

# SLAutoMPEGIndexer



Program for MPEG files Indexing in  
Automatic Mode

*Revision as of  
August 10, 2009*

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.

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## Introduction

The FDO nAir program supports playback of MPEG files. For this each MPEG file should be indexed, i.e. have an index file.

**Note:** MPEG files are files that contain video and audio in MPEG-2 format. The names of such files could have mpg, mpeg or m2v extension.

The SLAutoMPEGIndexer program is intended to manage MPEG files indexing automatically. The program is included into the ForwardT Software set.

**Note:** Also, ForwardT Software includes the FDMPEGIndexer program intended to manage indexing manually, i.e. to launch index creation on user command. For more information see the "FDO nAir. Broadcast Automation" User's Guide, the "MPEG Files Playback" section.



## Index files, Indexing

Index file (index) is a file containing service information necessary for playback of video from MPEG file in the FDO nAir program, in particular, for exact detecting of duration and positioning with a frame accuracy.

To index an MPEG file means to create an index file for it.

Index file must be located in the same folder as corresponding video file.

Index files have names as follows:

Video file name.slm

where:

- Video file name is a full name (including the extension) of video file for which the index is intended;
- slm is obligatory extension of the index file name.



**Example:** Let we have the reel\_1.mpg video file. Index file here is reel\_1.mpg.slm

At creating of the index file using SLAutoMPEGIndexer time and date of file creation are the same as time and date of MPEG file at the moment of indexing and are set automatically.

To examine details about the video file recorded into the index file, use the MPEG Index Reader utility. Open the following file to launch the utility:

~\MPEGIndexer\IndexReader.exe

where ~ denotes a full path to the folder where the ForwardT Software is installed.



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## General Information

### 1. Scope of Application

The SLAutoMPEGIndexer program is recommended to be used as utility program in addition to the FDO nAir program. The SLAutoMPEGIndexer program allows you to automate timely identification of MPEG files requiring indexing and creation of index files.

Normally, the program is working with the FDO nAir program simultaneously.

### 2. Operating Modes

The program has two possible operating modes: monitoring on and monitoring off.

If monitoring is on, the program performs the following actions automatically: permanent scanning of specified folders, identification of files needed to be indexed, and indexing launch if necessary.

The following actions are allowed in this mode:

- manual launch of indexing of all MPEG files in specified folder;
- configuration of operation parameters including editing of list of folders to be monitored.

When monitoring is off, the program does not perform any actions to search video files and create index files for them. In this mode it is allowed to set operation parameters.

User can turn monitoring on/off using buttons located in program's main window or commands of program icon context menu.

### 3. Program Operation Rules

When monitoring is on, the program continuously scans specified folders tracking files that require indexing. The program determines that the MPEG file needs to be indexed in the following cases:

- if there is no index file for this file;
- if MPEG file was updated from the moment of its last indexing – time of creation or size of the file were changed.

Files indexing in specified folder is launched automatically only when any changes in this folder, for example, adding of new files or modification of existing ones, are made.

The program can perform monitoring not only of local folders but of remote folders (located on network disks) as well.

User can specify maximum read data rate limit for each folder. It allows choosing the optimal variant that ensures correct functioning during simultaneous execution of disk operations by several programs.

#### 4. User Interface Modes

The program supports two user interaction modes:

- normal window – the main program window is opened. Customizing of folder monitoring, control over monitoring process and work progress information are displayed in the window;
- minimized window – program window is minimized to the icon in the taskbar notification area. Monitoring control commands are available in this mode. The operation is started using context menu of the program icon.

#### 5. Logging the Program Operation

Log file is a text file containing details of indexed MPEG files.

Files are logged in order of their indexing. Each log record contains the following information: full path to the file, its size, indexing start/end date and time and result of indexing. Extended information on video and audio data parameters stored in the file and detailed reporting on errors appeared during indexing can be logged as well.

User can turn logging on/off, specify log file name, location and content, as well as maximum number of log records.

