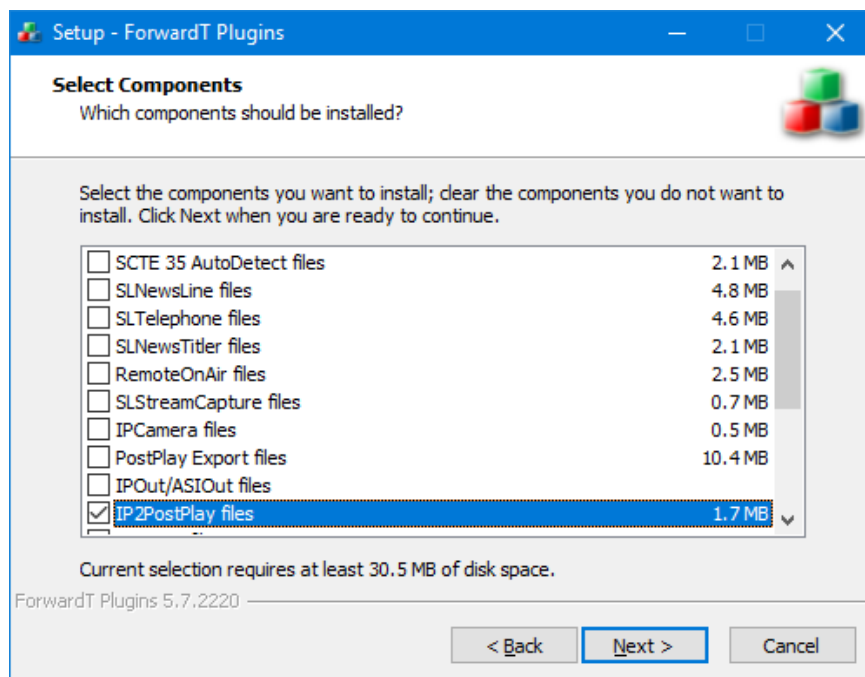
Use the current version of the ForwardTxSoftware_Setup_x_xx_xxx.exe installer to install the software.

During the installation make sure to flag the Forward TP Files option.



For more information on installing software see the «[ForwardT Software setup](#)» user's guide.

4. Install the IP2PostPlay software components: start the plugin installer and follow the Wizard's instructions. During the installation flag the IP2PostPlay files option.



5. The SLStreamer Lite, SLStreamer Pro, and PostPlayStorageConfig shortcuts will be added to the desktop.



3. Main Product: Forward TA/Forward TP (FD322/FD422/FD842 board)

If the plugin is to be added to a Forward TA/Forward TP product based on a FD322/FD422/FD842 board, the plugin set will contain a registration file.

Note: The registration file can be recorded on the installation disk or sent over via email. The registration file will have the **reg** extension. On the installation disk the file will be in the **Registration** folder.

In order to install the plugin, complete the following:

1. Make sure that the main product's registration is active. If not, activate it. For more information, see the «[ForwardT Software setup](#)» user's guide.
2. Activate the IP2PostPlay plugin registration: double-click on the registration file – the necessary information will be added to the Windows system registry. Restart the

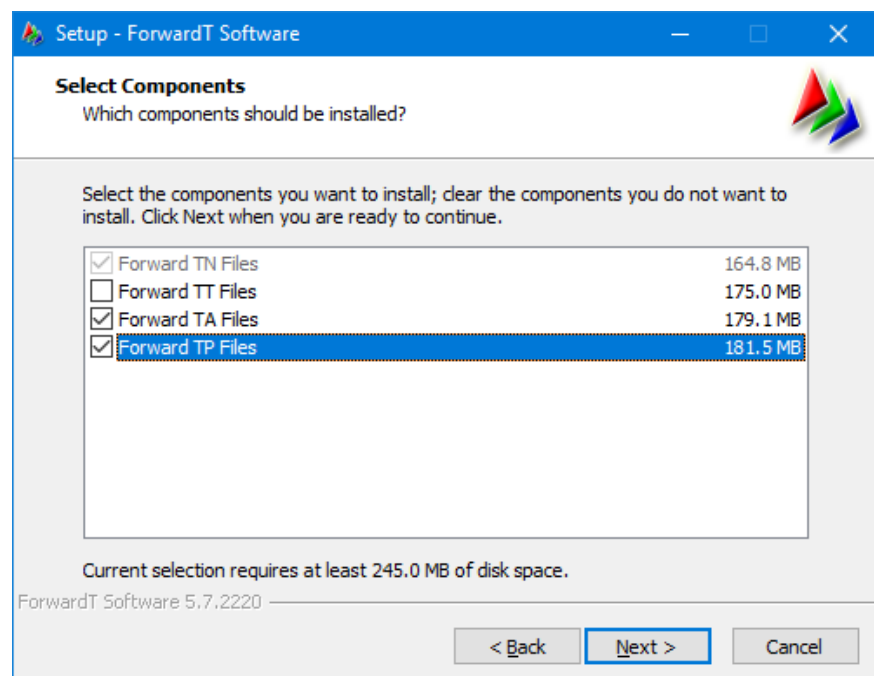


computer.

3. Install the ForwardT Software in the following situations:
 - the software is not installed;
 - the installed software version is outdated (it is necessary for the main product's and plugin installer versions to be identical);
 - the software components already installed are intended only for work with Forward TA product.

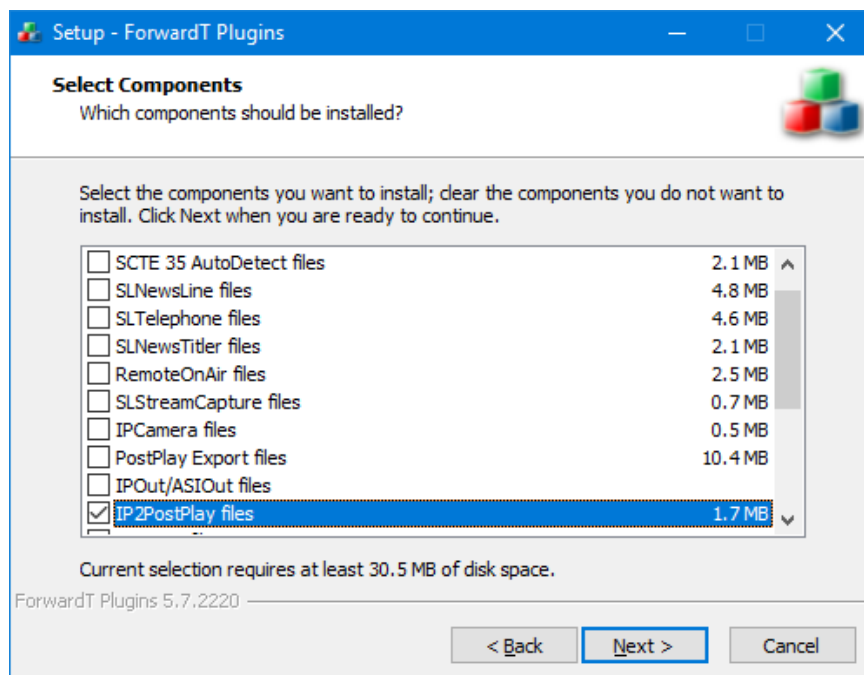
Use the current version of the ForwardTxSoftware_Setup_x_xx_xxx.exe installer to install the software.

During the installation make sure to flag the Forward TP Files option.



For more information on installing software see the [«ForwardT Software setup»](#) user's guide.

4. Install the IP2PostPlay software components: start the plugin installer and follow the Wizard's instructions. During the installation flag the IP2PostPlay files option.



5. The SLStreamer Lite, SLStreamer Pro, and PostPlayStorageConfig shortcuts will be added to the desktop.



4. Main Product: Forward TS-IP/Forward TS-ASI

If the plugin is to be added to a Forward TS-IP/Forward TS-ASI product, the plugin set will contain a registration file.

Note: The registration file can be recorded on the installation disk or sent over via email. The registration file will have the `reg` extension. On the installation disk the file will be in the `Registration` folder.

In order to install the plugin, complete the following:

1. Make sure that the main product's registration is active. If not, activate it.

✓ **Important:** The Forward TS software needs a HASP key in order to work. The key must be inserted in the USB port and remain inserted continuously while installing and using the software!

2. Activate the IP2PostPlay plugin registration: double-click on the registration file – the necessary information will



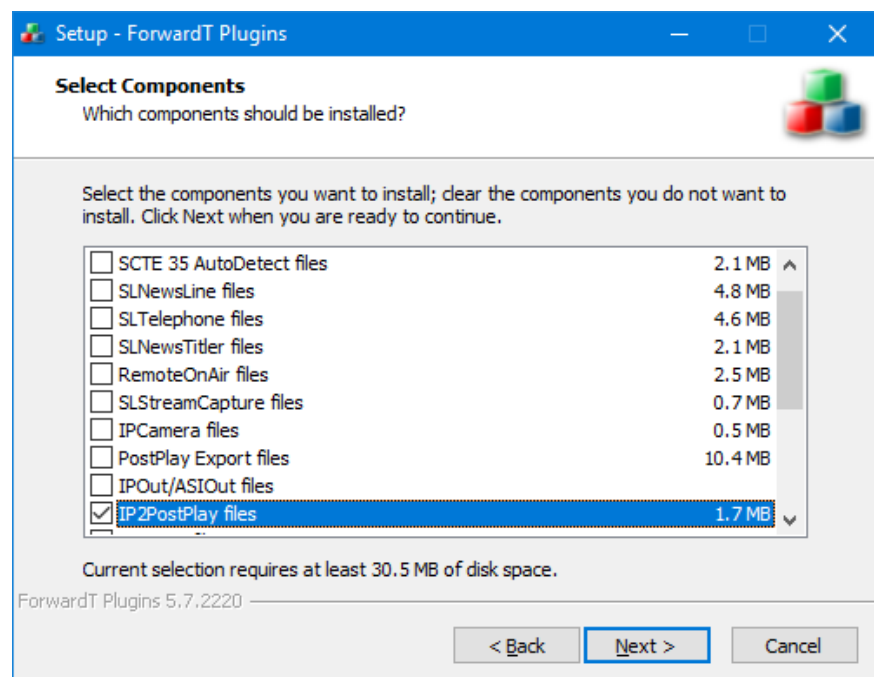
be added to the Windows system registry. Restart the computer.

3. Install the ForwardTS Software in the following situations:
 - the software is not installed;
 - the installed software version is outdated (it is necessary for the main product's and plugin installer versions to be identical);
 - PostPlay software components were not installed.

Use the current version of the ForwardTS_Setup_x_xx_xxx.exe installer to install the software (for more information, see the «[ForwardTS Software Setup. Installation & Setup Procedures](#)» user's guide).

During the installation make sure to flag the Install PostPlay Components (Forward TP Software Components) option.

4. Install the IP2PostPlay software components: start the plugin installer and follow the Wizard's instructions. During the installation flag the IP2PostPlay files option.



5. The PostPlayStorageConfig shortcut will be added to the desktop.





Recording streaming audio and video data into storage

General Procedure

When recording audio and video from a transport stream (TS) into a PostPlay storage, it is recommended to use the following procedure:

1. Using the PostPlayStorageConfig program:
 1. Set up the audio and video parameters.
 2. Configure the storage.

Note: For a description of the program, see the «PostPlayStorageConfig. Storages management» section.

2. Using the SLStreamer Pro program:
 1. Set up the receiving of streaming data from an external source into a storage.
 2. At the right time, start/stop recording the stream into the storage.

