# PRODUCTS FOR COMPLETE AUTOMATION OF TV STATIONS



## FORWARD T ▶▶

# "SOFTLAB-NSK" – 30 YEARS OF CREATING HARDWARE AND SOFTWARE FOR TV BROADCAST AUTOMATION



1 ABKHAZIA
2 AUSTRIA
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29 INDIA
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56 SOUTH KOREA
57 SOUTH AFRICA
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59 TAJIKISTAN
60 TAIWAN
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62 TURKEY
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65 UKRAINE
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SoftLab-NSK is a Russian manufacturer of complex television broadcasting automation systems. Our systems are used by television stations, both Russian and foreign; budget TV studios, cable operators; in sports arenas and educational institutions.

A distinctive feature of our products, known in the professional community as Forward systems, is that they are completely based on input-output boards and our own proprietary software. This allows us, among other things, to offer products that are balanced in terms of price and quality to the TV broadcasting market.

# BROADCAST / PLAYOUT AND STREAMING

These are products for organizing TV broadcasts in analog and digital formats. They can be integrated into systems where various channels of TV signal distribution are involved (terrestrial, satellite, cable, mobile TV, over Ethernet networks). The input-output signal types available are: analog, SDI, MPEG TS over IP or ASI, NDI, HDMI, VGA. They offer reliable, uninterrupted operation 24/7/365.

The products are used at TV stations of the central and regional level to complete a wide range of tasks: creating a TV channel; retransmitting a signal from the head-end station with insertion of additional programs, with a time shift, with overlaid graphics; retransmitting a signal with added advertising blocks.
They are also suitable for managing advertising and informational material broadcasting in shopping centers, entertainment complexes, etc.

These products can work as part of a cloud set-up or an on-premises video server. Depending on the type of the signal processed, they will be software or hardware-software systems. If it is necessary to send/receive an analog, SDI, or ASI signal, the product system will include a corresponding I/O board of our own, "SoftLab-NSK", production. They install onto a PC with a Windows operating system. One video server can broadcast several TV channels at the same time.

# BROADCAST / PLAYOUT AND STREAMING

| PLAYOUT AND STREAMING | TITLE OVERLAY | TIME SHIFT | ADDITIONAL OPTIONS | CUT-OUT ADVERTISING |
|---|---|---|---|---|
| | | | | |
| FORWARD TA<br><br>Broadcast management TV signal: live video and video files with title overlay. | FORWARD TT<br><br>Managing title overlays on a passing TV signal. Contains tools for creating title projects. | FORWARD TP, FORWARD TM<br>Managing the rebroadcast of a TV signal with a time shift.<br>"Forward TP" – with the ability to reschedule and insert your own programs. "Forward TM" – only time shift available. | PLUGINS<br><br>Expansion of basic functionality of main products. | SLADSREMOVER<br><br>Cutting out advertisements in the retransmitted signal and replacing it with your own content. Can be suitable in order to follow the legal requirements regarding the prohibition of advertising on foreign TV channels. |

On Air

# FORWARD TA

## AUTOMATED BROADCASTING MANAGEMENT. SOFTWARE/SOFTWARE-HARDWARE COMPLEX
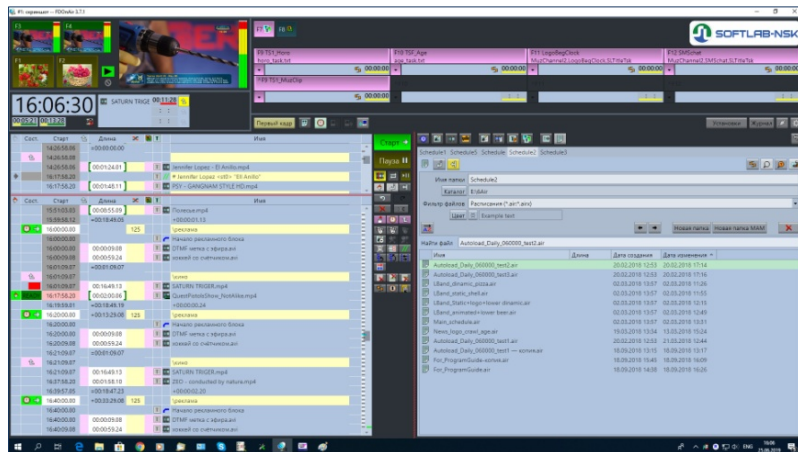


FDOnAir broadcast management program main window from Forward TA

Forward TA is one of the most sought-after SoftLab-NSK products, which we often present as a "TV channel-in-a-box". It contains all of the necessary tools for capturing and outputting a TV signal, preparing video content and graphic overlays, and managing the broadcast. It allows the user to work in different analog and digital formats with different standards and compression parameters. The product can be used as part of a cloud solution or a local video server and is installed onto a PC with a Windows operating system. It is supplied as a software kit and an I / O board (depending on the type of signal) or as a "turnkey" video server. One "Forward TA" video server can provide multiple, simultaneous channel broadcasting.

