BROADCAST AUTOMATION
DIGITAL TELEVISION
VIRTUAL STUDIOS

SOFTLAB-NSK

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Comprehensive Broadcast Automation

ForwardTx Product Line

The ForwardTx product line is a set of solutions for comprehensive broadcast automation. Each product of the ForwardTx product line is a hardware/software system consisting of an FD300 board and appropriate software.

The product line is created according to the principle of progressive enhancement: each subsequent product includes the capabilities of all the previous products.

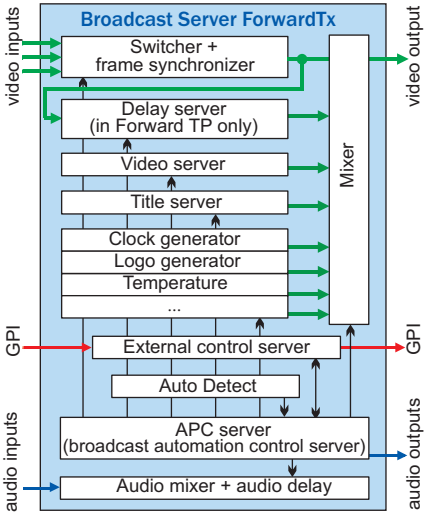
- **ForwardT** – base solution designed to input data, create tasks for title objects (crawl line, banners, etc.
- **ForwardTA** – broadcast automation solution. The main body of the product is OnAir Software – a program for broadcasting by a schedule (inserting blocks of commercials, displaying a crawl line, logo, banners, switching video inputs, etc.).
- **ForwardTP** – designed to delay a retransmitted television signal. It is based on PostPlay Software, which is a video signal delay server allowing you to receive signal, delay for a specified time, and change the rebroadcast schedule.
- **ForwardTP2** – analog to ForwardTP allowing to input two video data channels simultaneously.
- **ForwardTK** – provides professional-quality rear projection (chromakey) even when working with nonprofessional equipment, illumination, and background.
- **ForwardTT** – designed to overlay multilayer animated titles (crawl line, logotype, banners, etc.) on the passthrough video.

Main Capabilities	T	TT	TA	ТП	ТП2	ТК
Video and audio input/output	✓		✓	✓×	✓×	✓×
Nonlinear editing	✓		✓	✓	✓	✓
Playback according to the schedule		✓	✓	✓	✓	
Overlaying multilayer titles		✓	✓	✓	✓×	
Rear projection (chromakey)						✓
Single-channel delay server				✓	✓	
Two-channel delay server					✓	
Switching several channels			✓			

✓× - with some restrictions

ForwardTx product line provides maximum capabilities at minimum cost of additional external equipment. For example, there is no need to purchase a mixer, since there is a built-in software mixer for 6 channels. It is possible to simultaneously play video data and output logo, clock, crawl line, SMS chat and other title types on the FD300 board.

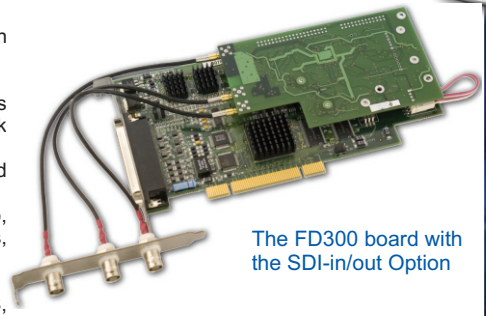
Also, ForwardTx Software includes a wide range of utilities for preparing data to broadcast, managing video and audio data, on-the-fly forming tasks for title objects. The utilities can operate on a computer without an FD300 board.



Hardware

All products of the ForwardTx product line are based on the FD300 board, which provides:

- recording video and audio;
- playing video and audio recorded in different formats (AVI, MPEG, graphics files) without drops or “black frames” between the tasks;
- live broadcast of one of the six sources of video and audio;
- overlaying a limitless number of titling layers (logo, clock, weather reports, static and dynamic banners, crawl line, and other information);
- hardware synchronization of video and audio;
- support for all analog formats of video signal (CVBS, Y/C, YUV/RGB) and SDI (optionally);
- the ability to synchronize the video output to an external source (genlock);
- aadditional alpha-channel output for mixing on an external mixer;
- working with signal in different TV systems (PAL, SECAN, NTSC, PAL–>SECAM, SECAM –>PAL).