Log file can be opened in any text editor, for example, in Notepad.

```
SLAutoMPEGIndexer.SLMLog - Notepad
File Edit Format View Help
File path: E:\Users\UserT\MPEG\10_10fr_ntsc_film.m2p
File size: 165005316 bytes
Start indexing time: 07/13/12 16:57:04
Finish indexing time: 07/13/12 16:59:42
Indexing result: OK
  video stream type: MPEG2 video
  Aspect Ratio: 4:3
  width/height: 720x480
  Frame rate: 29.97
  Duration (sec): 600.934267
  Upper field first: No
  Audio stream type: MPEG Audio, Layer 2
  Sample rate: 48000 Hz
  Channels: 2
  Duration (sec): 600.936
=====
File path: E:\Users\UserT\MPEG\10_10fr_ntsc_film.m2v
File size: 143867489 bytes
Start indexing time: 07/13/12 16:59:43
Finish indexing time: 07/13/12 17:01:59
Indexing result: OK
  video stream type: MPEG2 video
  Aspect Ratio: 4:3
  width/height: 720x480
  Frame rate: 29.97
  Duration (sec): 600.934267
  Upper field first: No
=====
File path: E:\Users\UserT\MPEG\funny_dance.mpeg
```



## Program Launch

The full path to the SLAutoMPEGIndexer program file is:

~\SLAutoMPEGIndexer\SLAutoMPEGIndexer.exe

where ~ denotes the full path to the folder, where the ForwardT Software is installed.

When launching, the main program window is opened and its icon is displayed in the taskbar notification area.



There is a possibility of launching different instances of the program, each of which works with its own set of folders to be indexed, for example, one for each instance of FDO nAir.

Use the following command line to launch the necessary program instance:

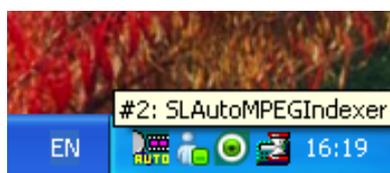
"The full path to the SLAutoMPEGIndexer.exe file" #N

where N denotes program instance number.



**Example:** If the software is installed into default folders, the command line for launching of the second instance of the program looks as follows:  
"C:\Program Files\ForwardT Software\SLAutoMPEGIndexer\SLAutoMPEGIndexer.exe" #2

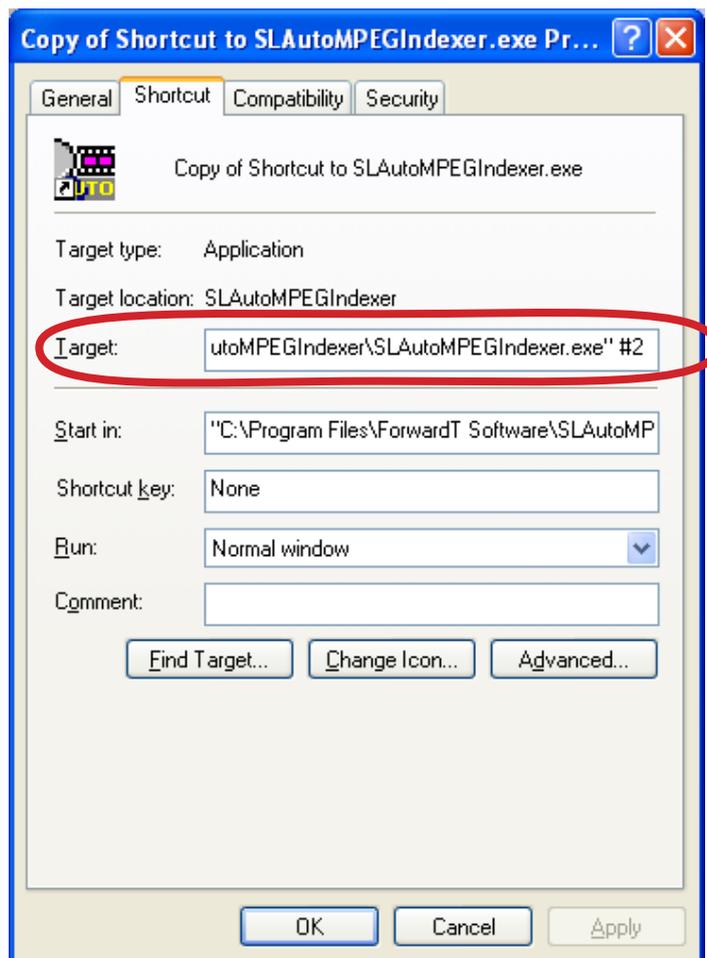
The tool tip is displayed when pointing mouse cursor at the program icon contains information about the program instance number.