On Air

# FORWARD TA

## AUTOMATED BROADCASTING MANAGEMENT.
## SOFTWARE / SOFTWARE-HARDWARE COMPLEX

### WHAT IS IT FOR

Choose the Forward TA product if you need to relay a signal from a head station while inserting your own programs, advertisements and overlay graphics. The product is also suitable for creating a TV channel with unique content. The channel can be distributed in a variety of ways, including: output via ASI to a satellite, broadcast over IP to a cable operator, broadcast on YouTube, etc. In addition, the product can be used to broadcast advertising/public service video materials onto large screens and media panels on a schedule (VGA output modification).

### PRODUCT MODIFICATIONS

Select the required Forward TA modification by considering the following:
- the number of TV channels at the video server output;
- transmission standard for input and output signals: SDI, NDI, MPEG TS transport stream, analogue, VGA;
- output resolution: SD, HD, Ultra HD (4K);
- if using a MPEG TS transport stream, also consider:
  - interface type on server input and output: IP or ASI;
  - compression type: MPEG2 / HEVC / AVC;
  - video encoding: Main Concept software / Intel Quick Sync Video hardware / NVidia hardware.

On Air

# FORWARD TA

## KEY FEATURES

Forward TA offers tools for capturing and outputting a TV signal, preparing title projects for graphic formatting the broadcast and tools for managing the output of video materials on air. The standard functional set of the product makes it possible to:

- manage full-screen video broadcasting and broadcast formatting from one schedule:
  - up to six different video sources;
  - video files of different formats and resolutions;
  - an unlimited number of title layers;
- manage broadcasting manually or automatically:
  - flexible start of schedule blocks: by the operator's command, by schedule, by GPI;
  - the ability to change the schedule "on the fly";
  - autoloading schedules;

- prepare a schedule on any computer: on the broadcast server or a remote workplace;
- use a variety of elements and methods to display information:
  - logo (static, dynamic), crawl line, banners;
  - current time, air temperature, and other dynamically changing information;
  - subtitle;
  - picture-in-picture (PiP) mode;
  - QML animation;
  - SMS chat;
- receive on-air information and other protocols of broadcasting materials;
- automate the normalization of the sound level in files (-23LUFS).

# FORWARD TA

On Air

## ADDITIONAL FEATURES
You can add functionality to your product at any time.

## PLUGINS
One of the options for expanding the basic set of functions is the use of plugins. The following tasks can be completed using plugins:
- automated ad insertion using SCTE-104 tags, SCTE-35, DTMF, audio cues, etc. – AutoDetect;
- remote control of the RemoteOnAir video server;
- display of subtitles – SRT2Teletext;
- automating complex scripts for managing titles. Displaying content warnings, announcements, a program schedule, for example – TSF, TS1, TS2 title script libraries;
- automatic sound level normalization on server output in real time – APTO Linear Acoustic.
- etc…

## UPGRADE
Another option for changing the basic functionality of the product is an upgrade. As part of an upgrade, you can switch to a different modification of the Forward TA product or to a Forward TP product. When upgrading, only the difference in the products' price is usually paid. Upgrade options examples:
- adding a broadcasting channel to the video server;
- changing the resolution of the output signal from SD to HD;
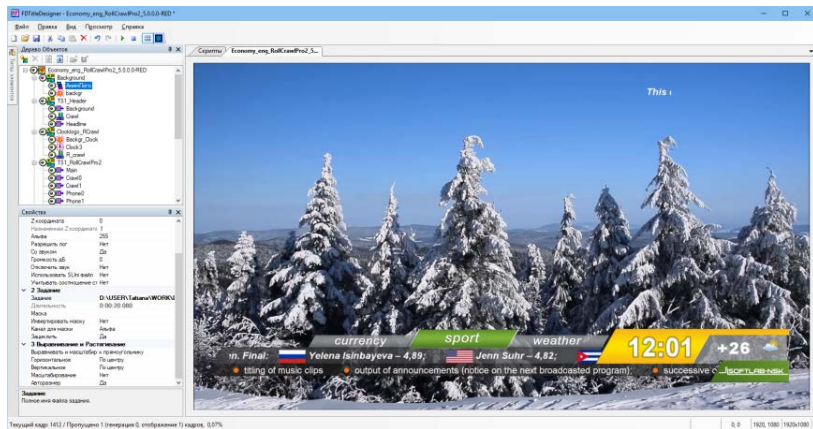- switching to using the ASI interface instead of or addition to IP on input/output, etc.

