

SLStreamCapture



Program for Audio and Video Data
Capture to Files in Windows Media
(WMV) Format

*Revision as of
April 14, 2010*

Quick Start

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Introduction

The SLStreamCapture program is designed for stream audio and video data capture and record to files in Windows Media (WMV) format from the FD300 board input or output.

The program can be used for broadcast archiving. Resulting files are of not big size and can be played on any computer with Windows Media Player.

Recording is made automatically according to the user-made schedule.

The program gives the possibility of audio and video data compression parameters configuring. It also permits to select an optimal mode of PC resources usage during the recording and required archived files parameters – video materials size and quality.

The SLStreamCapture2 program, analogous to SLStreamCapture, is designed for capture and record in the WMV data from input and output of the FD300 board.

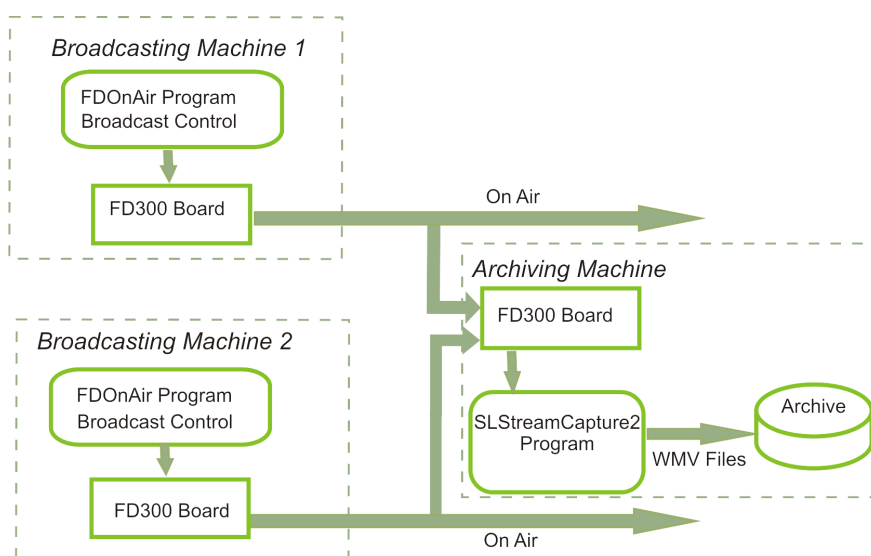


Examples of Solutions with the SLStreamCapture Program

Two ways of archiving solutions using the SLStreamCapture or SLStreamCapture2 program are shown on pictures below:

1. Archiving is implemented on a separate PC.
2. Archiving is implemented on a broadcasting PC.

Solution 1a



In the first case 2 PCs are involved – for broadcasting (1) and for archiving.

The FD300 board and the SLStreamCapture program (2) are installed for audio and video data capturing on the archiving PC. The SLStreamCapture program is configured for data capturing from the board input. When configuration of archiving is implemented the input device is marked Board # Line A or Board #: Line B, where # is the board number is selected.

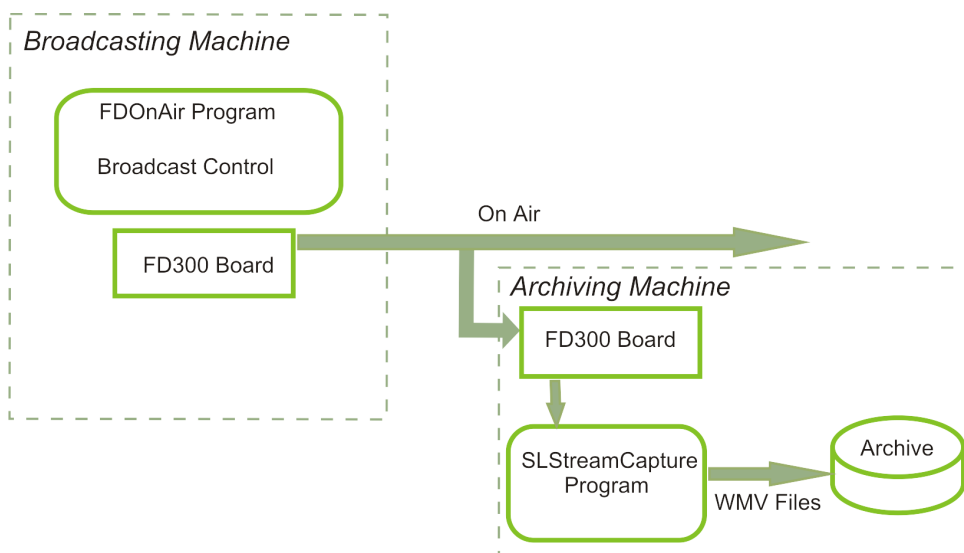


The SLStreamCapture2 program gives the possibility of implementing capture and record of 2 video and audio data streams simultaneously.

In this case there is a solution for of 2 channels archiving as it is shown on the picture below.

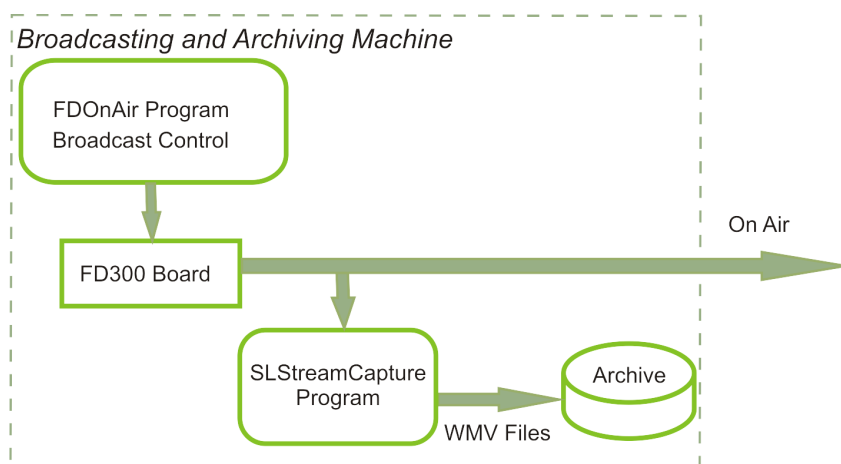
The SLStreamCapture2 program is configured for data capturing from the FD300 board input – Line A and Line B.