You may need to have different program instance with different saved settings. For this it is recommended to create its own shortcut for each program instance on the desktop.

Use the Properties command in the shortcut context menu to open the shortcut properties window. In the opened window on the Shortcut tab in the Target field indicate the full path to the program file and the instance number.



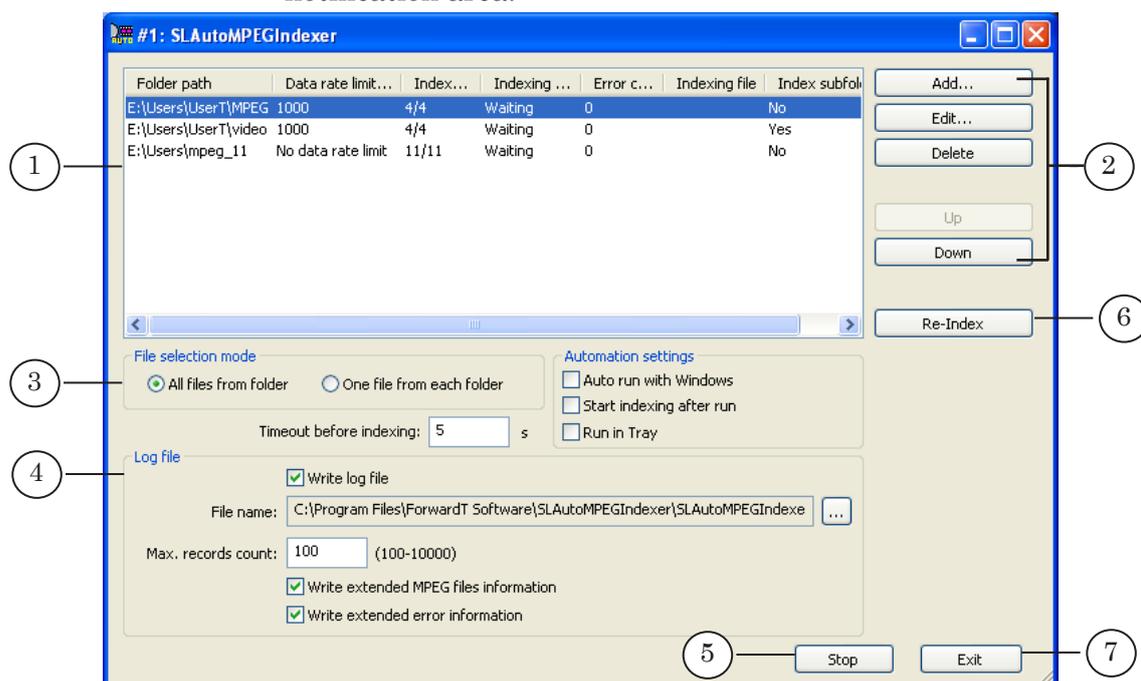


## Main Window

### 1. General Appearance

The main program window is intended to customize and control files indexing.

In the window title bar the program name and instance number are displayed. The Close button (✖) located on the title bar is intended to minimize the window – the program window is minimized, and only the program icon remains in the taskbar notification area.



The window contains the following control elements:

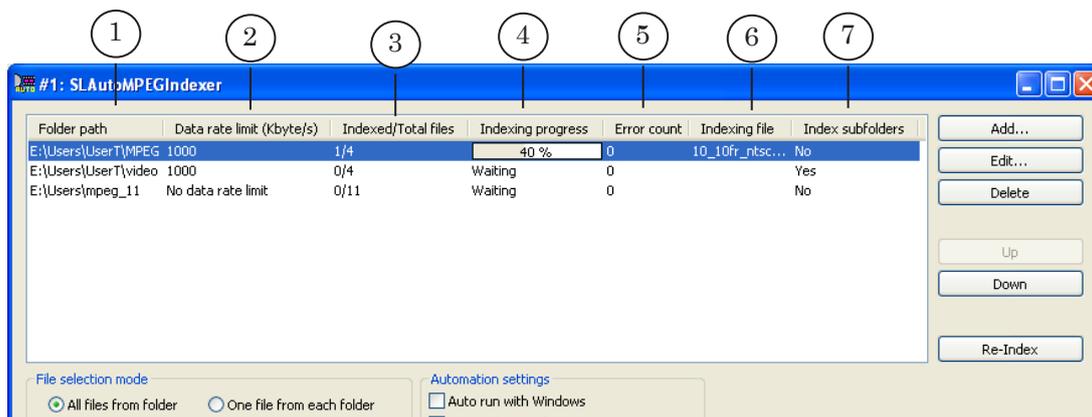
- monitoring table (1) displays operation parameters and work progress information;
- buttons for editing the list of folders to be monitored (2);
- File selection mode radio buttons (3) used to establish an order of files indexing;
- Log file group (4) containing elements for setting of logging parameters;
- operation control buttons:
  - Start/Stop (5) button used to turn monitoring on/off: searching in the specified folders for files without index or with invalid index and their indexing;
  - Re-Index (6) button used to create new indexes for all MPEG files in the selected folder. The button is available in the Monitoring on mode only;



- Exit (7) button used to complete the program work: turn monitoring off if it is on, and close the window.

## 2. Monitoring Table

The information on settings of the operation parameters and work progress is displayed in the program main window as a table.



One table row contains information about one folder. The information is distributed in table columns as follows:

- (1) – full path to the folder;
- (2) – maximum data rate during indexing (in kilobytes per second);
- (3) – number of indexed MPEG files / total number of MPEG files;
- (4) – indexing progress:
  - empty line – monitoring is off;
  - Waiting – the folder is being monitored: at the moment there is no files needed to be indexed or files located in another folder are being indexed;
  - graphic indicator – displays the file indexing progress. Current file name is indicated in the column beside;
- (5) – number of errors appeared during the indexing process since the clearing of the error counters;
- (6) – name of the file being indexed at the moment;
- (7) – mark indicated if files indexing in subfolders is allowed or not.

Folders are monitored and indexed in order of how they are sequenced in the table.

Use the editing buttons located near the table to modify the information in the table (add or delete folders, change the settings).



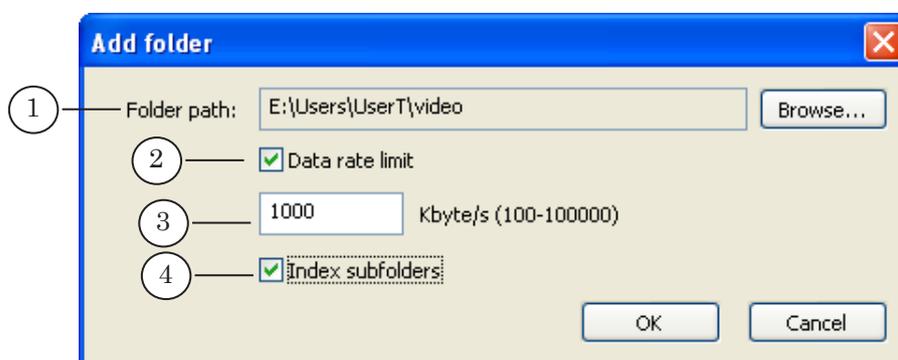
### 3. Editing buttons

The following buttons of the main window are intended to edit the folder list in the monitoring table:

- Add... button used to add a folder to the indexing list;
- Edit... button used to change the settings of selected item;
- Delete button used to delete the selected folder from the list;
- Up and Down button used to move the selected item by one position up or down respectively.

### 4. Addition of folder and configuration of settings

When clicking the Add... or Edit... button, the relevant Add folder or Edit parameters windows are opened. These windows have the same elements.