The FD300 board with the SDI-in/out Option

In addition to that we guarantee the absence of synchronization losses when switching to different video sources both live and previously recorded on the computer hard disk.

Passive BreakOut Boxes

Active BreakOut Boxes

Forward GPI Box

Forward WatchDog Box

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ForwardTA / ForwardTT

ForwardTA designed for TV broadcast and rebroadcast automation. The product provides:

- playing video and audio files in all popular formats: MPEG-2 (IBP), AVI (DV, DVCAM, DVCPRO, DVCPRO50, M-JPEG, MPEG2-I-Frame, JPEG), AVI with audio in separate WAV files;
- compatibility with files created in popular NLE systems of such companies as Matrox, Canopus, Pinacle, and others (DV, MPEG, M-JPEG);
- live broadcast of one of the six sources of video and audio signal on a built-in software mixer;
- overlaying multilayer titles – static and dynamic logo, banners, crawl line, clock, weather report, SMS chat, flash animation and many others;
- flexible control of the task start (automatically after the previous, by the operator's command, via GPI, by the system time, by external time code, by the command from an external application);
- dynamically checking the schedule correctness and skipping error tasks;
- crash recovery;
- logging the task execution and operator's actions;
- visual information about the process of execution of all the schedule components;
- trimming files (MPEG-2, AVI) directly in the schedule (TrimEditor);
- sending and receiving the schedule commands (from an external application or another broadcast server);
- the ability to mirror broadcast servers to provide backup redundancy;
- the ability to output a picture with transparency for mixing on an external device.

ForwardTT is designed only to overlay multilayer animated titles on the passthrough video. Unlike ForwardTA, this product does not support playing audio, full-screen commercials and films, recording video and audio.

ForwardTP / ForwardTP2

ForwardTP is designed to delay retransmitted TV signal. This product possesses all the capabilities of ForwardTA (except for commutation of input channels). ForwardTP allows you to make a time shifting of the head-end station signal a very simple, visual, and most reliable process. The ForwardTP main body is the PostPlay system – retransmitted signal delay server.

Programs included in the PostPlay server provide:

- creating storages on the standard file system (NTFS);
- compressing the input data (video and audio) and recording them to the storage;
- previewing the captured data;
- creating virtual clips by marking the beginning and end of the fragments that will be used for subsequent playback;
- exporting data from the storage to AVI files.

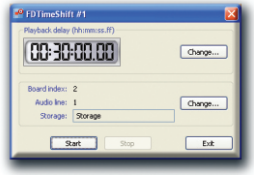
The storage data can be played with or without rescheduling.

Rescheduled broadcast implies playing from the storage the previously marked fragments only. They are inserted into the broadcast schedule at will along with other programs (blocks of commercials, one's own programs). The ability to play clips in an arbitrary order allows you to completely change the rebroadcast schedule not considering the mismatch of the real and desirable duration of the blocks of commercials and rule out the operator's mistakes when on air.

Rebroadcast without changing the schedule implies playing the storage data completely but with a specified time shifting.

The **PostPlay** server guarantees reliable input and output procedure implementation when previewing, cutting, and exporting clips from the storage. Special algorithms of the server operation provide maximum performance of the file system and allow to significantly extend the operation life of the hard disks.

ForwardTP2 possesses all the capabilities of ForwardTP in addition allowing to input two video channels on the same FD300 board simultaneously.



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ForwardTK

ForwardTK provides professional-quality rear projection even when working with nonprofessional equipment, illumination, and background. It is possible to configure two cameras on the same board and switch between them on-the-fly. A graphics file, clip, or live video from another input of the FD300 board can be used as a background for the actor. Resultant image coming to the video output can be recorded to an AVI file. Also, ForwardTK can output a color-corrected actor's image with a transparency mask for external mixing. This image can be recorded to an AVI file with transparency, e.g. for subsequent editing.