Note: For more information see the «Receiving a stream from an IP source. Settings and management» section of this user's guide, as well as the [«SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes»](#).

The next steps are as standard for working with video and audio data recorded into PostPlay storage:

1. If it is necessary to view the storage contents, make clips, export audio and video from the storage into files – use the PostPlay Preview program.
2. In order to transmit audio and video to air, use the FDTimeShift or FDO nAir program, depending on the broadcasting mode.

Note: For more information see the [«PostPlay System»](#); [«FDTimeShift. TV Broadcast Time Shifting»](#); [«FDO nAir Application: FDTimeShift Video Line. Rebroadcasting with a Time Shift via FDO nAir»](#).

PostPlayStorageConfig. Storages management

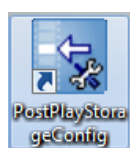
1. Purpose

The PostPlayStorageConfig program is designed to be an interface for managing PostPlay storages: creation, deletion, clearing. It is included in the IP2PostPlay plugin.

2. Start

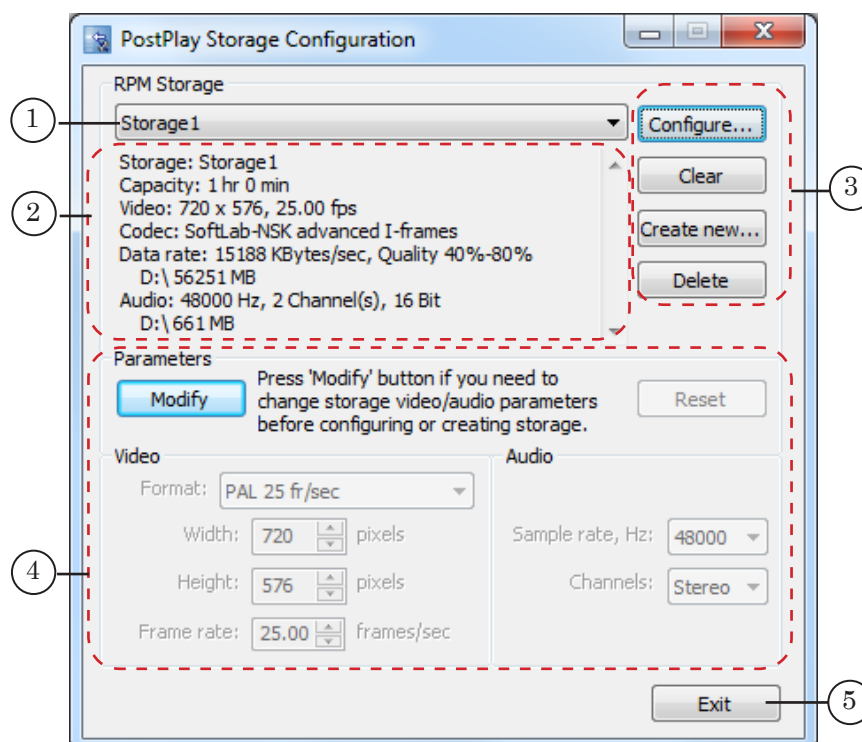
To start the PostPlayStorageConfig program:

- use the Start menu: Programs > ForwardT Software > Plugins > PostPlayStorageConfig;
- or the shortcut located on the desktop.



3. Main Window

The program's main window displays information on the PostPlay storages on the computer, as well as elements to manage them.



Main Program Window. Control element purpose:

1 – list of storages; 2 – information on the selected storage; 3 – storage management; 4 – audio and video parameter settings; 5 – exit.



In the Parameters (4) group the current audio and video settings values will be displayed. These values will be used when creating a new storage (see section «Creating and configuring storages. General procedure» below).

By default, the parameter values are identical to the parameters of the storage selected in the RPM Storage list (1).

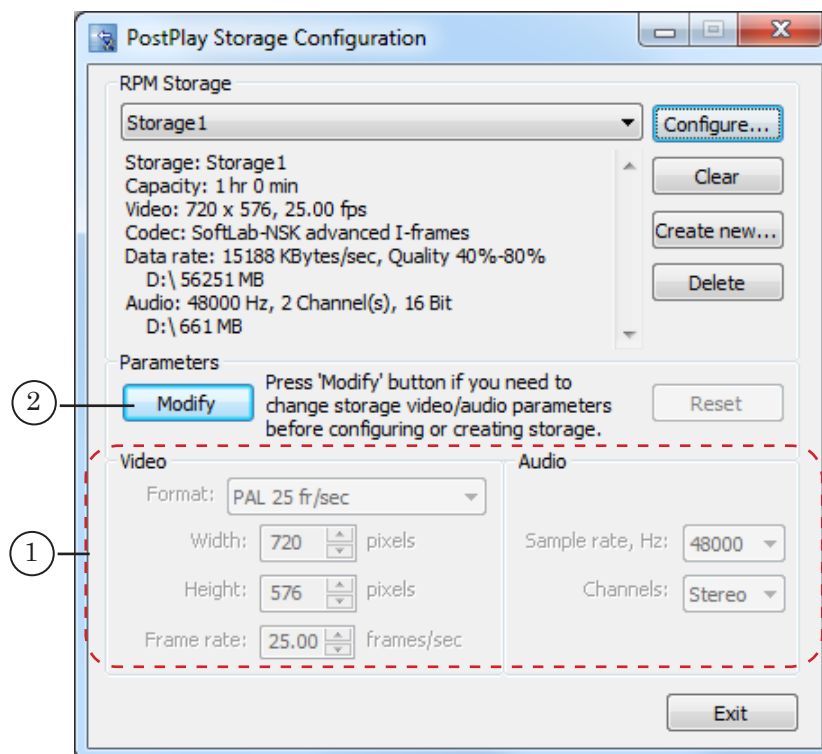
Note: The first time the program is launched, when no storage is selected in the RPM Storage list (1), default parameter values are set.

4. Creating and configuring storages. General procedure

Creating a PostPlay storage is reserving space on a computer's hard drive. Other than the audio and video data, the following will also be recorded in the storage: information on time markers, frames for previews, and other service information.

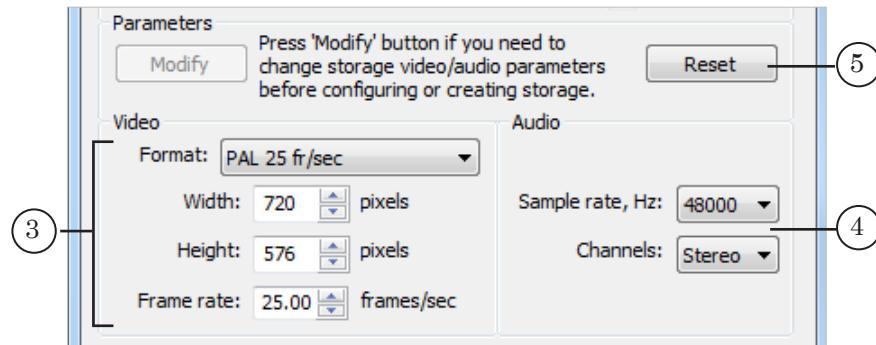
To create/configure a storage, complete the following in the program's main window:

1. Make sure the current parameter values of the video and audio in the Parameters group (1) are correct. If this is the case, go on to step 4, otherwise continue to step 2.
2. Press Modify (2) – the editable elements will become active.





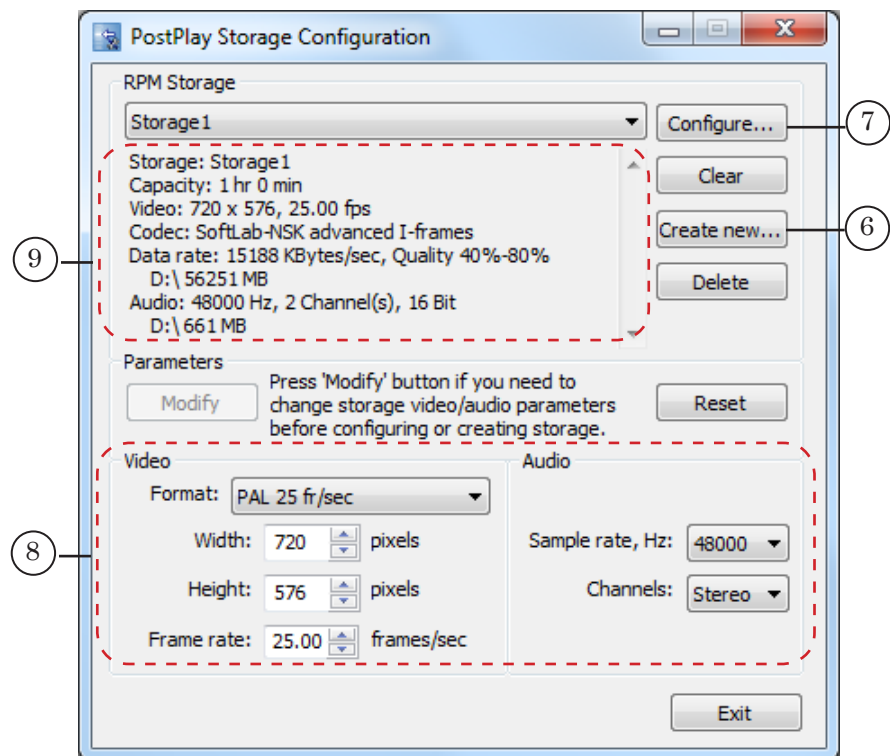
3. Set the necessary parameter values for video (3) and audio (4).



The Format list in the Video element group contains the Custom option, which allows you to set any necessary width, height, frame rate.

If it is necessary to bring back the original values, press Reset (5).

4. Press Create new (6) to create a new storage, or press Configure (7) to change the parameters of an existing storage. Follow the Storages Configuration Wizard's instructions.



✓ **Important:** After editing the audio and video parameters press Create new to continue on to creating a new storage with the set parameters or press Configure to apply the set values to the existing storage.



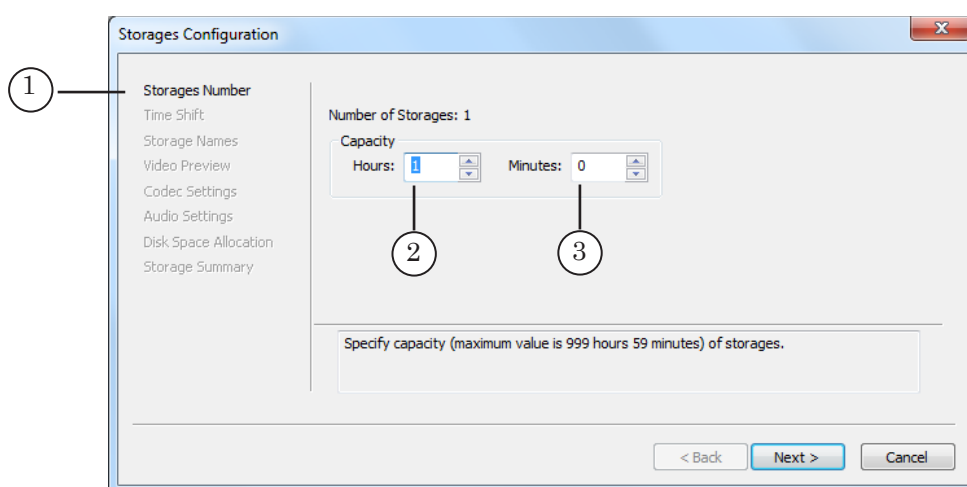
5. Storages Configuration Wizard

Press **Create new** or **Configure** to start the Storage Configuration Wizard. Use the **Next** (go to the next page) and **Back** (return to previous page) buttons to navigate the Wizard. By pressing **Cancel** the set up will be canceled.