Solution 1b



In the second solution one PC and one FD300 board are used for broadcasting and archiving.

Solution 2



The SLStreamCapture program is configured for being broadcasted on air data archiving from the FD300 board output. When configuration of archiving is implemented the input device marked as Board # Line A or Board #: Line B, where # is the board number is selected.



Use Requirements

1. Information on Installation

The SLStreamCapture program is included in the ForwardTx Plugins Software. Complete the following steps to use the program:

1. Install the ForwardT Software package of the current version with available updates.
2. Install the IPOutOption software which is installed in addition to obtained product of the ForwardT product line.
3. Install the ForwardTx Plugins Software of the current version with available updates.
4. Register the SLStreamCapture plugin for the corresponded board.

Note: For detailed information on mentioned above components installation, see User's Guides:

1. «ForwardT Software Setup».
2. «IPOut, ASIOut: Digital Streaming Options for ForwardT Products».
3. «Plugins Setup».

Software components can be downloaded at

<http://www.softlab-nsk.com/forward/download.html>

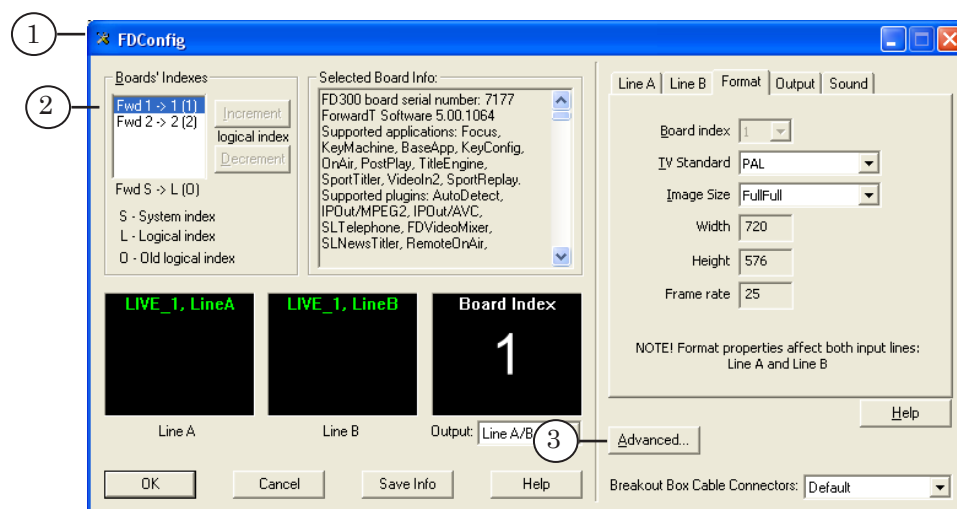


2. DirectShow filters Registration

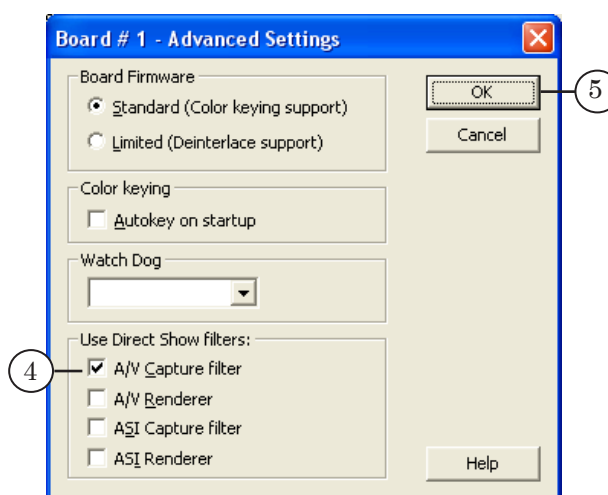
Register the DirectShow filter (AV Capture filter) for video and audio capturing from the FD300 board input or output.

Complete the following steps to register the DirectShow filter:

1. Launch the FDConfiguration (1) application via either the shortcut or the Start menu command: Programs > ForwardT Software > Board Setup > FD300 Configuration.
2. Select the board for which the DirectShow filter is registered in the Boards' Indexes list (2).
3. Click Advanced... (3).



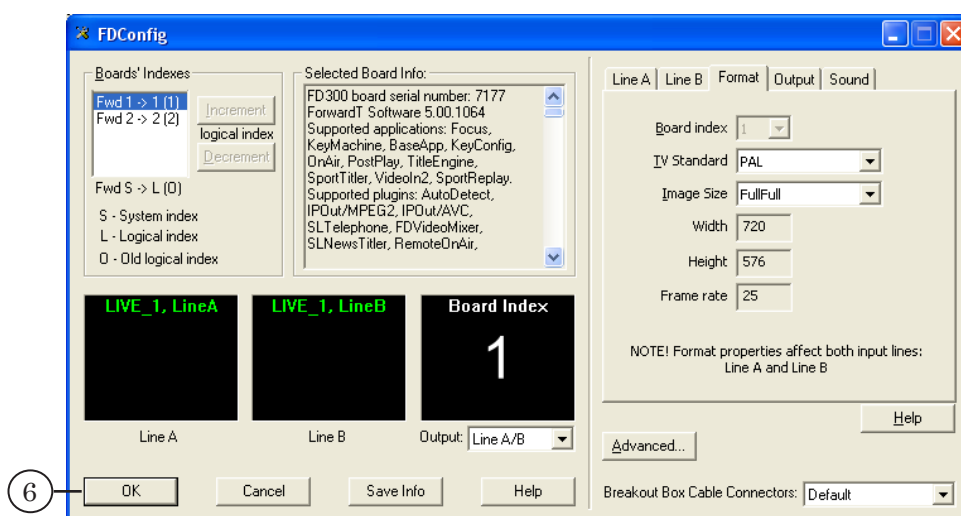
4. Select the A/V Capture filter check box (4) in the appeared window in the Use Direct Show filters elements group.



5. Click OK (5) to close settings window.



- Click OK (6) in the main window to save settings and to quit the FDConfiguration application.