SDK for Developers

The **SDK** is designed to develop own applications using the FD300 board. Contains documentation, included files, samples with source code. Available free and gratis. Main Sections:

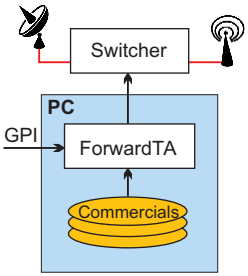
- developing applications for video and audio input/output, for controlling the board mixer, rear projection, multichannel audio mixer of the board;
- overlaying “standard” title objects of the ForwardTx title system;
- developing own multilayer animated titles with transparency;
- playing various video files using DirectShow technology;
- integration of applications of SMS providers with title objects for displaying SMS messages (organizing SMS chats, SMS votings);
- creating applications controlling the broadcast server and/or receiving messages from it.

Radio5 (Argentina)

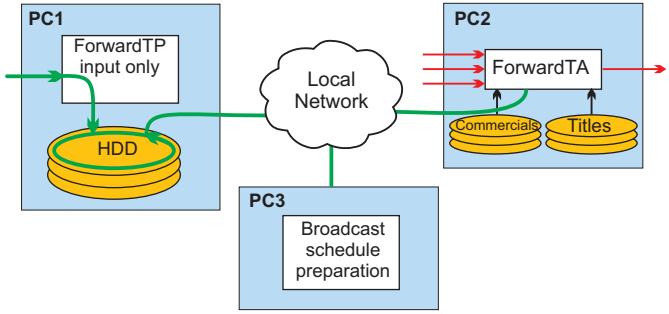
VixMedia (China)

To work with SDK, you may use different programming languages: C++, C#, VB, Java.

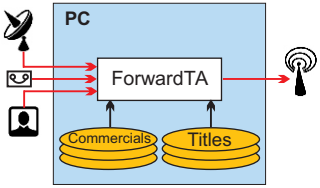
The SDK is successfully used by developers from Russia, Korea, Argentina, The USA, Europe, China.



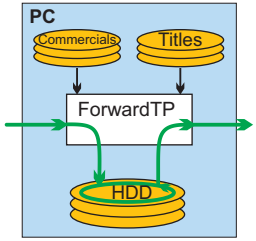
Playing blocks of commercials by the schedule



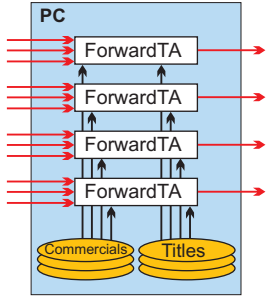
System with rescheduling for the rebroadcast



Inserting commercials, local programs and overlaying titles on the passthrough signal



Retransmitted signal delay with inserting commercials, local programs and overlaying titles



Multichannel solution (up to 4 channels) for inserting commercials, local programs and overlaying titles on the passthrough signal

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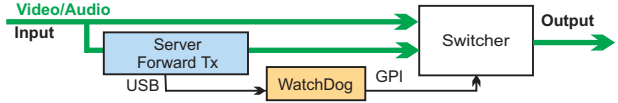
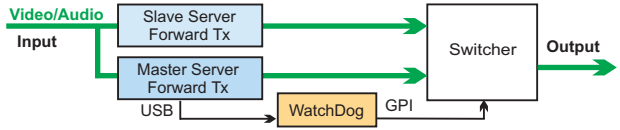
WatchDog

The device **Forward WatchDog Box** is designed to provide backup redundancy in broadcasting. The device controls an external commutator in the event of a failure in the Forward T system operation. WatchDog monitors the availability of the whole computer, the FD300 board, the broadcast program FDOnAir; in the event of a failure in any of the systems, enables/disables controlling GPI signal.