Note: For additional recommendations for PostPlay storage parameters set up see the «[PostPlay System](#)» user`s guide.

5.1. Storage Number

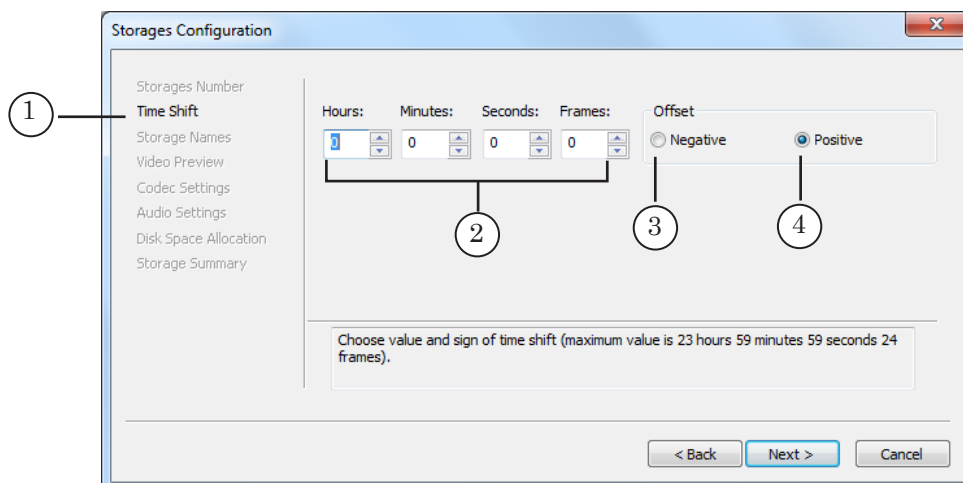
On the Storages Number (1) page, in the corresponding fields (2, 3) set the capacity of the storage – the duration of the stored audio and video in hours and minutes.



5.2. Time Shift

On the Time Shift (1) page set a time shift if necessary. The time markers recorded into the storage with the video and audio will be shifted by the set amount (2): decreased if the shift is negative (3) or increased if the shift is positive (4).

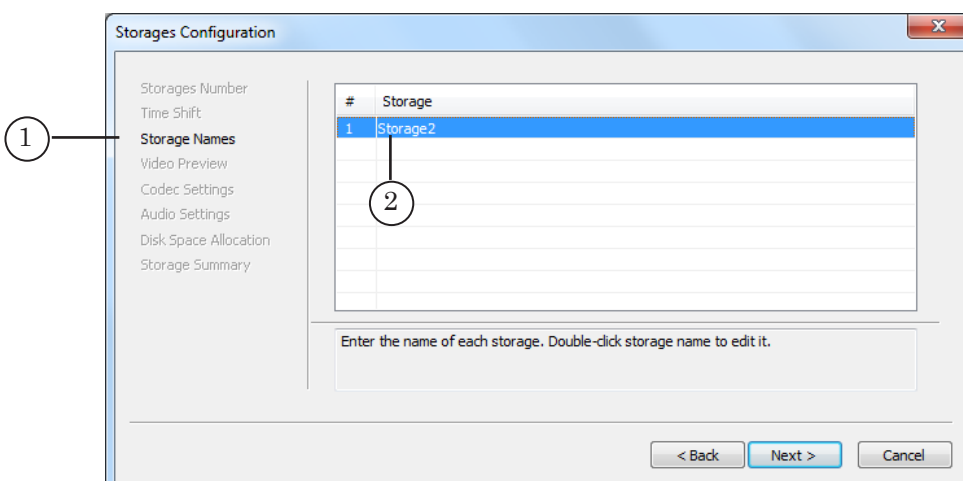
A time shift makes it easier for an operator to take time zone differences into account when retransmitting TV programs between cities located in different time zones.



5.3. Storage Names

On the Storage Names (1) page set the storage name.

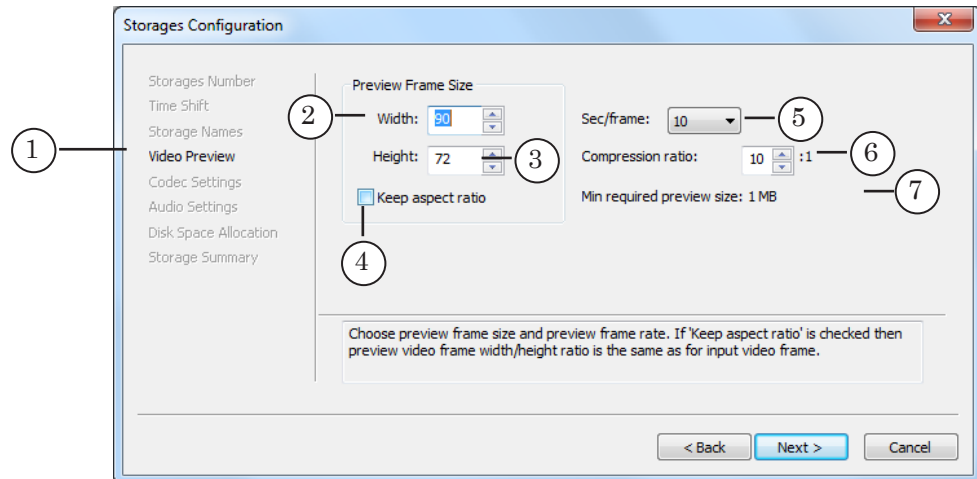
A PostPlay storage name must be unique, and can contain any symbols. By default the storages will be named StorageX where X is their order number. To change the name, double-click on the line with the name (2) and set a new one.



5.4. Video Preview

On the Video Preview page (1) set the parameters for recording preview video into the storage:

1. In the Width (2) and Height (3) fields set the width and height of the preview frames (in pixels).
2. If it is necessary for the preview frames aspect ratio to be identical to the original video, flag the Keep aspect ratio (4) option.
3. In the Sec/frame (5) field set the time interval between the preview frames, in seconds.



4. In the Compression ratio field (6) set the compression coefficient for the preview video.
5. The amount of RAM (in MBs) necessary for storing the preview video, taking into account the storage capacity and set parameters, is displayed in the Min required preview size field (7).

5.5. Codec Settings

On the Codec settings page (1) set the coding and compression parameters for the video:

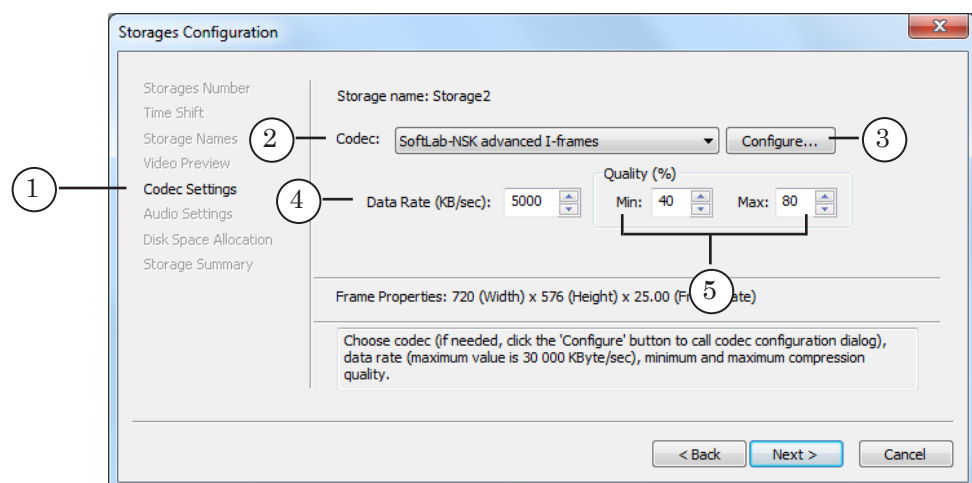


Tip: It is highly advised to use the same settings for all storages.

1. In the Codec drop-down list (2) choose the codec that will be used to compress the video.



Tip: It is recommended to use the SoftLab-NSK advanced I-frames codec.



2. Press Configure (3) in order to manage the parameters of the chosen codec.



3. If the chosen codec supports a variable bitrate:
 1. In the Data Rate (KB/sec) field (4) set the desired data rate. The maximum allowed value is 30 000 KB/sec.
 2. In the Min and Max fields (5) set the minimum and maximum compression quality (in percents). When inputting data into the storage, the application will dynamically change the current value of the compression quality within the minimum and maximum values, trying to keep the specified average data rate.

5.6. Audio parameters

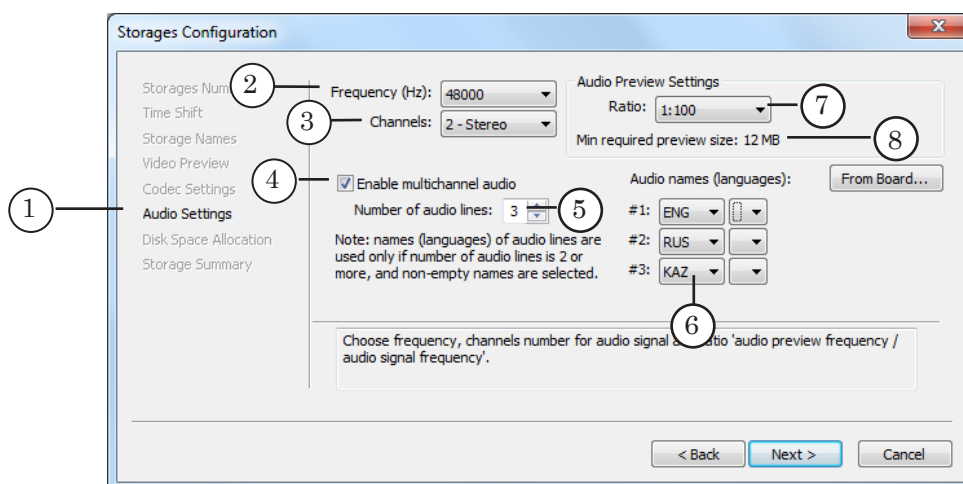
On the Audio Settings page (1) set the audio data parameters:

1. In the Frequency (Hz) drop-down list (2) choose the frequency of the audio sampling to be recorded in the storage. By default this is set to 48000 Hz.
2. In the Channels drop-down list (3) select the audio type – mono or stereo, for example 2 – Stereo.
3. If the audio stream contains several language streams, flag the Enable multichannel audio (4) option and set the Number of audio lines (5). Then using the Audio names (languages) drop-down lists (6) set language identifiers for the lines.
4. In the Ratio (7) list choose the audio quality coefficient for audio previews, for example 1:100. The coefficient sets the amount (ratio) of audio units, selected from the total audio signal values, chosen for the preview.



Tip: It is recommended to use the default coefficient – 1:100.

5. The amount of RAM (in MBs) necessary for storing the preview audio data, taking into account the storage capacity and other parameters, is displayed in the Min required preview size (8) field.