- Reboot PC to apply all settings.

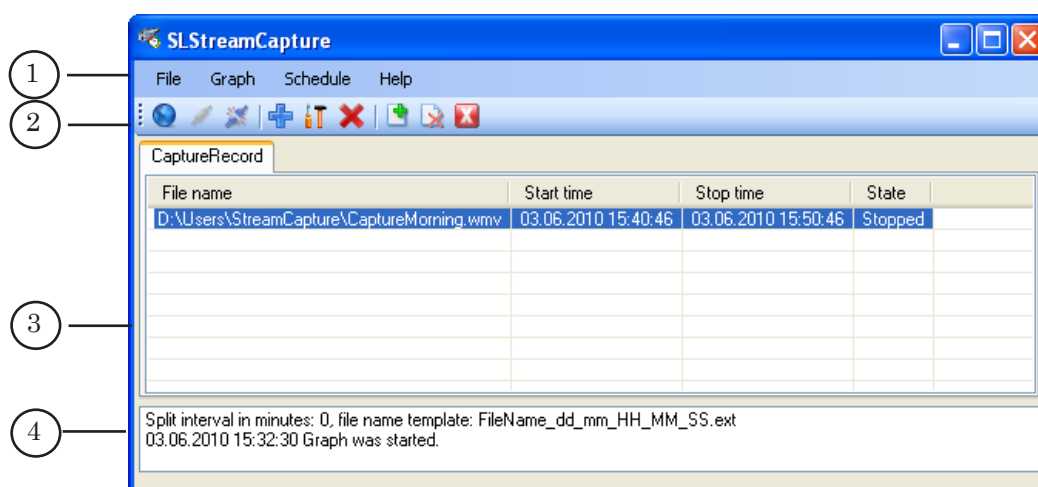


Program Launch

The program is launched when the ~\IPOutOption\LocalClient\SLStreamCapture.exe file is started, ~ denotes a full path to the folder where the ForwardT Software is installed.

The program can be launched via the Start menu command: Programs > ForwardT Software > Plugins > SLStreamCapture.

The main program window will appear at launching. Record configuring in files and its execution control are made in this window.



Main window.

1 – main program menu; 2 – toolbar; 3 – schedule area; 4 – information field.

✓ **Important:** Files are recorded according to the made schedule. Recording does not depend on if the program is launched or not.



Work with the Program

1. General Workflow

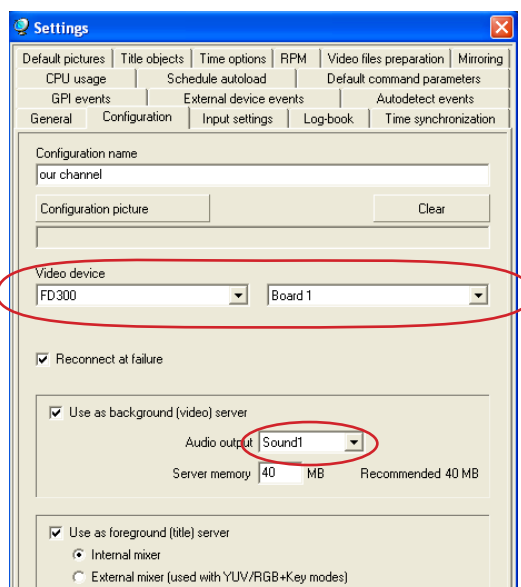
Configuring and archiving may include several steps:

1. Archiving configuring:
 1. Launch the SLStreamCapture program.
 2. Create and configure the graph (read note).
 3. Set file names template.
 4. Make the record schedule by adding the tasks.

Note: In the SLStreamCapture program «graph» denotes a scheme of data receiving, processing and transmitting. Graph is identified by the name which is a unique and user-made text (for more information, see «SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring and Managung Digital Broadcasting Schemes User's Guide»).

2. Broadcasting and archive recording launch. Recording execution control.
3. Archive viewing. Use any available program for files of WMV format viewing e.g. Windows Media Player.

Next chapters contain detailed information on a workflow of setting data broadcasted on air recording via the FDonAir program using the concrete example. The FD300 board with the index 1 is used for broadcasting. Sound1 indicates sound output (picture below). Archiving will be implemented on broadcasting PC.





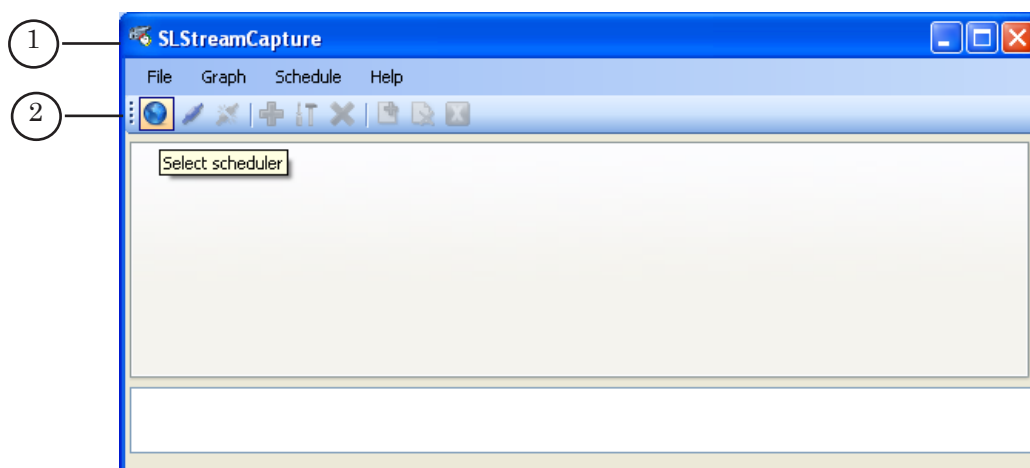
2. SLStreamCapture Launch

1. Launch the SLStreamCapture program (1) by opening the ~\IPOption\LocalClient\SLStreamCapture.exe file where ~ is a full path to the folder where the ForwardT Software is installed.