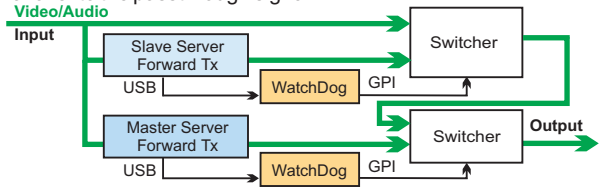
Bypass. Enables an automatic failover to the passthrough signal in the event of a failure on the principal server.



Mirrorring. Enables an automatic failover to the mirror server in the event of a failure on the principal server.

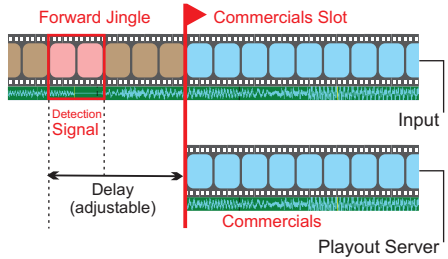


Mirrorring with Bypass. In the event of a failure on the principal server, enables an automatic failover to the mirror server; in the event of a failure on the mirror server, enables an automatic failover to the passthrough signal.



Auto Detect

AutoDetect Software is a program package for automatically inserting commercials unattendedly (by external events). Principle of operation: special software on the local (retransmitting) station continuously monitors the input signal from the head-end station and “detects” (recognizes in the input audio signal) the start/stop cue of a block of commercials. When the cue is detected, a special signal for the broadcast server is formed, by which the block of commercials is started or stopped.



Auto Detect

AutoDetect Software works with different types of cues:

- **Audio Fragment of Jingle.** A small audio fragment is selected from the jingle. The fragment is used as a sample to detect the the start/stop cue of a block of commercials. It is possible to detect several samples simultaneously.
- **DTMF Tone.** DTMF is a set of special audio signals used in tone dialing. The sounds are collated in such a way they are easily detected and do not occur ordinarily. If such a tone is added to a commercial, it is easily and reliably detected in a passthrough signal. Currently this technology is used on the Ren TV channel, which included ForwardTA and AutoDetect Software in the list of the recommended equipment for their partners retransmitters.
- **Video Fragment of Jingle.** A small video fragment is selected from the jingle. The fragment is used as a sample to detect the start/stop cue of a block of commercials. It is possible to detect several samples simultaneously. It is possible to trim the source image, and in this case, only some part of it will be used when detecting. This allows you to avoid the edge effect that occurs when transmitting/ receiving a signal through a satellite link.
- **Twenty-Third Line Technology**. The twenty-third line is the topmost line of a TV image, which is invisible on domestic television sets. The line can bear special cues as a sequence of black and white pixels forming a horizontal black-and-white strip, which looks like a VITS or Closed Caption signal. The strip can be used to detect the start/stop cue of a block of commercials and to contain additional information, e.g. the identifier of a block of commercials.

Auto Load

Much attention in the Forward T product line software is paid to problems of broadcast automation from the aspect of human error compensation. For example there is a special option for the schedule autoload in the broadcast program. The schedule files are named in a special way: their names contain the date and time when the schedule starts. At a required time, the broadcast program loads the next schedule, prepares it for playback, and starts the schedule execution.

Besides, the broadcast program has the ability to run from the command line, where the required schedule is specified for playback. Special parameters of the command line allow automatically restarting the program in case of emergency restart with the continuation of the interrupted schedule execution.

A special program for caching files allows automatically copying network files to the broadcast server. The program scans the broadcast schedule a certain time ahead (specified by the user). When “network” files are detected, a procedure of copying them to the video server is started. When the copying procedure is complete, the schedule link to the remote file is automatically changed to the local copy link. Caching files is performed in a background mode and does not affect the broadcast server operation.

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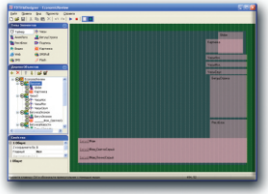
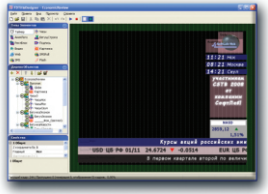
Title System

The ForwardT title system provides broadcast design of any complexity.