5.7. Disk space

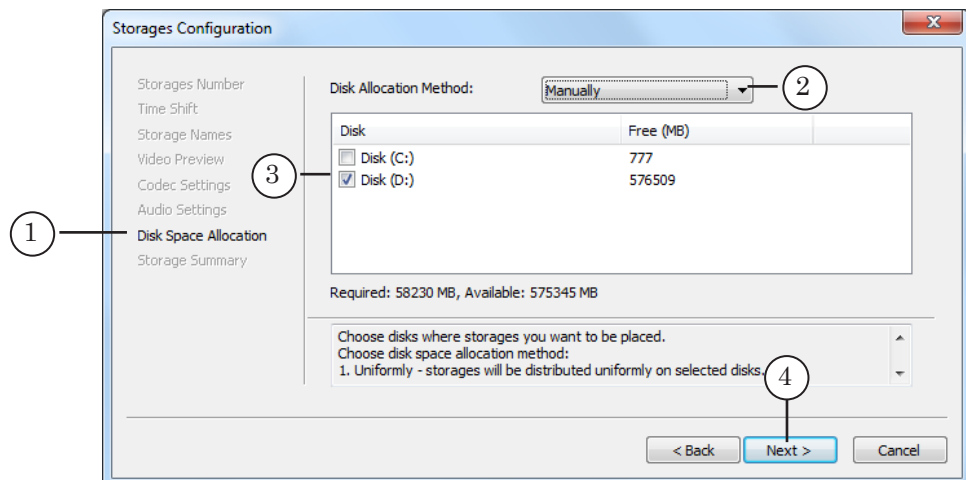
Storage disk space allocation is carried out on the Disk Space Allocation pages.

The amount of disk space necessary is calculated automatically depending on the storage settings: the storage amount, video and audio parameters, preview parameters, etc.



Tip: When allocating storage disk space it is highly recommended:

1. To not allocate storages on a system disk.
2. To not take up all the free storage space – leave 5-10 GB for service needs.



On the Disk Space Allocation (1) pages complete the following:

1. In the drop-down list (2) choose the space allocation method:
 - Auto (uniformly) – automatic distribution. The storage space will be allocated on every disk flagged in the main list (3) in even, equal parts;
 - Auto (sequentially) – automatic distribution. An attempt will be made to allocate the storage on one disk, starting from the last in the list (3). If there isn't enough disk space, the disk above the last will be used, etc.;
 - Manually – the user allocates the space on disks manually (see below).
2. Flag (3) the disks on which it is allowed to allocate storages.



Important: Pay attention to the Required and Available fields. The first field displays the amount of memory necessary to save the storage, while the second displays the total amount of free space on the selected disks.

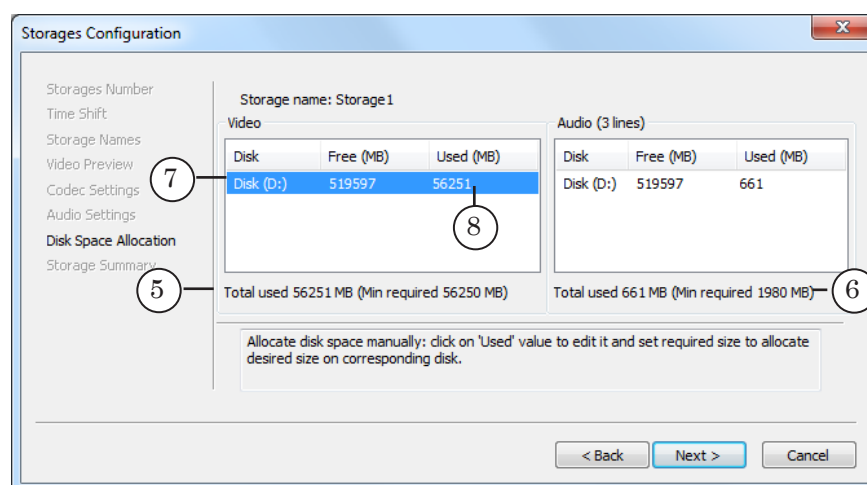
3. Press Next (4) to continue to the next step:



- if an automatic distribution method is chosen, the Storage Summary page will open. Skip step 4, continue onto step 5;
 - if the Manually distribution method is chosen, the next Disk Space Allocation page will open.
4. When manually distributing the storage space take into account the information displayed in the Total used (5, 6) lines in the Video and Audio element groups. The line will show the total amount of space allocated for storing video and audio data, respectively, at this time and in the parentheses next to it the necessary space needed.

In order to allocate space on the disks chosen in step 2 for storage, complete the following:

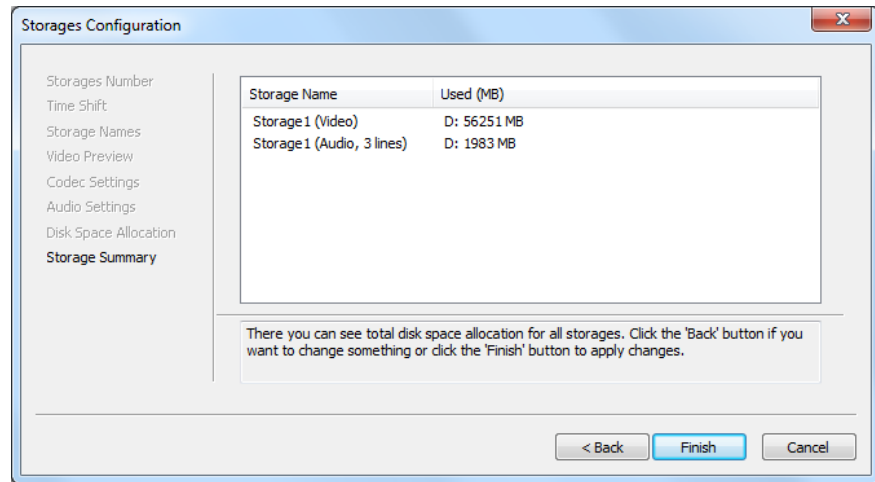
1. In the Video table choose the disk by left-clicking once on the corresponding line (7).
2. Left-click the line again and the Used (MB) cell will be available to edit (8).
3. Repeat steps 1, 2 for other disks until the necessary amount of space is allocated.
4. Repeat steps 1–3 in the Audio table to allocate the space for audio data.





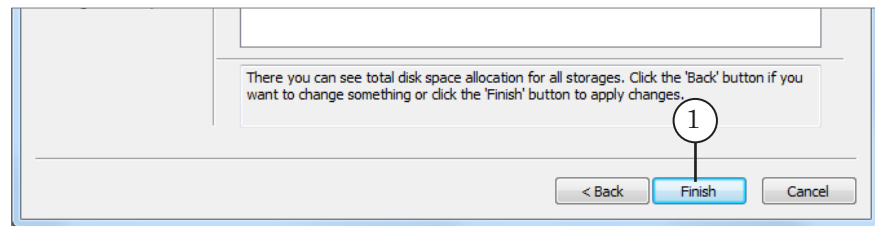
5.8. Storage Summary

The Storage Summary page will display information on the results of disk storage space allocation.

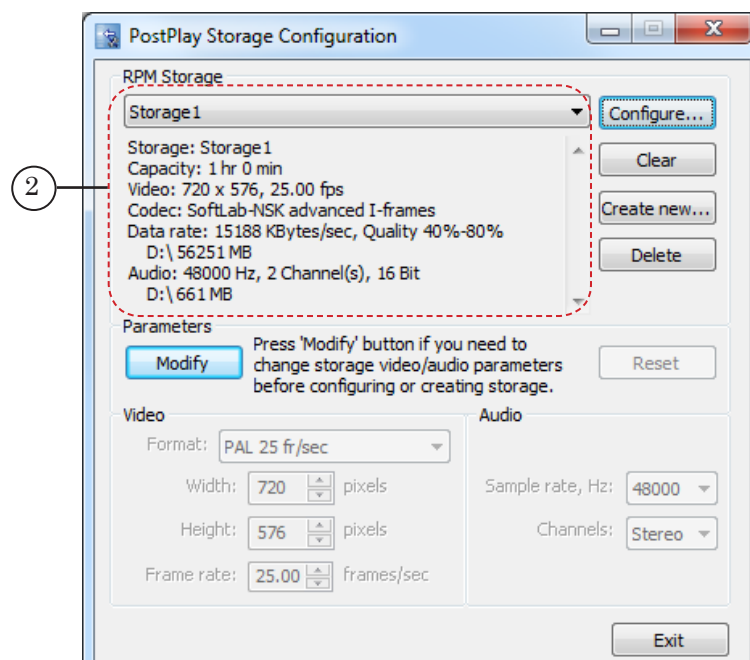


5.9. Finishing set up

1. Press Finish (1) in order to finish managing the storages and exit the Wizard.



2. Information on the created storage will be displayed in the program's main window (2).



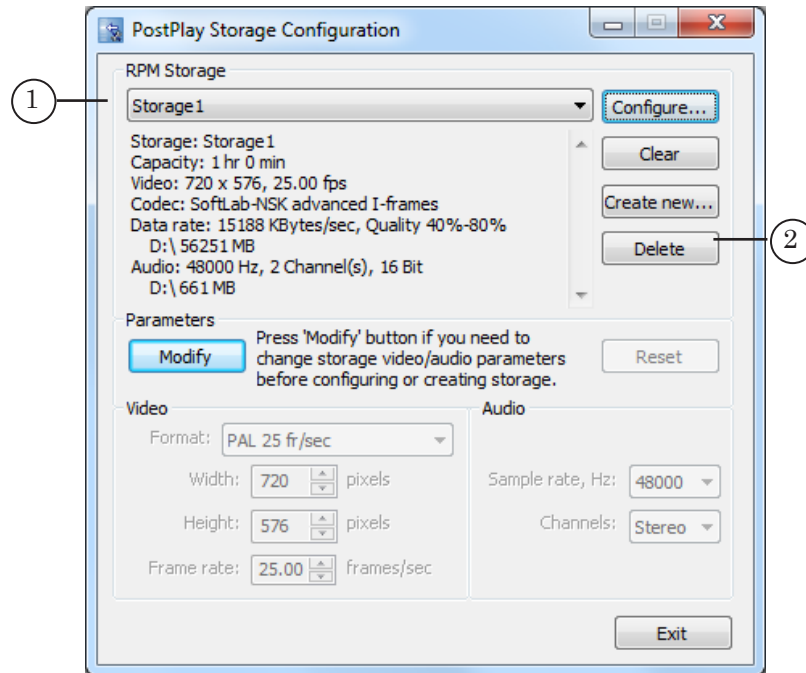


6. Deleting a storage

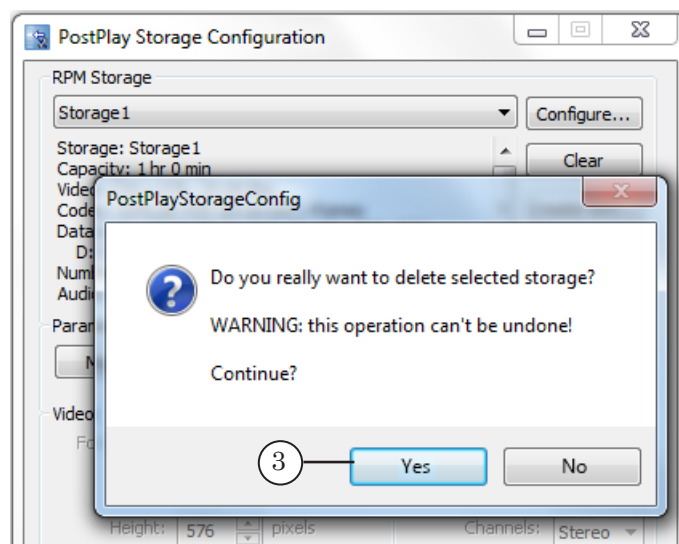
Deleting a storage deletes all the information on it and frees up the disk space it took up.