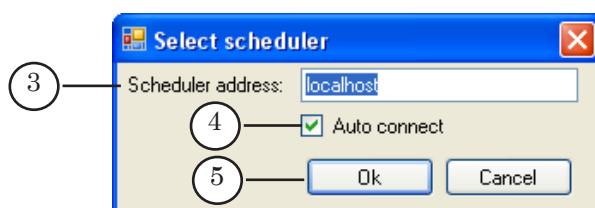
At the beginning it is necessary to connect to a Scheduler intended for schemes of receiving, processing, transmitting audio and video data control and their description storing (for more information, see “SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes. User’s Guide”).

Complete the following steps to connect to the Scheduler:

2. Click Select scheduler (2) on the toolbar.



3. Specify IP address (or DNS name) (3) of the PC in the appeared window where required Scheduler is launched, localhost in our example.



Tip: Set Auto connect (4) to connect to the Scheduler on the specified node automatically (both during the current session and next program launch).

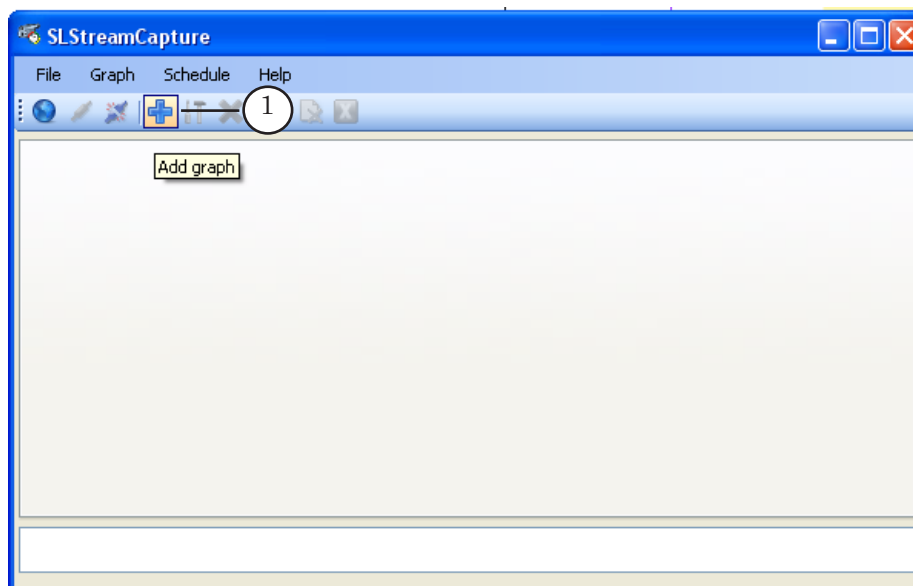
4. Click Ok (5).



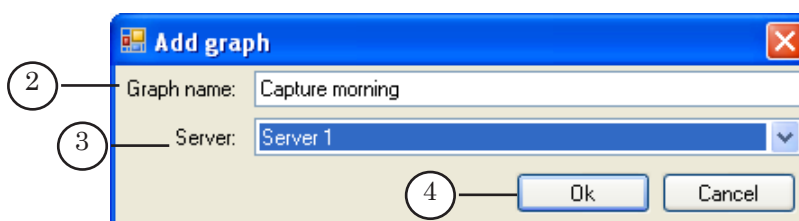
3. Graph Creating and Configuring

Complete the following steps to create a new graph:

1. Click Add graph (1) in the main program window.



2. Specify a graph name in the appeared window (2).
3. Select a server name in the Server (3) drop-down list. In our case the server set by default is used – Server 1 (for more information, see «SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes. User's Guide»).



4. Click Ok (4) to apply all settings and to pass to the next step. Devices configuration window will appear.



Configure graph nodes in the Devices configuration window by selecting and setting input, output devices and processing program.

Nodes parameters values are set according to the concrete case. Do not vary parameter values set by default if you are not sure in choice of its values.

3.1. Input Device

Select the input device and configure its parameters:

1. Select the required device in the Input device (1) drop-down list. Description of input devices types is given in detail in the table below. In our example the input device is Board 1: Output which is used for data capturing from the FD300 board output with logic number 1.

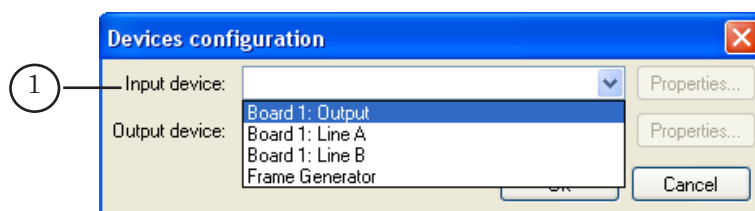
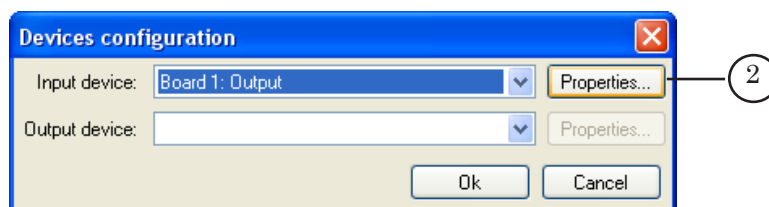


Table 1. Input Devices Types

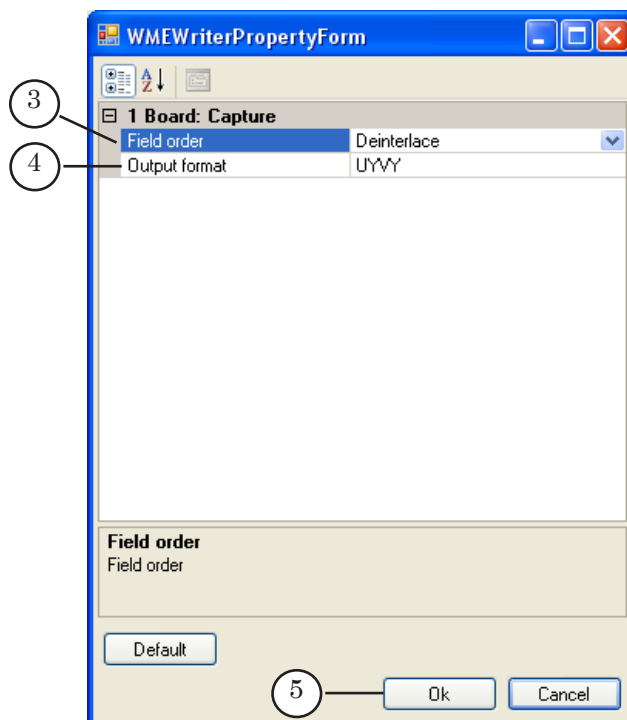
Indication	Description
Board #: Line A (# denotes board number)	FD300 board with the specified logic index. Board input. Line A.
Board #: Line B	Fd300 board with the specified logic index. Board input. Line B.
Board #: Output	Fd300 board with the specified logic index. Board output.
Frame Generator	Program module. Frame generator from the ForwardTS package (is not applied for air archiving tasks).