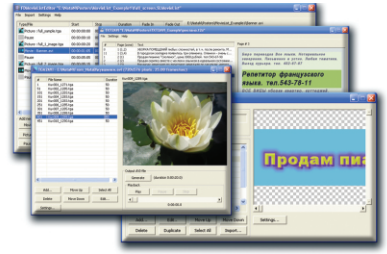




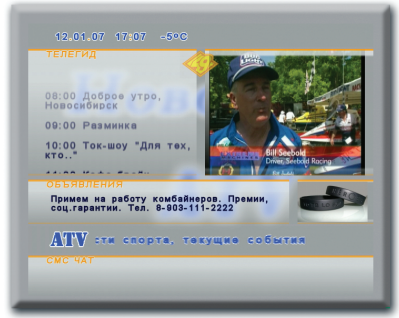
Logo (dynamic, static), crawl line, banner, caption, flash, “Video”, and other title objects give a wide range of possibilities in broadcast design. They can be used both to simply overlay the logo of a TV channel (and display a crawl line) and to create complex objects, e.g. an Info Channel with an SMS chat and telephone poll.

Updating tasks for title objects and their playback can be controlled both from the schedule and interactively. Built-in scripts allow you to implement complex scenarios of controlling titles.

It is possible to output image with transparency for mixing on an external device.

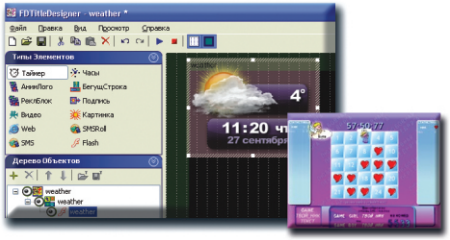


A set of special utilities allow you to automate the procedure of preparing titles for broadcasting.



Flash

The Flash technology (Adobe Flash) is one of the most widespread in the world. It is used not only to create animated clips, but also to solve more complex problems. The built-in script language ActionScript allows you to make a clip interactive, i.e. to change and react to external events in a certain way. The title element Flash supports transparency and the ActionScript code execution. It allows you to create a flash clip, which provides organizing various SMS chats, votings, panel discussions, quizzes, and other interactive elements of broadcast design.



SMS

Software included in the ForwardTx product line allows you to organize SMS chats, SMS votings. To do so, there is a set of dedicated title elements:

- SMS – to display messages in “ad” style;
- SMSRoll – to display messages as a scrollable crawl line;
- Flash – to display messages in an arbitrary form (by the company design).

There is a special open SDK for integration with different SMS providers, which allows you to create support for displaying an SMS chat quickly and at a very low cost.

ForwardT «Meteo»

ForwardTx product line supports working with different weather stations (HeavyWeather, Vantage Pro), which allows you to broadcast on air various weather data: temperature, barometric pressure, humidity, precipitation, wind speed and direction, etc. The weather data can be displayed both as graphics images and crawl line.

Support for working with weather stations provides the ability to create your own “weather channel”, e.g. in morning shows.

Web sites, RSS sites, or simply text files can be used as a data source.

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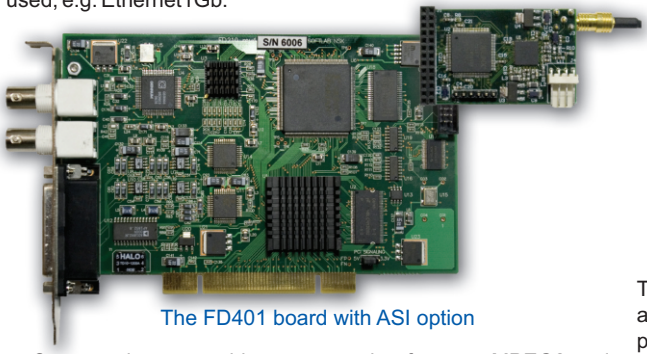
ForwardTS (Forward Streaming)

ForwardTS (Forward Streaming) is an extension of the ForwardTx product line for working with MPTS (Multi Program Transport Stream) in ASI and/or IP formats.