To delete a storage, complete the following:

1. Select the storage in the drop-down list (1) in the main window.



2. Press Delete (2).
3. A warning will pop up. Press Yes (3) to delete the storage.



✓ **Important:** You can not undo storage deletion!
It might take a long time to complete the storage deletion.

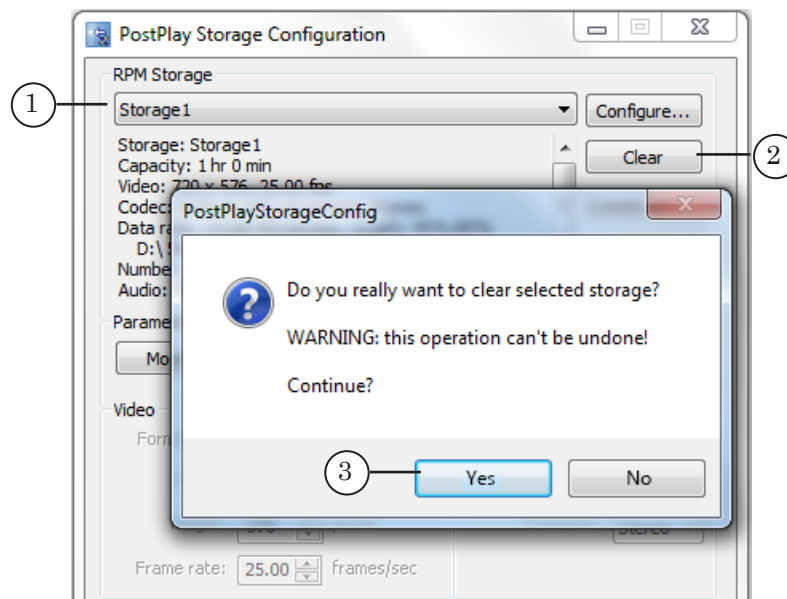


7. Clearing a storage

Clearing a storage is completely deleting all of its contents, but the storage still takes up disk space.

To clear a storage, complete the following:

1. Select the chosen storage in the drop-down list (1) in the main window.
2. Press Clear (2).
3. A warning will pop up. Press Yes (3) to clear the storage.



- ✓ **Important:** You can not undo storage clearing!
It might take a long time to complete the clearing.



Receiving a stream from an IP source. Settings and management

Setting up and managing the receiving of an audio and video data stream from an IP source is done using the SLStreamer Pro program.

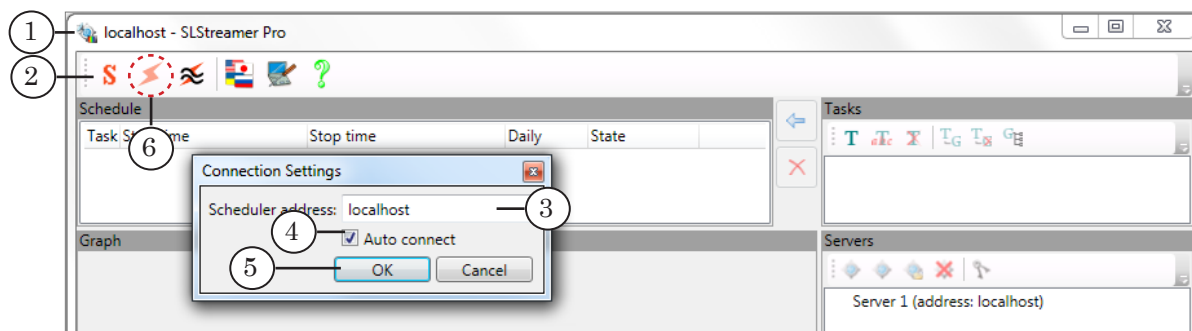
General procedure:

1. Start the SLStreamer Pro program.
2. Create an input graph using the Input_IP template.
3. Set up the graph nodes.
4. Finish graph set up.
5. Create a task by adding the graph. Add the task to the schedule. Start the schedule.

Note: For more information on working with the SLStreamer Pro and SLStreamer Lite programs, see the [«SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes»](#) user`s guide.

1. Starting the SLStreamer Pro program

1. Start the SLStreamer Pro program (1). Use the desktop shortcut or Start menu command:
Programs > ForwardTS > SLStreamer Pro.
2. When starting the program for the first time it is necessary to connect it to the Scheduler. Complete the following:
 1. Press Connection settings (2) on the toolbar.
 2. In the opened window set the IP address or DNS name (3) of the computer on which the necessary Scheduler is running. In our example we set a local computer.
 3. To connect to the server with the set address automatically each time the program is opened, flag the Auto connect (4) option.
 4. Press OK (5).
3. If the connection is not done automatically, press the shown button (6) in order to connect to the Scheduler manually.

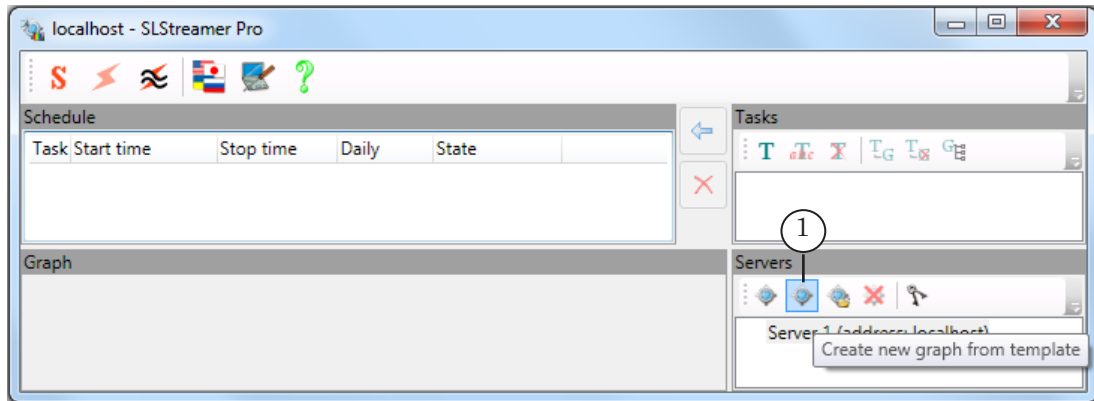




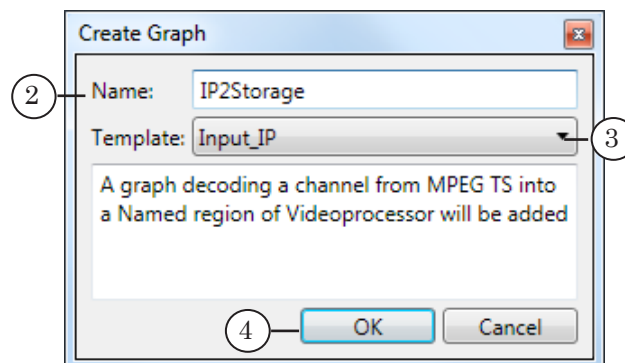
2. Creating a graph using the Input_IP template

A template is a standard blank graph. To create a graph using the Input_IP template, complete the following:

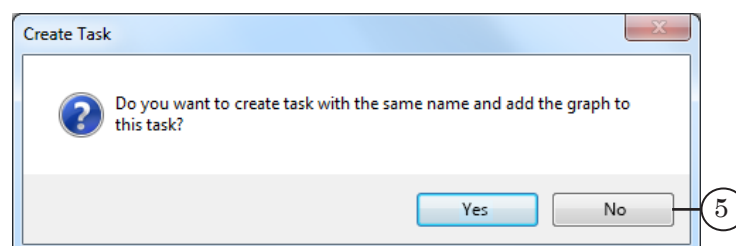
1. On the toolbar, in the Servers window, press Create new graph from template (1).



2. In the opened window set a convenient name (2) for the graph. The name must be unique.
3. Select the Input_IP template in the drop-down list (3).

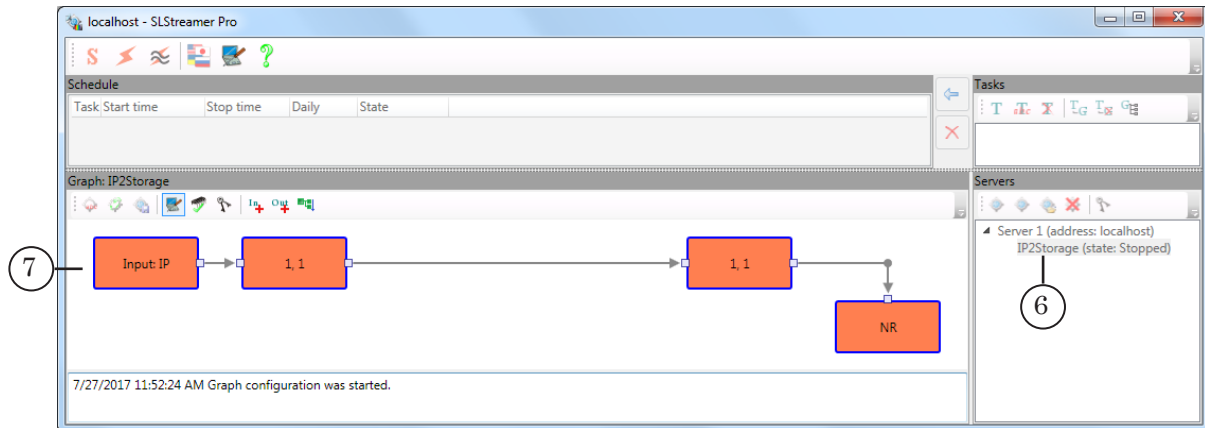


4. Press OK (4).
5. In the opened window decline creating a new task: press No (5).





6. A new graph based on the chosen template is created: the graph name will be added to the server graph list (6); the work area will show the graph (7). The Configuration mode will turn on automatically.



7. While in the Configuration mode, set up all the graph nodes in order. For more information on setting up graph nodes see the next section.

✓ **Important:** Make sure to set up the graph nodes before using it as a task!

✓ **Important:** The set up must occur when the data from the source is incoming to the input device.



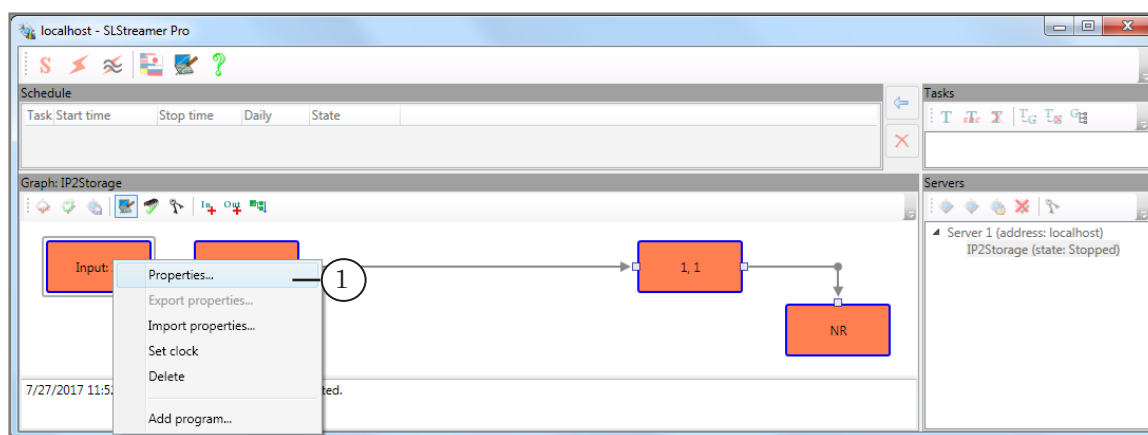
3. Graph node set up

It is recommended to set up the nodes in order, from left to right, because in most cases the node settings depend on the settings of the previous node.