2. Click Properties... (2).





3. Specify parameters values in the appeared window. In our example the following parameters values are specified:
 - Field order (3) – Deinterlace. It denotes a deinterlaced mode when half-frames are united in order to obtain a progressive frame.
 - Output format (4). The output format specified by default is used in our example.

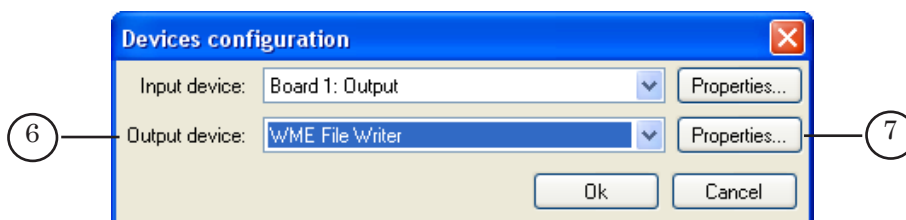


4. Click Ok (5) to apply all settings.

3.2. Output device

Select the output device and configure its parameters.

5. Select the WME File Writer device in the Output device (6) drop-down list.
6. Click Properties... (7).



7. Specify parameters values in the appeared window. In our example the following parameters values are specified:
 1. Use fileds (8) – Both. It denotes a mode of two half-frames (full frame) capturing.
 2. Frame width and height (9) – 360 x 288.

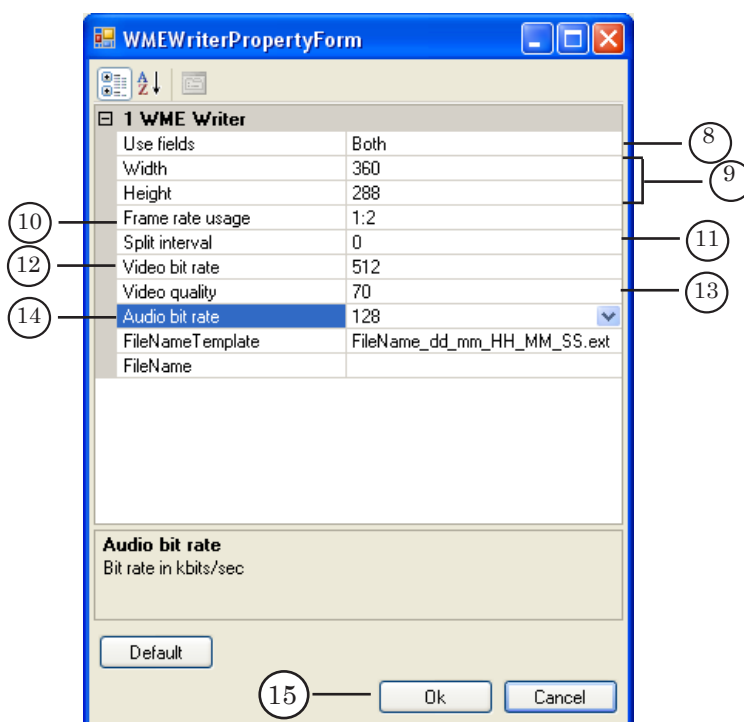


3. Frame rate usage (10) – 1:2. It means that every second frame will be captured.
4. Split interval (11) – maximum available duration of one file in minutes. Quantity of files that will be created during capturing depends on this interval. If 0 index is set capturing will result in one file.
5. Video bit rate (12) – 512 Kb/sec.
6. Video quality (13) – 70. This value is specified in percents. Available value range is 0–100%. The higher is the value the better is the quality of the output image.



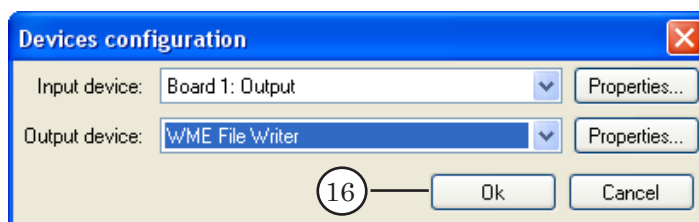
Tip: Remember that a high value of the Quality parameter influences on processor functioning capacity. That is why specify this parameter according to the concrete case (broadcasting computer properties).

7. Audio bit rate (14) – 128 Kb/sec.



✓ **Important:** Specified values influence on archive size and processor load.

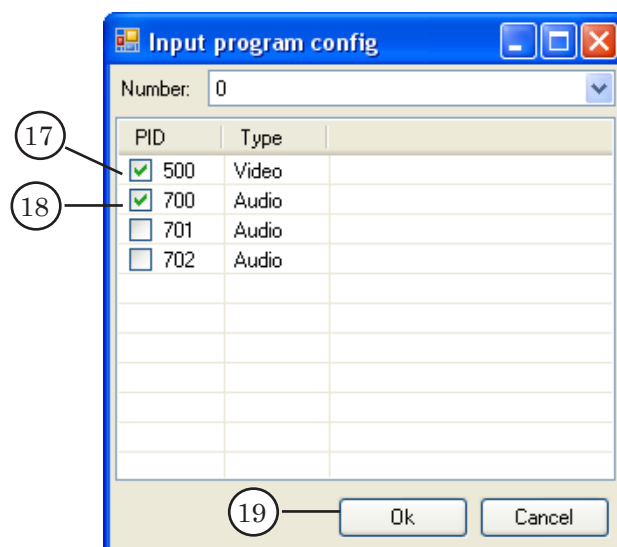
8. Click Ok (15) to apply all settings.
9. Click Ok (16) in the Devices configuration window to apply all settings and pass to the next step.