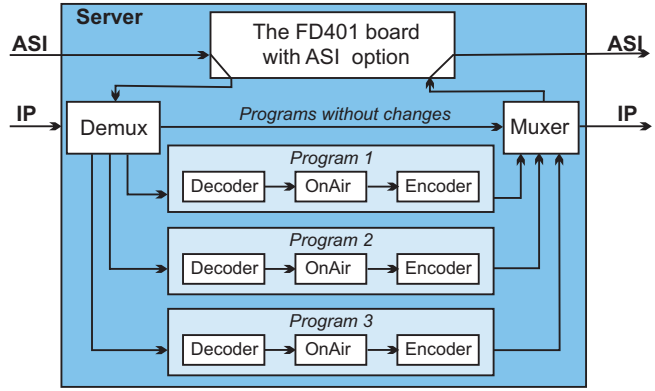
The FD401 board with ASI option supports data input and output in ASI format.

To receive and stream data in IP format, standard netcards are used, e.g. Ethernet1Gb.

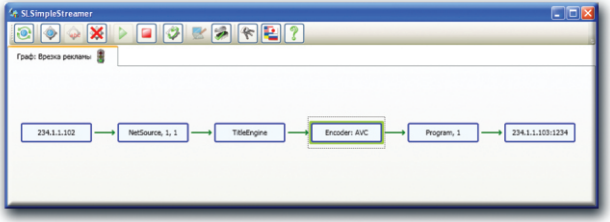


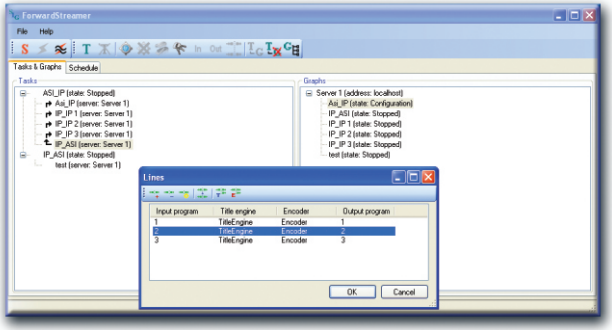
The FD401 board with ASI option

Supported are two video compression formats: MPEG2 and AVC (Advanced Video Coding or MPEG4 part 10). One server can process several programs. Several servers can be joined in a local network to process multiple TV programs transmitted in one transport stream, e.g. in one multiplex.



A transport stream from the tuner comes to the computer via ASI or IP interface. The Demultiplexer splits the stream into separate TV programs (or channels). Video and audio from any of the TV programs can be decoded and come to the FDOnAir program input as "passthrough video", in which FDOnAir can insert blocks of commercials and/or overlay titles. The resultant video and audio are compressed again and come to the multiplexer input. Some TV programs can come from the demultiplexer output to the multiplexer input without any change. The Multiplexer joins all the TV channels in one transport stream, which is output via ASI and/or IP interface.





This Software is designed to work with systems of different complexity.

There is a simpler program, which uses ready templates to build standard solutions (streaming one's own information channel in IP, inserting commercials in a TV channel, etc.). The user must only select an appropriate template and fine-tune the system by specifying the compression parameters, IP addresses, etc. Compression parameters are clear even to an inexperienced user: it is sufficient to specify the output stream and find a compromise between the processor load and compression quality by fitting the appropriate parameter.

When building complicated distributed systems that incorporate several servers interacting with each other, a program with a more complex user interface is used. The interface supports configuring separate graphs, their starting and stopping procedure, controlling each graph operation, saving and restoring their state.

A once configured system operates in the automatic mode, e.g. after restarting the computer, the system automatically starts the graphs which are to be executed currently.

Setting the program and controlling the system status can be performed remotely.

To work with the broadcast schedule, insert commercials, and overlay titles, the FDOnAir program is used. The operator works with it in much the same way as in the Forward TA system based on the FD300 board.