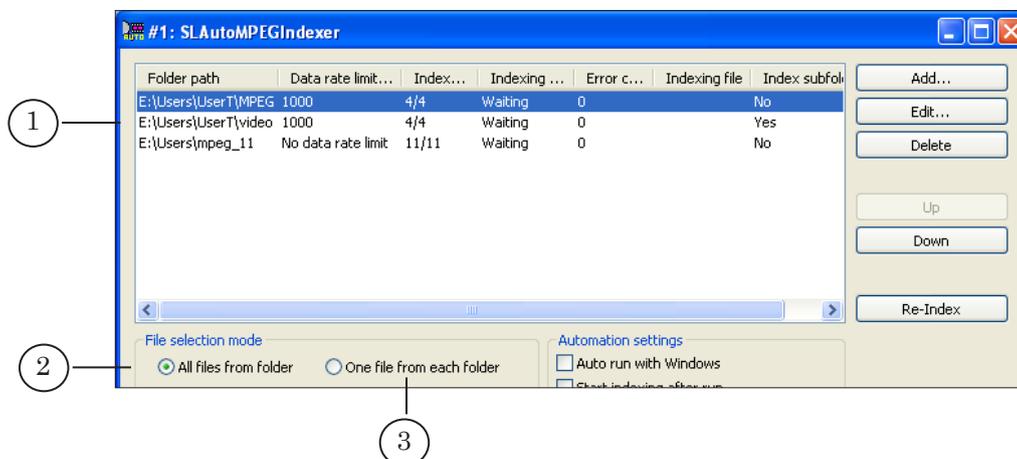
The Add folder window has the following control elements:

- elements for specifying of folder to be added into the list (1):
  - Folder path text box displays the full path to the selected folder;
  - Browse... button used to open a standard browse dialog box to specify a folder;
- elements for specifying the limitation on the maximum read data rate from the selected folder:
  - Data rate limit check box (2) – when checkbox is selected, the program uses date rate limit;
  - text box (3) used to enter a value of data rate (Kbyte/sec);
- Index subfolders check box (4) – when the check box is selected, the program creates index files for video files located in all subfolders of the specified folder.



## 5. Setting the order of selection of files to be indexed

If the folder list in the monitoring table (1) contains several folders, they are checked by the program sequentially, starting from the first one and then down the list.



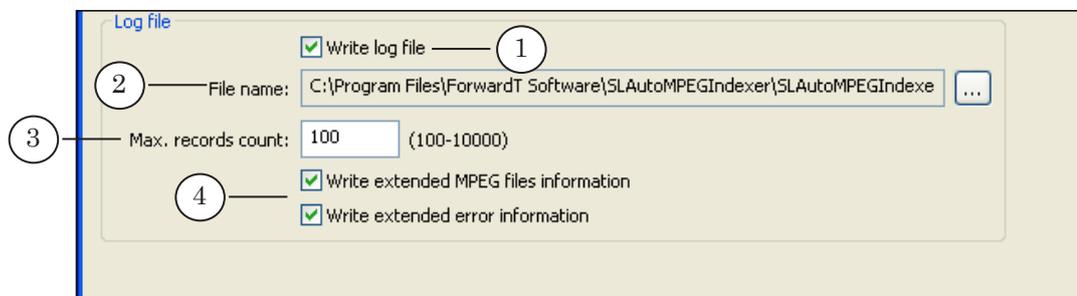
The radio buttons located in the File selection mode group are intended to establish an order of files indexing in case the files needed to be indexed were detected in several folders simultaneously. Possible options here are:

- All files from the folder (2) – file indexing is executed sequentially for each folder: the program first creates indexes for all files needed to be indexed from the first folder of the list, then from the second folder, etc.;
- One file from each folder (3) – lapped indexing: the program first creates an index for one file from the first folder, then for one file from the second folder and then down the list. After having created an index for a file from the last folder the program returns to the first one, until the indexes for all files needed to be indexed are created.



## 6. Customizing the logging

The Log file group is intended for customizing the logging parameters.



The group elements have the following functionality:

- Write log file check box (1) – when checkbox is selected, the program writes indexing details to a log file;
- elements for selection of log file (2):
  - File name text box displays the full path to the log file;
  - Browse... button used to open the standard file selection dialog box;
- Max. records count text box (3) used to specify the maximum allowed number of log records. One log record is a block of information about one indexed file. When the specified number is reached, the logging does not stop: the oldest log records are deleted and new ones are written instead of them;
- check boxes for logging of additional information (4):
  - Write extended MPEG files information check box – when check box is selected, the program adds information on parameters of the video and audio stored in the file being indexed to the log file;
  - Write extended error information check box – when check box is selected, the program writes detailed information on errors.