3.1. Input device

The Input Device node is the first in the sequence order.

1. Right-click the node to open the context menu and press Properties (1).

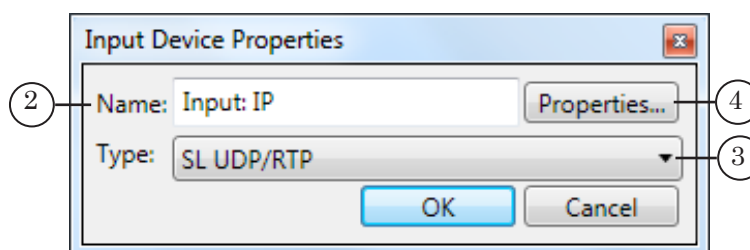


In the Input Device Properties window:

2. Set the node name (2).
3. Make sure that necessary item is chosen in the drop-down list (3). For example, to receive a stream that is transmitted using the UDP protocol select the SL UDP/RTP item.

Note: For a list of all the supported device types and more information, see the «[SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes](#)» user`s guide.

4. Press Properties (4) to start setting up the device parameters.



5. In the opened window set up the device parameters.

Note: For a list of all the parameters for different device types and more information, see the «[SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes](#)» user`s guide.

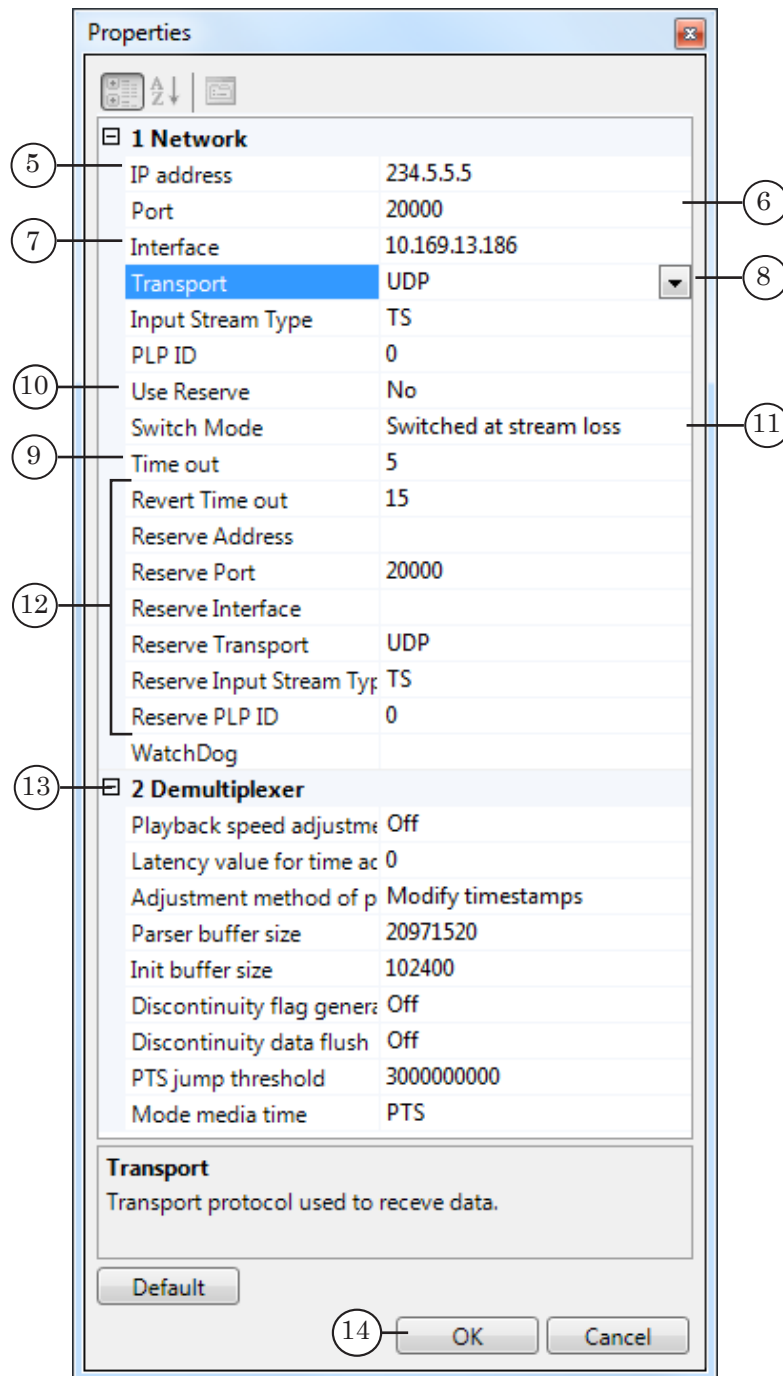


When working with UDP:

1. If using multicast method, set the IP address of the multicast group in the IP address (5) field. In our example this is set as 234.5.5.5.

If using unicast method, set the address (IP or DNS name) of the receiving node.

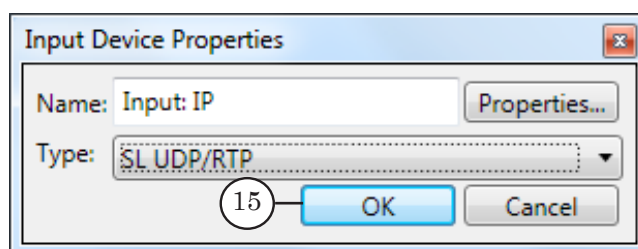
2. In the Port (6) field set the number of the port that will be used to receive data.



3. Select the IP address of the interface which will be used to receive streaming data in the Interface (7) drop-down list.



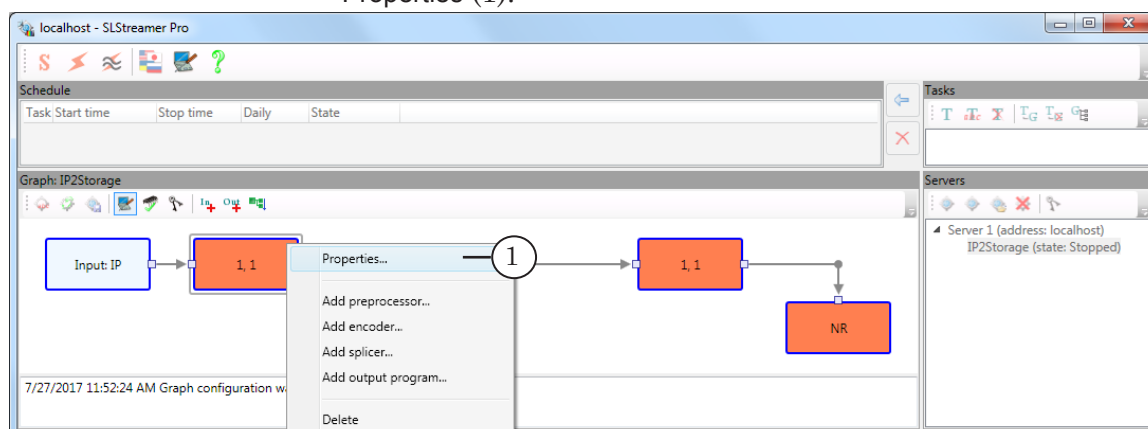
4. Select the necessary protocol for transmitting data (8). In our example UDP is chosen.
 5. In the Time out (9) field set a time limit (in seconds) for waiting in the case of the absence of an input stream. By default this is 5 sec.
- If the input stream disappears, then after the time set has elapsed there will be reconnection attempt (the graph will be stopped and restarted) or, if the reserve mode is turned on, then the graph will switch to a reserve stream.
6. If necessary, turn on reserve mode by choosing Yes (11) in the Use Reserve (10) list. Set the method of switching to the reserve stream (11) and set up the reserve stream parameters (12).
 7. In the Demultiplexer table (13), leave everything as is.
6. Close the settings window by pressing OK (14, 15) to save all changes.



3.2. Input program

The Input program node is second in the sequence order. The set up must be done when the IP stream is being received onto the network card and the Input Device node is set up.

1. Right-click the node to open the context menu and press Properties (1).

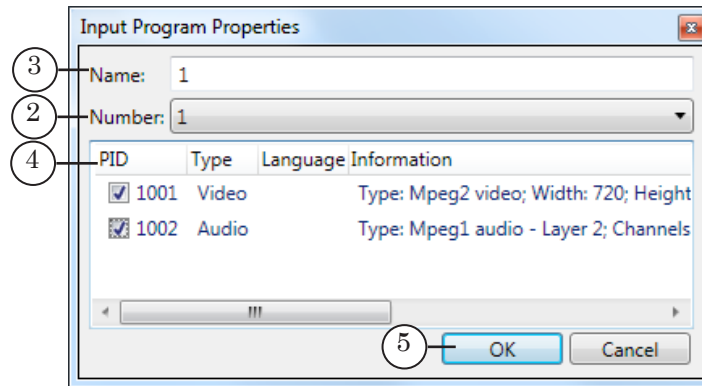


In the Input Program Properties window:

2. Select the necessary program from the stream using its number (2).



3. Set a convenient name (3) for the program.
4. Select the audio and video streams in the table (4) by flagging them. In our example the video stream has a PID=1001 and the audio stream has a PID=1002.

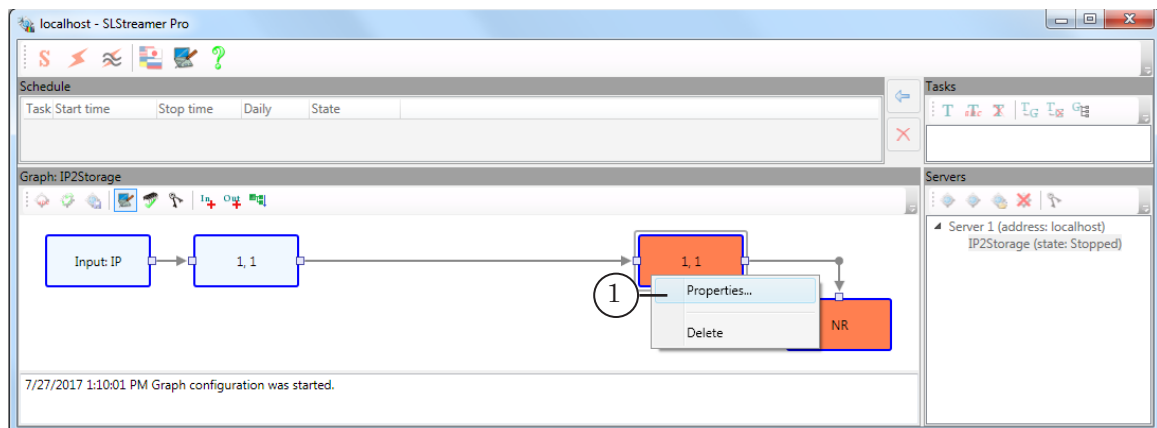


5. Press OK (5) to save all changes and close the settings window.

3.3. Output program

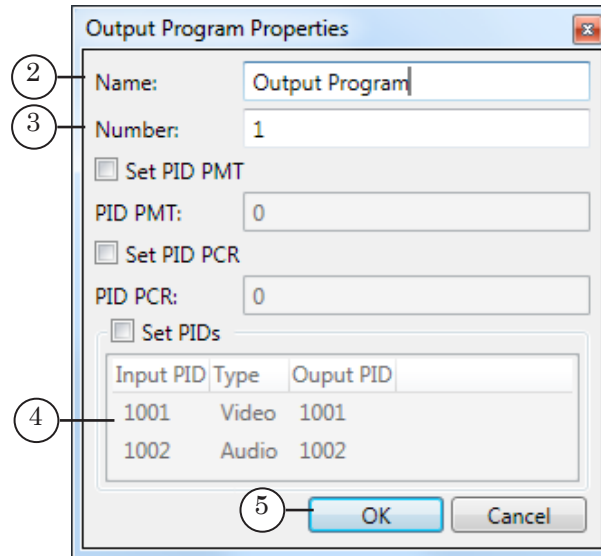
The Output Program node is third in the sequence order.