3.3. Program

10. Select audio and video streams for file recording in the appeared Input program config window by selecting appropriate check boxes. In our example the following check boxes are selected: video stream with PID=500 (17) and audio stream PID=700 (18).

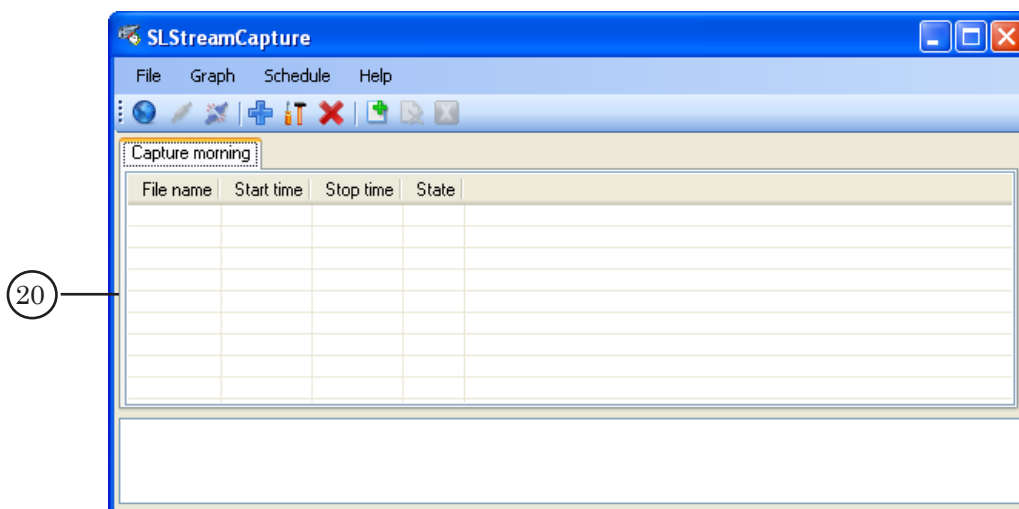
Note: The table below contains PID of 3 audio streams that may be received from the FD300 board output. The choice of the stream depends on the selected sound output in the FDO nAir program. The following values are valid: Sound1 – 700, Sound2 – 701, Sound3 – 702.



11. Click Ok (19).



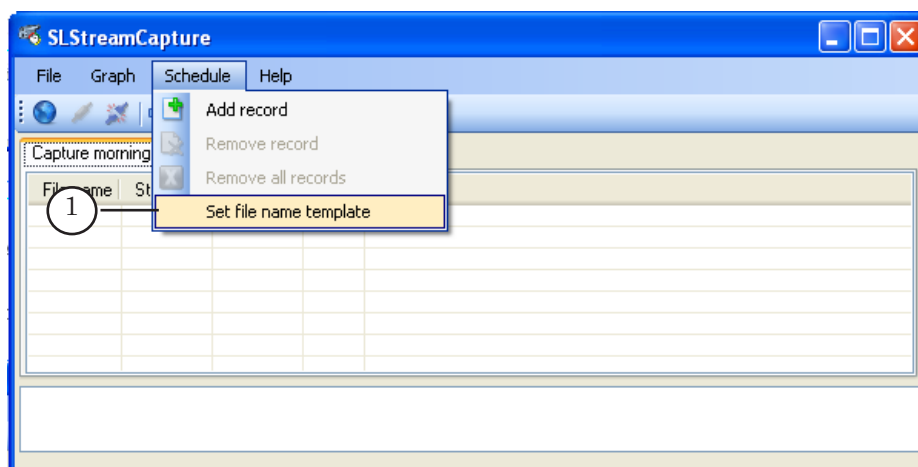
12. A table for schedule configuring (20) will appear in the main program window when new graph is created.



4. File Names Template Configuring

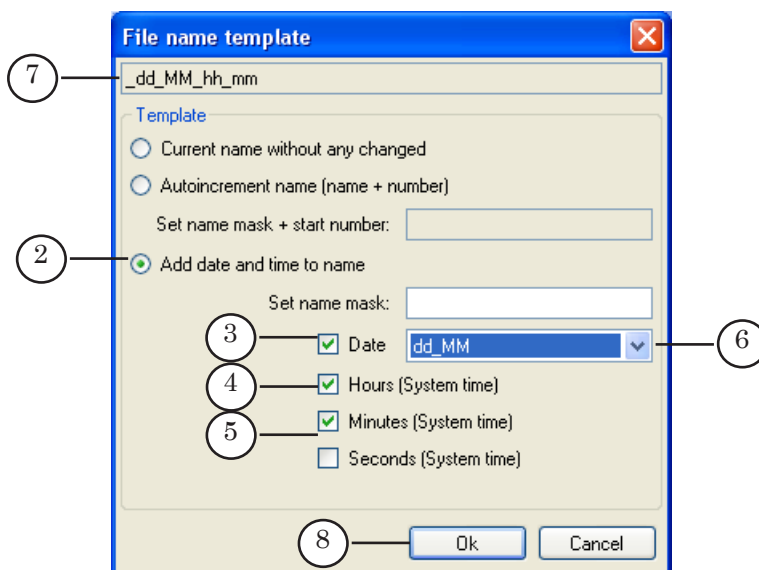
Complete the following steps to configure files names template:

1. Select Schedule > Set file name template (1) in the main menu.





Set a file name template in the appeared window.



2. Select name template type by clicking a necessary radio button (2). In our example the information on file creation time and date are present at the file name.
3. Select date and time format. To do so:
 1. Select check boxes for the information which should be displayed in the files names:
 - Date (3) – file creation date;
 - Hours (4) – file creation time;
 - Minutes (5) – file creation minutes.
 2. Select a date displaying format in the drop-down list (6) e.g. dd_MM if the Date check box is selected.
4. Configured file name template are displayed in the text filed (7), in our example dd_MM_hh_mm is configured, where:
 - dd – 2 indices denoting file creation day;
 - MM – 2 indices denoting file creation month;
 - hh_mm – 4 indices denoting file creation time with hours and minutes.
5. Click Ok (8) to apply all settings.