## Program Icon Context Menu

The context menu is opened by right-clicking the program icon.



The menu contains the following commands:

- Show main window (1) command used to restore the main window;
- Workflow control commands:
  - Stop (2) used to turn monitoring off;
  - Start (3) used to turn monitoring on: automatic searching of files needed to be indexed, and indexing launch;
  - Reset errors (4) used to reset the error counters in the monitoring table to zero;
  - Exit (5) used to complete the program work turn monitoring off if it is on, and to close the window.



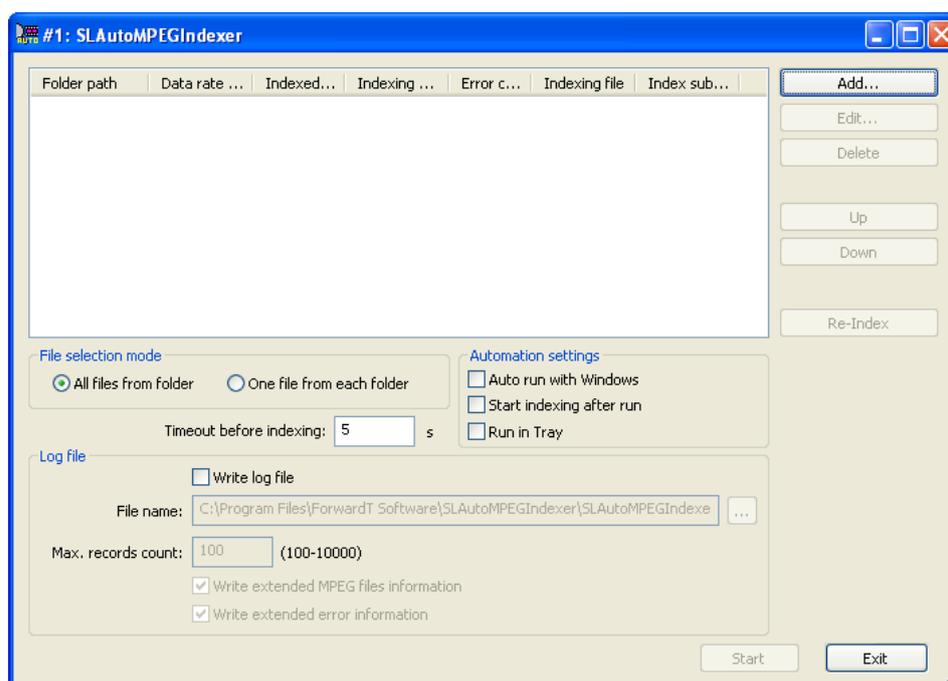
## General Workflow

It is advisable to use the SLAutoMPEGIndexer program in cases when it is necessary to playback files containing video data in MPEG-2 format (mpg, mpeg, m2v files). The program allows you to automatically identify files for which it is necessary to create index files and to index them.