Forward TS product line includes several options allowing you to perform various tasks of integrating digital and analog television: converting digital signal to analog and vice versa, inserting one's own program from an analog source to a multiplex, inserting a digital signal from ASI to IP and vice versa.

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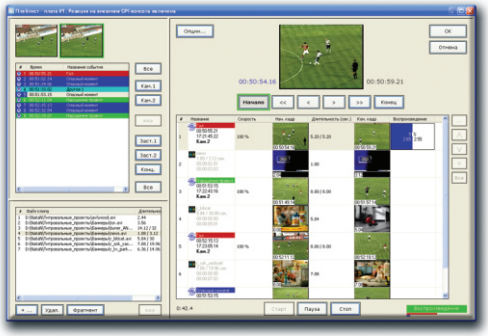
Forward Goalkeeper

Forward Goalkeeper is a multichannel recording and slow motion instant replay system. The system is designed to broadcast various sports programs: soccer, hockey, basketball, volleyball, boxing, wrestling, etc.

Main Characteristic Features:

- minimum delay between the event and its replay is no more than 1-2 seconds;
- simple, intuitive, and configurable user interface developed with direct participation of on-air directors and operators;
- playing replays does not interrupt recording;
- preparing the next replay simultaneously with playing the current replay;
- consecutively playing several replays without a pause between them;
- inserting a cut-in scene (video introduction, intro) by the replay start/stop;
- instant switching between different cameras;
- a built-in playlist for playing the game highlights between the periods or right after the game is over;



- overlaying a static or dynamic logo to indicate the replay mode;
- integration with video equipment via GPI (start/stop, GPI-in/GPI-out);
- controlling the system using various pointing devices: the keyboard, mouse, TouchScreen, external console;
- compact, integrated turnkey system;
- 2-4-6-8 channel models.

Forward Goalkeeper is delivered as a turnkey system in configuration by agreement with the customer.

Playing Highlights in the Breaks or Right after the Sporting Event.

On the basis of the most interesting moments marked and replayed during the broadcast (scoring chance, infraction, goal, etc.), it is possible to on-the-fly make up a playlist for playing the highlights in the break between the periods (rounds, etc.), after the sporting event, or during a pause.

The playlist editor allows you:

- to form a playlist draft from the selected moments and cameras by clicking a button;
- to on-the-fly edit the beginning/end of the clips in the playlist using the keyboard, mouse, or external console;
- to automatically insert cut-in scenes (video introductions, intros) between clips in the playlist;
- to insert arbitrary clips to the playlist;
- to move, delete a group of the selected clips in the playlist;
- edit clip parameters (name, type, playback speed, beginning/end time).

Support for External Consoles

Forward Goalkeeper supports a wide range of external consoles (JLCooper ES-SloMo, DPS Velocity Jog-4000/5000, DNF ST300, Shuttle Pro 2, JLCooper MCS-3).

Each console has a jog/shuttle, a set of buttons, which can be assigned to any of the main commands that control Forward Goalkeeper.

ES-SloMo

DPS Velocity

Jog-4000/5000

Shuttle Pro 2

The device DVM61/62 is designed to output video and audio in the HDTV format both in digital and analog mode. The image formed by a special program comes to a standard VGA adapter over DVI interface. The device supports synchronization to the external source.

Most part of the software developed for the FD300 board successfully operate with DVM61/62. For example, The OnAir program allows to play back clips and overlay titles on them, and the clips may be both in usual and high definition.

DVM61/62 Technical Features

Inputs: USB 2.0, DVI
Video outputs:
HD-SDI (SMPTE 292M, SMPTE 299M)
SD-SDI (SMPTE 259M, SMPTE 272M)
Component YUV, S-Video, CVBS

Audio outputs: 4 linear (RCA)
Resolutions supported: 480i, 480p, 576i, 576p, 720p (50/59.94/60 Hz), 1080i (50/59.94/60 Hz)

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Network Streaming

Software included in the ForwardTx product line allows you to provide network streaming using the Windows Media Encoder or Flash Media Encoder technologies. Data can be received both from the FD300 board input (two independent channels) and from its output (inserting commercials, overlaying logo, crawl line, etc.). Via special DirectShow filters included in ForwardTx Software, the data are sent to programs compressing them to a stream in the Windows Media and/or Flash Live formats. To show the streams in the network, a wide range of standard means is used.