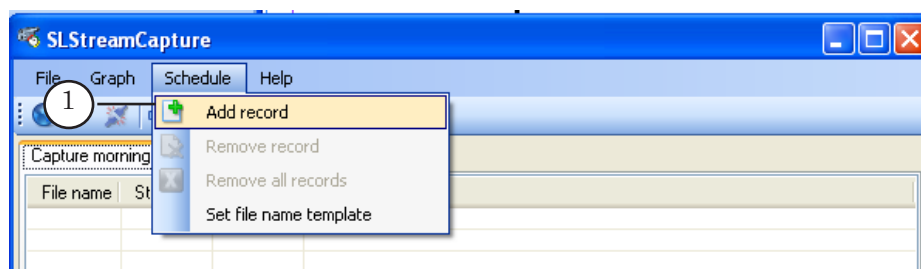
5. Creation of a Schedule for Record in File

The schedule for data record in file (files) is made of separate tasks. A folder for files record, its start and finish time are set via task.



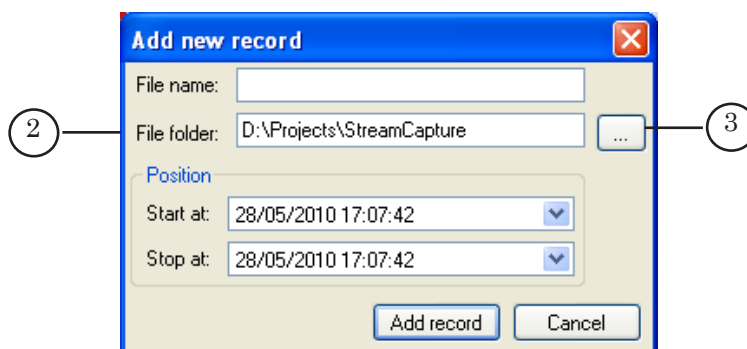
Complete the following steps to add a task in the schedule:

1. Select Schedule > Add record (1) in the main menu.



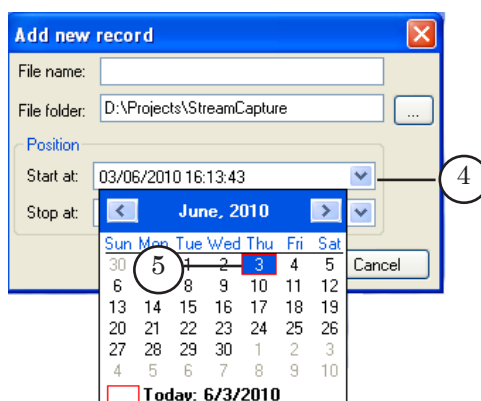
Configure task parameters in the appeared window:

2. Select a folder for file record (2) in a standard dialog. Click ... (3) to open this dialog window.



3. Set the date and time for the task start in the Start at field. To do so:

1. Click the drop-down button (4) for a date time picker to appear.
2. Select necessary month and date (5) in the calendar.

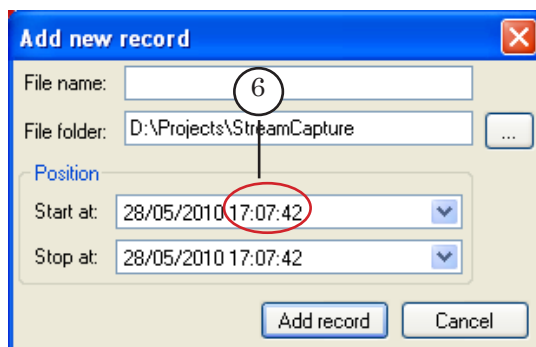




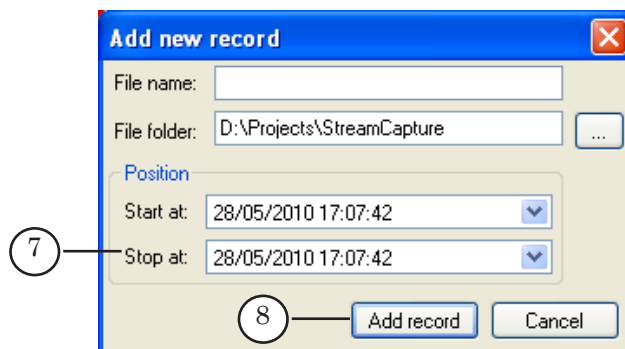
To add time:

1. Set time (6). Set the value several minutes less than probable start.

Note: It is required to make a reserve because the SLStreamCapture program requires several seconds for connecting and data capturing launch.

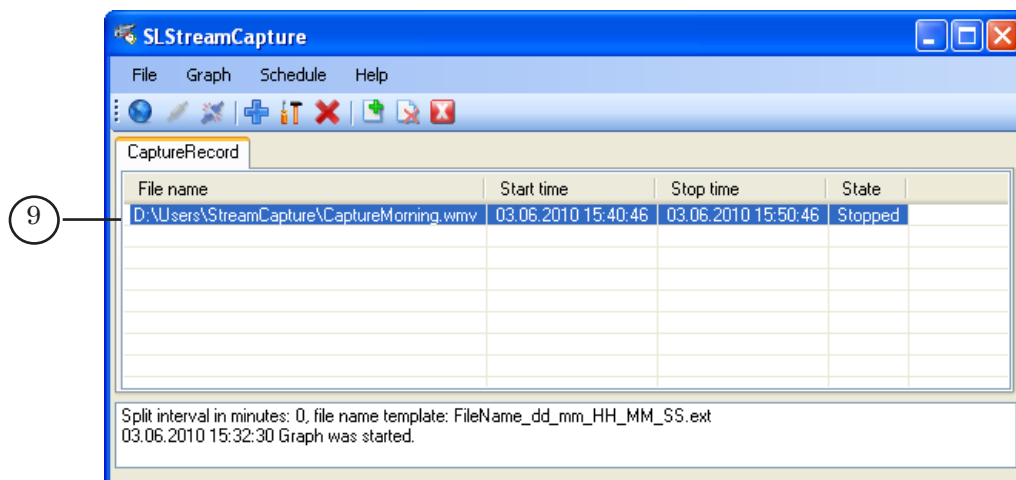


4. Set the date and time of capture finishing in the Stop at (7) filed.



5. Click Add record (8) to add the task in the schedule and complete configuring.

6. The task is added in the schedule (9).



Add necessary tasks for recording repeating steps 1–5.