1. Right-click the node to open the context menu and press Properties (1).



In the Output Program Properties window set the program parameters:

2. Name (2).
3. Number (3). The number will serve as the output program's identifier.

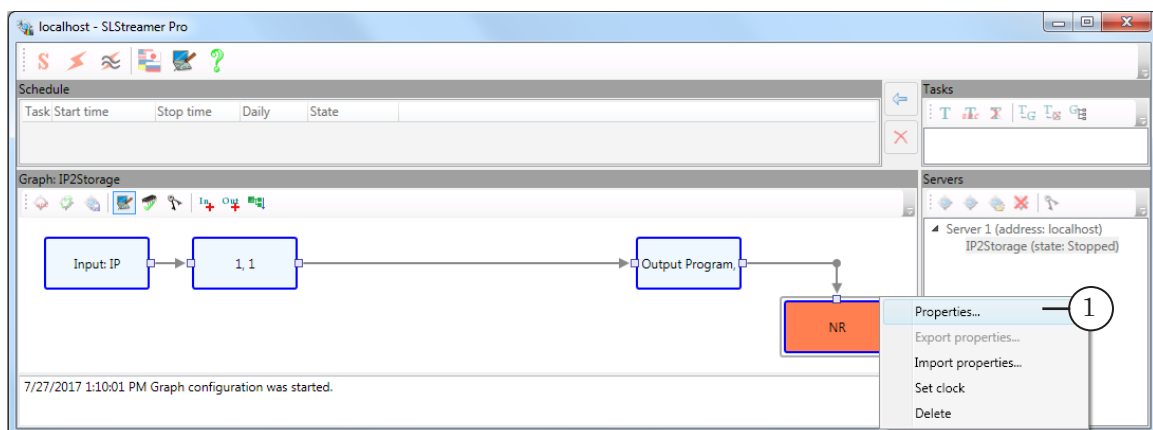


4. The audio and video packets identifiers are set automatically (4) in our example because the Set PID options are not flagged.
5. Press OK (5) to save all changes and close the settings window.

3.4. Output Device

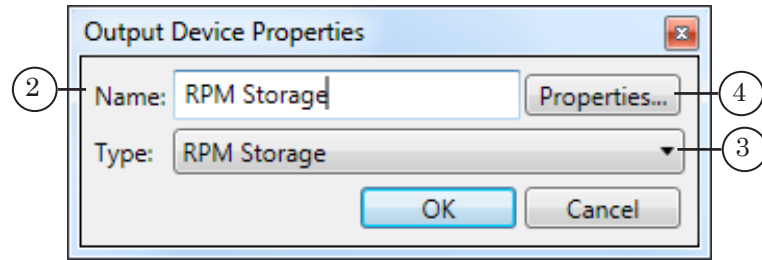
The Output Device node is fourth one in the sequence order. In our case we need to set the Output Device as RPM Storage – a PostPlay storage.

1. Right-click the node to open the context menu and press Properties (1).

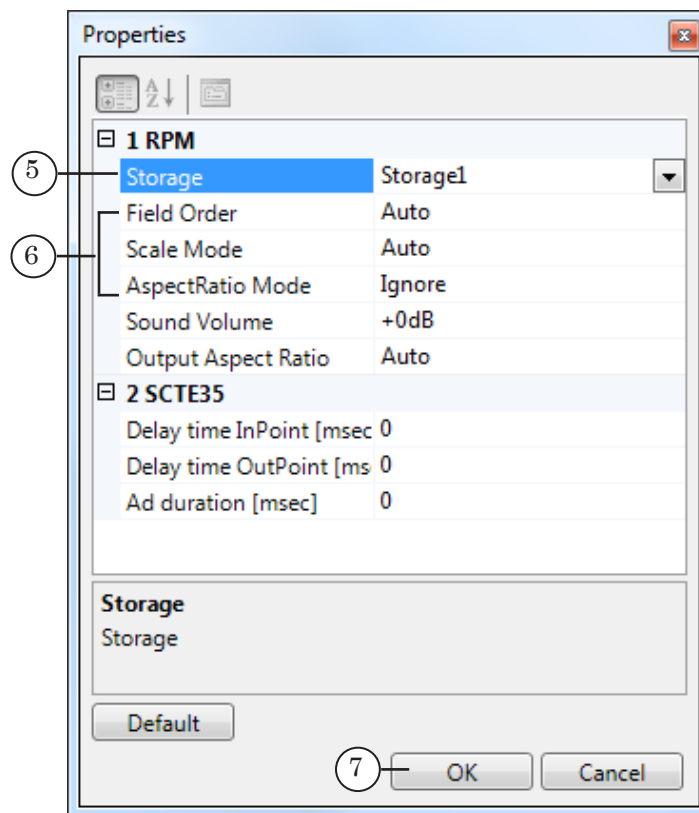


In the Output Device Properties window:

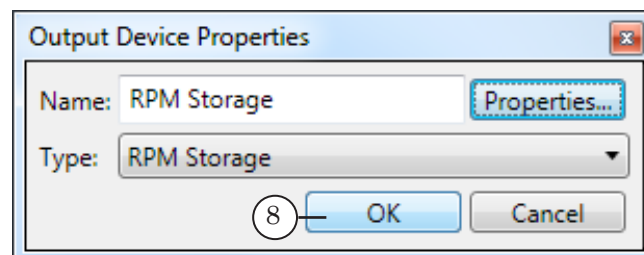
2. Set the node name (2).
3. Choose the RPM Storage item in the Type drop-down list (3).
4. Press Properties (4).



5. In the Properties window set the parameters:
 1. In the Storage drop-down list (5) choose the storage for storing audio and video data created in the PostPlayStorageConfig program window. In our example we chose the previously created Storage1.
 2. The rest of the parameters (6) can be left as is.



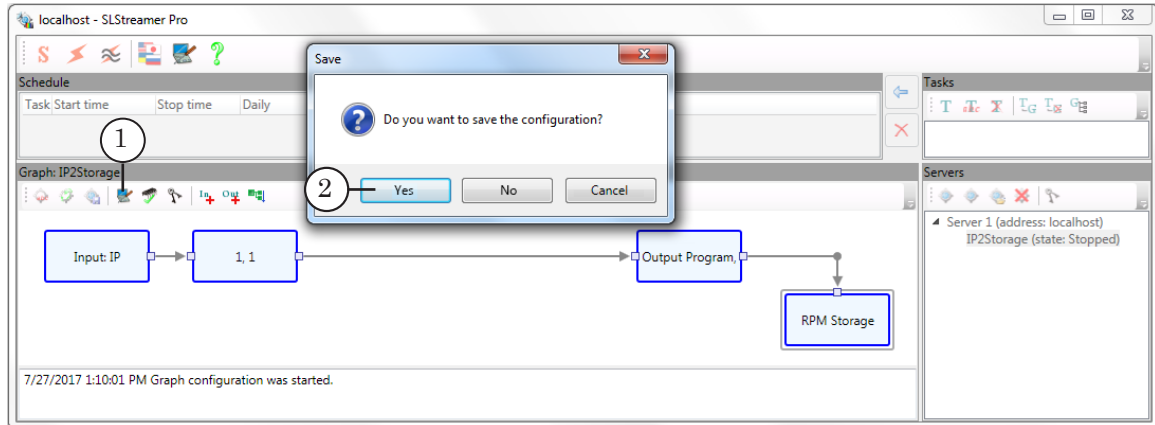
6. Close the settings window by pressing OK (7, 8) to save all changes.



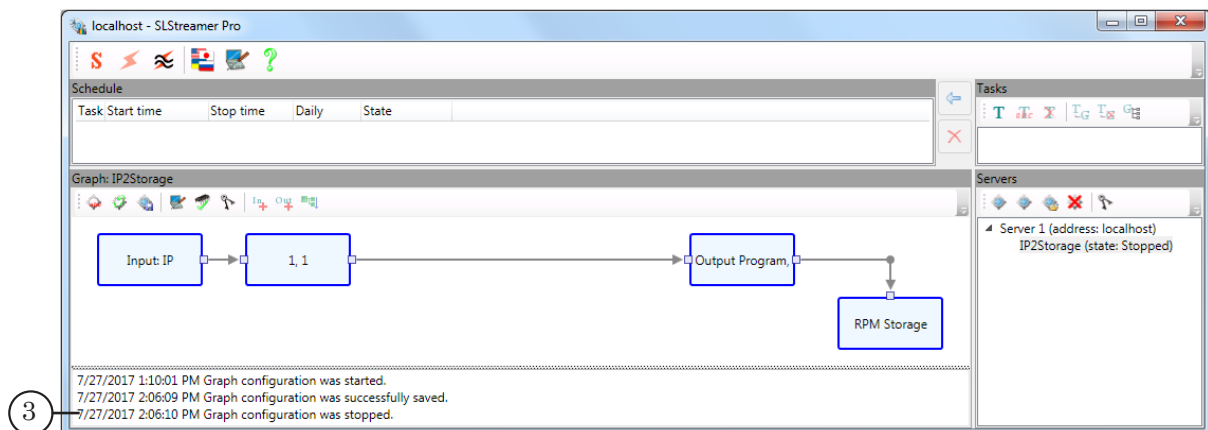


4. Finish graph set up

1. To finish creating the graph and exit the Settings mode, press Finish graph configuration (1).
2. In the opened window, confirm changes (2).