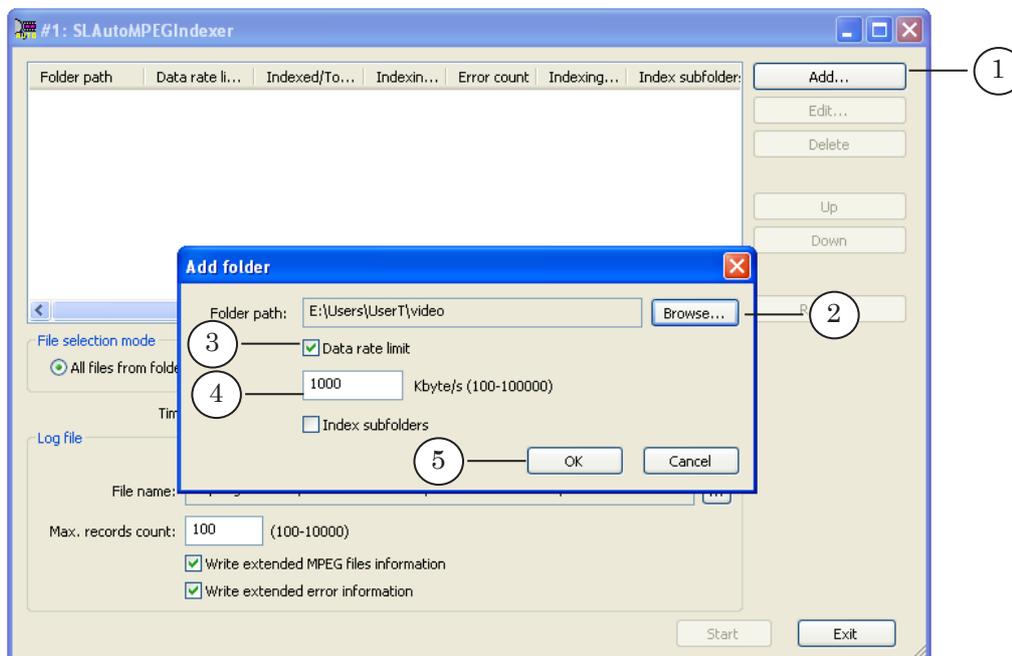
It is recommended to customize parameters and to turn monitoring on in advance, before start of broadcasting in FDO nAir.

The workflow with the SLAutoMPEGIndexer program contains the following steps:

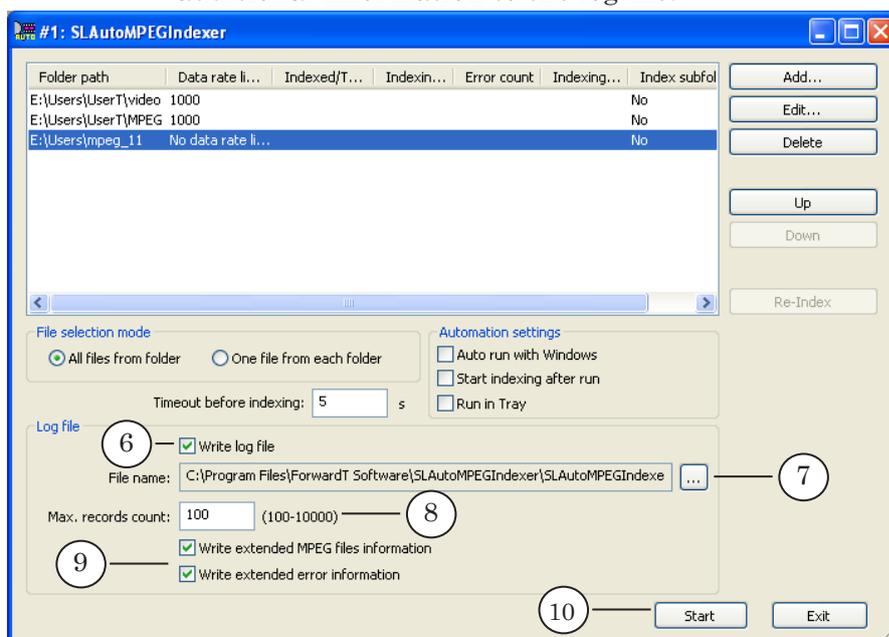
1. Specify folders to locate MPEG files to be broadcasted in FDO nAir.
2. Launch the SLAutoMPEGIndexer program. The program file is:  
~\SLAutoMPEGIndexer\SLAutoMPEGIndexer.exe  
where ~ denotes the full path to the folder where the ForwardT Software is installed.



3. Create the folder list. Click Add... (1) to add a folder into the list. In the appeared window specify a folder (2) and specify the maximum read data rate limit: select the check box (3) and enter necessary value (4). Click OK to apply the settings and to close the window.



4. If logging is required, select the check box that turns logging on (6). Specify the log file name (7). Specify the maximum allowed number of log records in file (8) and select the relevant check boxes (9) if it is necessary to write additional information to the log file.