## COMPLEX SOLUTIONS
Additionally, you can build a complex solution by combining Forward TA with other SoftLab-NSK products or with our partners' products.

# FORWARD TT

## CREATION AND MANAGEMENT OF TITLE OVERLAYS. HARDWARE/SOFTWARE SYSTEM



FDTitleDesigner program window from Forward TT

The Forward TT product is the "younger brother" of Forward TA. Just like Forward TA, Forward TT provides control over title overlays without limiting the number of title layers, but does not provide the ability to output full-screen video clips with sound and sound from files to the server output.

The product is supplied as a set of software and an I/O board (depending on the type of signal) or as a "turnkey" video server.

The product is installed onto a PC with a Windows operating system. The Forward TT title overlay server can work in multichannel mode i.e. graphically format several TV channels simultaneously.

The Forward TT product allows you to overlay titles onto a rebroadcast video on the server or work in the Fill + Key mode and use an external mixer to overlay titles.

# FORWARD TT

## CREATION AND MANAGEMENT OF TITLE OVERLAYS. HARDWARE/SOFTWARE SYSTEM

### WHAT IS IT FOR

Choose the Forward TT product if you need to graphically format a broadcast without translating full-screen video with sound (advertisements, programs). It can be used to overlay local information when retranslating programs from a head station: crawl lines with regional advertisements, current weather and local time, TV station logos and other information.

This product is useful if you need to create an informational channel: a live studio signal, Skype-sessions, video clips and live video in picture-in-picture mode, text, graphics, animation, SMS chat and other informational material.

### PRODUCT MODIFICATIONS

Select the required Forward TT modification by considering the following:
- the number of TV channels at the video server output;
- transmission standard for input and output signals: SDI, NDI, analogue;
- output resolution: SD, HD, Ultra HD (4K).

# FORWARD TT

## KEY FEATURES

Forward TT offers tools for preparing title projects for graphic formatting broadcasts and tools for managing the output of video materials on air.

The standard functional set of the product makes it possible to:

- manage the rebroadcast and broadcast formatting from one schedule:
    - up to six different video sources;
    - an unlimited number of title layers;
- manage broadcasting manually or automatically:
    - flexible start of schedule blocks: by the operator's command, by schedule, by GPI;
    - the ability to change the schedule "on the fly";
    - autoloading schedules;

- prepare a schedule on any computer: on the broadcast server or a remote workplace;
- use a variety of elements and methods to display information:
    - logo (static, dynamic), crawl line, banners;
    - current time, air temperature, and other dynamically changing information;
    - picture-in-picture (PiP) mode;
    - QML animation;
    - SMS chat;
    - information from websites;
- receive on-air information and other protocols of broadcasting materials.

# INPUT/OUTPUT BOARDS

At present, SoftLab-NSK develops and manufactures TV signal input-output boards of the FDExt series. The series includes several types of cards for working with various TV signal transmission standards: SDI (SD/HD/3G/UltraHD), ASI, HDMI, analog (YUV, CVBS, RGB).
There are board types that support mixed modes (both input and output):
HD SDI + SD SDI, ASI + SDI.  All FDExt series boards can operate in multichannel mode (depending on the board type, they can support up to eight I/O channels).

FDExt series boards are compatible with all modern PC motherboards. They are installed onto a high-performance PCI-Express bus. They work on a PC running Windows or Linux operating systems.
In addition to using FDExt series boards as part of SoftLab-NSK hardware and software systems (products for broadcast automation, sports broadcasts, encoders and decoders), the boards can be supplied in the form of an OEM kit: board, drivers, developer SDK.
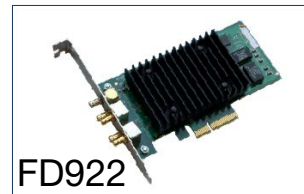


FD922

2 IN + 2OUT;
SD-12G SDI, ASI



FD940

4  IN;
HDMI



FD788

Up to 8 IN/OUT;
SD-UltraHD SDI, ASI



FD720

2  IN;
HDMI



FD722

2 IN + 2OUT;
SD-3G SDI, ASI



FD2110

4  IN / 4 OUT;
12G-SDI

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