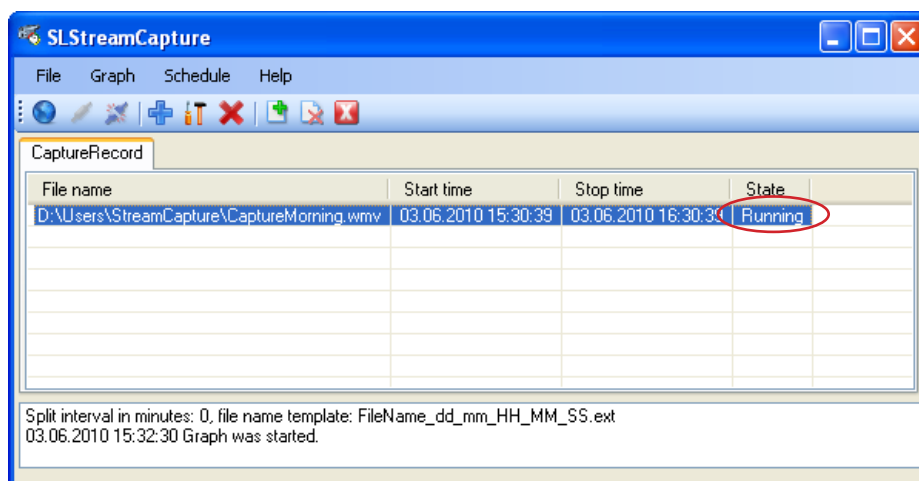


6. Data Record in File

Data record to file (files) starts and finishes automatically according to the schedule. It does not depend on either the SLStreamCapture program is launched or not.

In the State column information on the current task state is displayed. Possible states are:

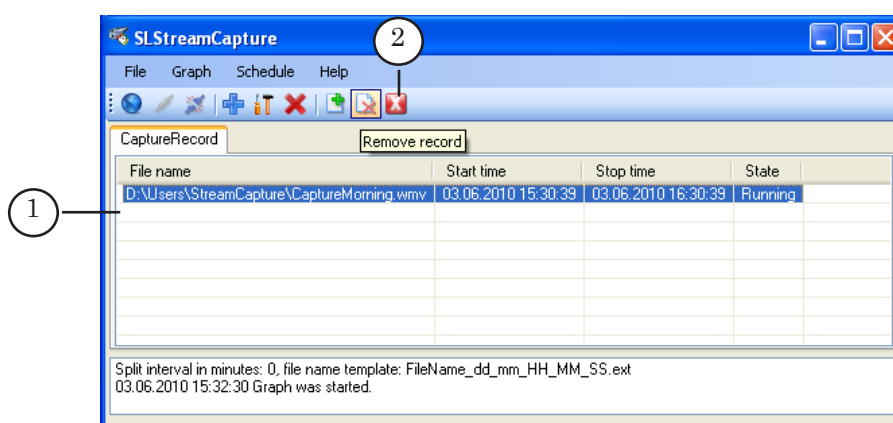
- Running – data record is running;
- Stopped – data record is stopped.



Data record can be stopped manually at any time. To do so delete the corresponded task from the schedule.

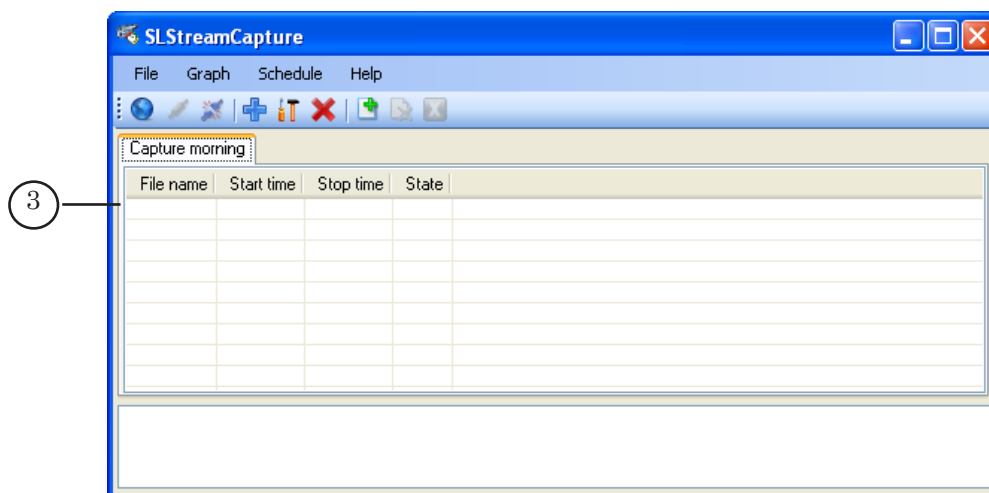
Complete the following steps to interrupt data record in the file:

1. Click currently recording task (1) in the list if several tasks are created.
2. Click Remove record (2) on the toolbar.





- The task will be deleted from the schedule and the record will be stopped (3).



7. Record Data Viewing

Use any available program for WMV files viewing e.g. Windows Media Player as it is shown on the picture below.



- ✓ **Important:** Data viewing provokes additional load on hard disc and PC processor. That is why it is not recommended to view data on the same PC where broadcasting and archiving are implemented.



Useful Links

ForwardT Software set: description, download, documentation, solutions

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

Support

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

forward@softlab-nsk.com

Forum

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

Documentation containing additional information:

[ForwardT Software Setup;](#)

[Plugins Setup;](#)

[IPOut, ASIOut. Digital Streaming Options for ForwardT Products;](#)

[SLStreamer Lite, SLStreamer Pro. Programs for Configuring, Monitoring & Managing Digital Broadcasting Schemes.](#)

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