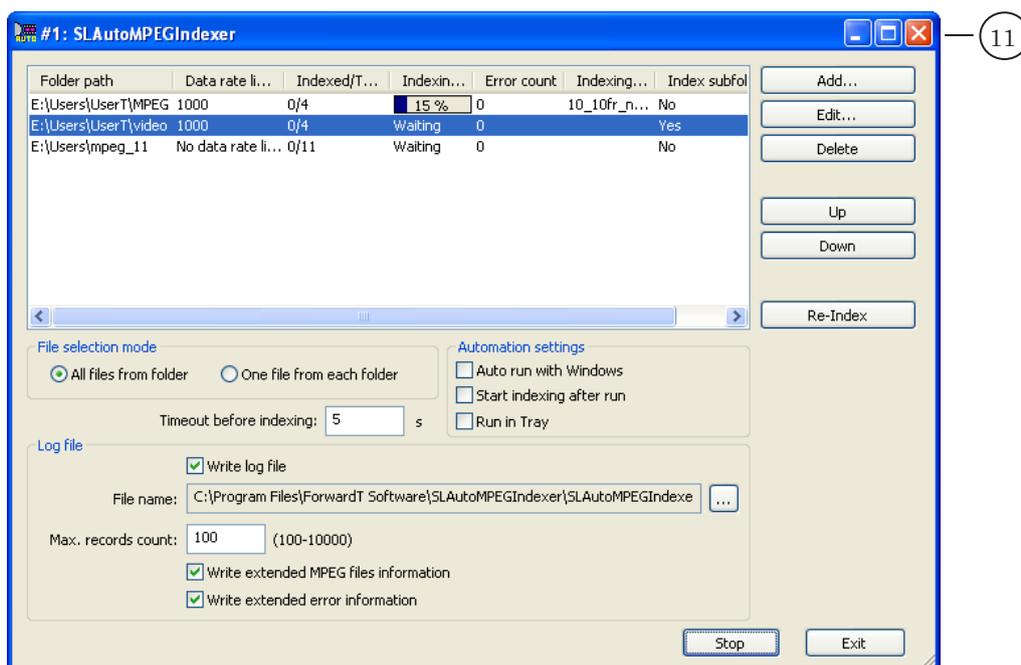
5. Click Start (10) to turn monitoring on.



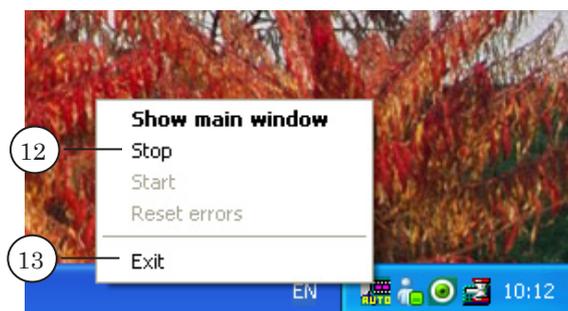
- In the monitoring mode the program scans the specified folders permanently, identifying MPEG files without index or with invalid index. Having found such files, the program automatically launches the indexing process.

The created index files are recorded to the same folders where the relevant video files are located. The date and time of creation of the index file are set automatically as equal to the MPEG file date and time of creation at the time of indexing.

- Click Close to minimize the program window (11). The program icon will remain in taskbar notification area.



- When it is necessary to turn monitoring off, open the program icon context menu and select Stop (12).



- If needed, click Exit to complete the program work (13).



## Availability of the SLAutoMPEGIndexer program in the software for the ForwardT Product line

Software	Purpose	Availability of the SLAutoMPEGIndexer program
Forward T	Video and sound input/output and non-linear editing.	√
Forward TA	Broadcast automation according to the schedule with a possibility of controlling in real time.	√
Forward TP	Server for TV signal delay with a possibility of rebroadcast rescheduling.	√
Forward TP2	Server for TV signal delay with a possibility of rebroadcast rescheduling (2 channels of data input).	√
Forward TK	Color substitution (rear screen) of a high quality and non-linear editing.	√
Forward TT	Multi-layer titles overlay over video according to the schedule and control over it in real time.	√
Without board	Work of software without FD300/FD322/FD422.	√



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## Useful Links

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

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

### **Support**

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

E-mail: [forward@softlab.tv](mailto:forward@softlab.tv)

[forward@sl.iae.nsk.su](mailto:forward@sl.iae.nsk.su)

[forward@softlab-nsk.com](mailto:forward@softlab-nsk.com)

### **Forum**

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

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