3. The graph set up is completed. The protocol area will display a corresponding message (3).



5. Task. Creating and managing

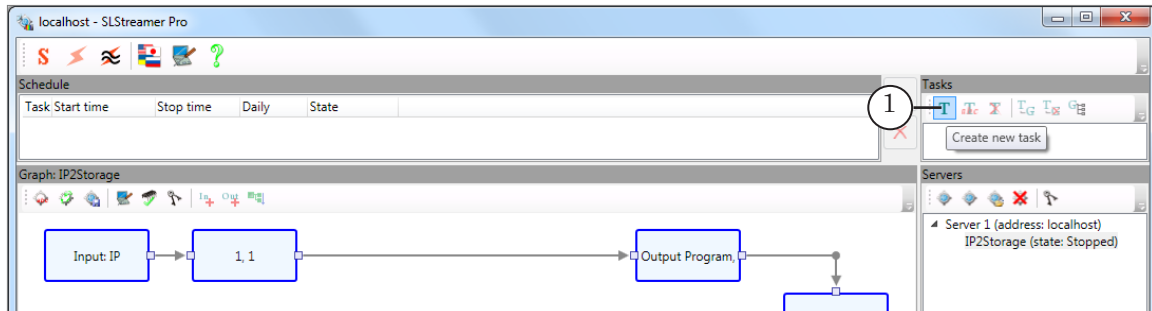
To start the IP2Storage graph created in the previous section, complete the following:

1. Create a new task.
2. Add the graph to the task.
3. Add the task to the schedule and start the schedule.

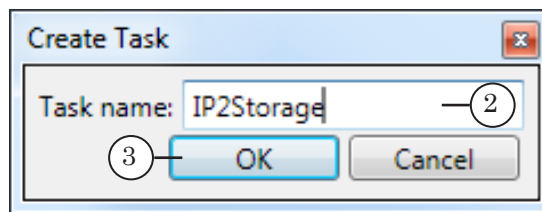
5.1. Creating a task

To create a new, blank task, complete the following:

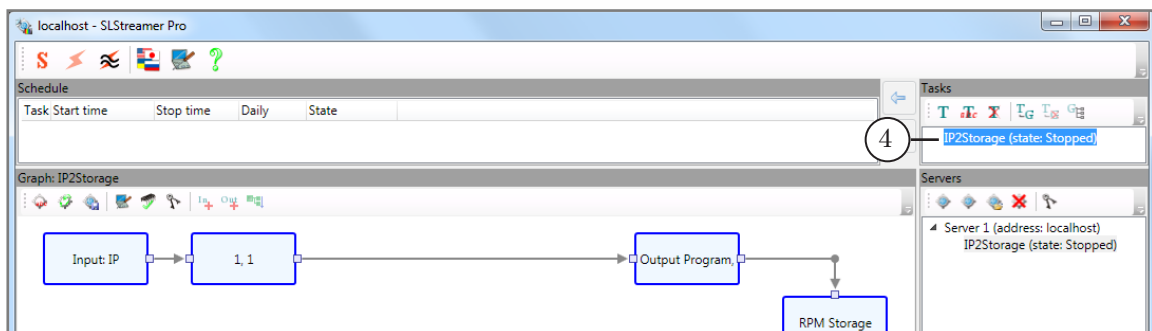
1. In the Task window press Create new task (1).



2. In the opened window name the new task (2). The name must be unique. Press OK (3).



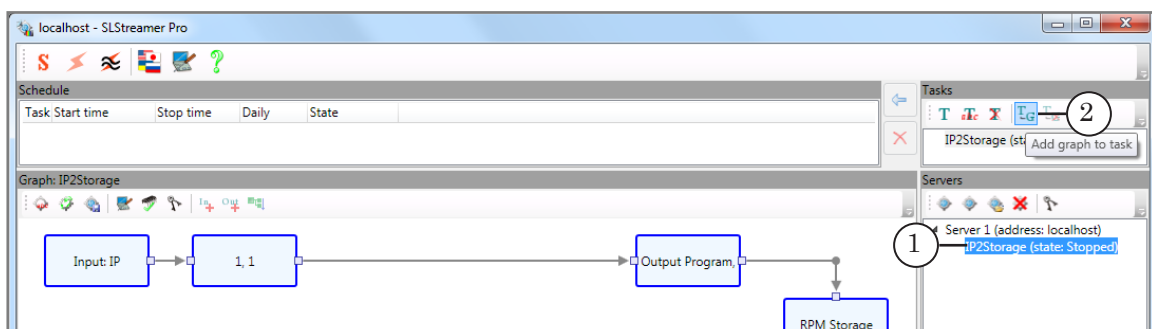
3. The new task will be added to the list (4).



5.2. Adding the graph to the task

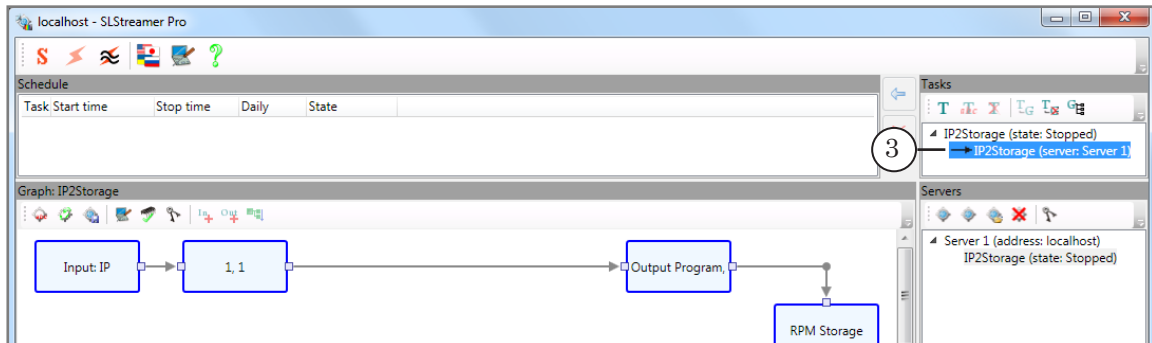
To add the graph to the task, complete the following:

1. In the Servers window, in the graph list left-click the necessary graph, in our case IP2Storage (1).
2. In the Tasks window press Add graph to task (2).





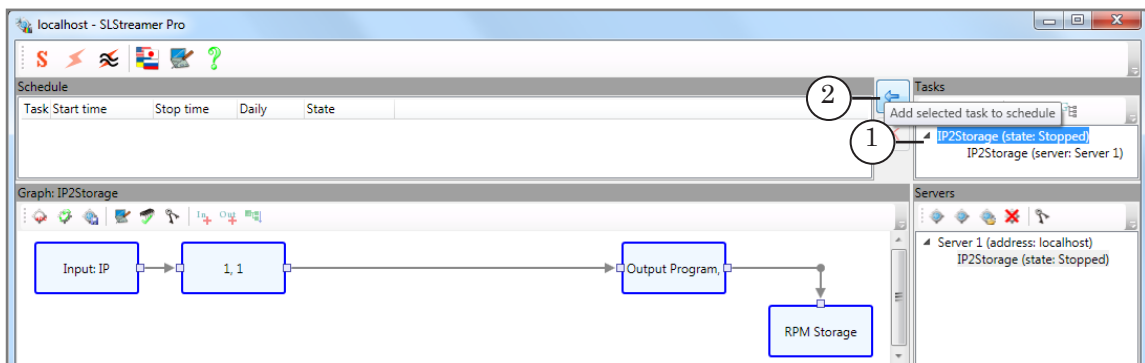
3. The name of the graph will be added to the list in the Tasks window (3).



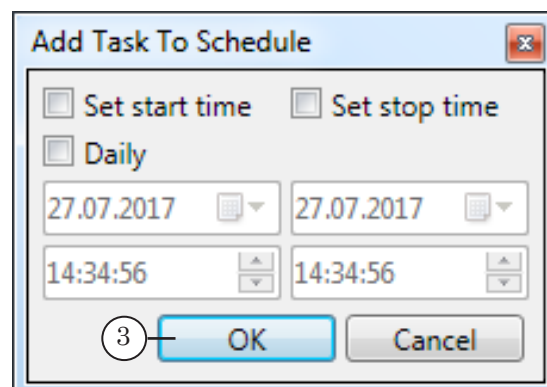
5.3. Adding the task to the schedule. Starting task

In order to add the task to the schedule, complete the following:

1. Choose the task in the task list (1).
2. Press Add selected task to schedule (2).



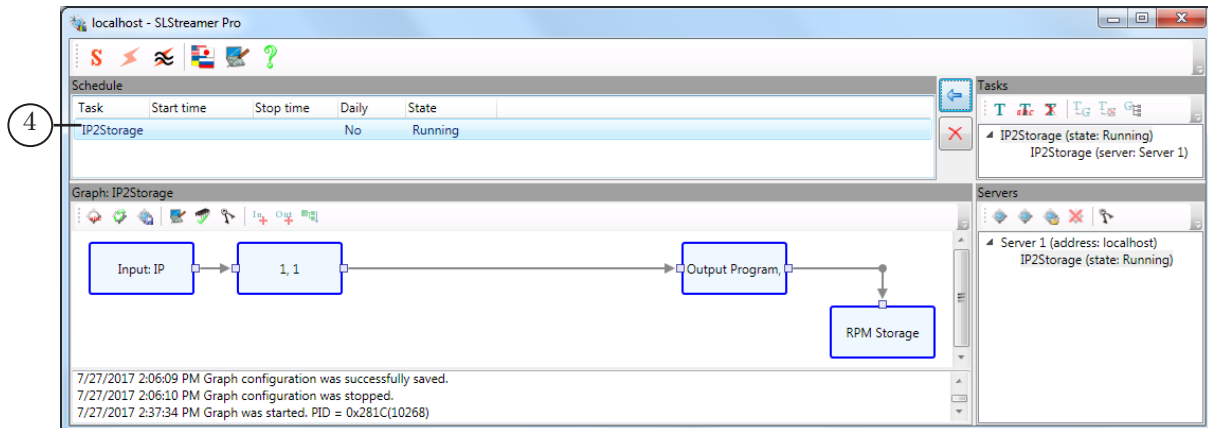
3. In the opened window, if necessary, set the date and time of the task start/stop. If no date/time is set the task will be started as soon as it is added to the schedule and will not stop unless manually removed from the schedule.



4. Press OK (3) to add the task to the schedule and close the window.



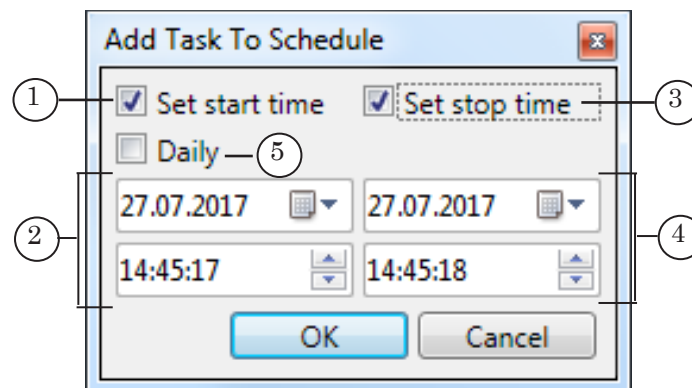
5. The task is added to the schedule (4) and is being executed.



Important: Please note that filling the storage is done "cyclically" i.e. during the time interval equal to the specified storage capacity (duration) the data is recorded sequentially. If the amount of recorded data is more than the capacity of the storage, then the "oldest" data will be erased to make room for new data.

Note: If the IP stream needs to be recorded only at certain hours, then in the Add Task To Schedule window set the date and time of start/stop of the task:

1. To set a start time, flag the **Set start time** (1) option. The fields below (2) will become active. Use them to set the necessary date and time.
2. To set a stop time, flag the **Set stop time** (3) option. The fields below (4) will become active. Use them to set the necessary date and time.
3. In order to start of the task periodically every day, flag the **Daily** (5) option.



The start and stop of the graph will be automatic according to its settings and the current status of the task that is a part of. Exiting from the SLStreamer Pro program does not affect the graphs current status.



Useful links

Description of products, software download, documentation, ready solutions for ForwardT products

<http://www.softlab.tv/forward/index.html>

Technical Support

e-mail: forward@softlab.tv

forward@sl.iae.nsk.su

forward@softlab-nsk.com

Forums

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

Recommended documents:

1. [ForwardT Software setup. User`s guide](#)
2. [ForwardTS Software Setup. Installation & Setup Procedures. User`s guide](#)
3. [Plugins Setup. User`s guide](#)
4. [FDPostPlay. Retransmitted signal delay server. User`s guide](#)
5. [SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes. User`s guide](#)
6. [FDTimeShift. TV Broadcast Time Shifting. User`s guide](#)
7. [FDOnAir Application. FDTimeShift Video Line. Rebroadcasting with a Time Shift via FDOnAir. User`s guide](#)

Translation from
August 15, 2017

© SoftLab-NSK Co., Ltd.