Using this technology, NGS Ltd company (Novosibirsk City Site) in conjunction with SoftLab-NSK arranged broadcasting on its website the total solar eclipse of 2008 August 01 in Novosibirsk.

Telephone Poll

The opportunity to vote on air for a favorite performer, participate in panel discussions and quizzes is now the norm for most TV channels.

The dataphone adapter Liner8 (made by Teleview) and special software from the Forward T product line provide the ability to display the telephone poll results in real time on air. The telephone poll broadcast design is set individually. The poll results can be displayed both in a text form or as a histogram. It is possible to work both in automatic mode (the calls are received on the dataphone adapter) and manual mode, when the calls are received by the operators.

Preparation for the Broadcast

ForwardTx software includes a wide range of programs for the preparation of the data to live broadcast. The programs allow you:

- to control the video and audio data;
- to form tasks for title objects;
- to create the broadcast schedule;
- to edit the broadcast schedule;
- to check the field order in video files.

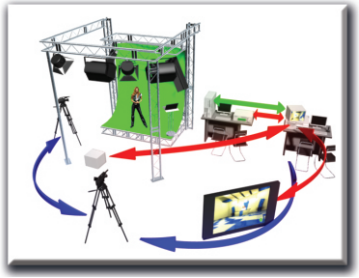
The programs can operate on a computer without an FD300 board, which allows you to create stand-alone workstations for the broadcast preparation. You can create a broadcast schedule and play it on the computer monitor (with audio) using a special program that emulates a TV monitor.

3D Graphics in TV Production

The “Focus” family virtual studios accumulate the advantages of modern professional TV production, simulation and gaming technologies in one reliable system providing interactive shooting of arbitrary TV programs with high reality and quality of the output image. Using virtual studios allows you to avoid significant expenses related to producing and assembling the scenery and to the necessity of frequent reconstruction of the studios. Saving studio floor space and the possibility to create several complicated projects in one small studio is a very important asset, especially for medium-sized and small TV companies.

The “Focus” studio technologies allow you to work with any video signals (from S-Video to SDI) both in SD and HD formats.

“Focus” is a whole studio in one PC, which has all what it takes to operate in on-air or recorded broadcast. It remains only to arrange light and connect cameras shooting the actor against a single-color background, – and you have the actor's image in virtual 3D scenes on the studio output.



Main Features of «Focus» Systems

- high-reality image;
- operative usability, quick staff training;
- unique chroma key comparable in quality with Ultimatte;
- multichannel and multiformat system;
- unlimited number of animated and static virtual cameras without the necessity of using an expensive tracking system;
- the ability to create virtual scenery in the most popular applications for creating 3D graphics (3DMax, Maya);
- quick custom tuning of the software at the customer's request;
- nsupport for various external control devices;
- reasonable prices.

The “Focus product line presents the following products:

«Focus» – includes a full-blown tool kit for creating the virtual studio design projects and corresponding operator interfaces as well as a real-time system for shooting any projects;

«Focus Lite» – real-time system for working with ready projects (scenery and interface);

«Focus HD» – virtual studios for working in HD formats;

«Virtual Presenter» – special-purpose system (by its configuration and sphere of application) oriented to educational and presentation purposes;

«Focus Designer» – open software for estimating the studio functionality. The software provides the possibility for the designers to work remotely.

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Virtual Studios and Creating Contents

Focus

The main product that includes the tool kit for working with projects (sceneries, scripts, and interfaces) and the system for the on-air operation:

- The virtual scene design tool kit includes export means of the protected projects for «Focus Lite» users;
- Using an internal programming language allows you to control the behavior of virtual scenes within a previously considered scenario to a frame;
- Support for plug-ins significantly extends the sphere of application of Virtual Studios;
- The new generation of the Software significantly simplifies the procedure of script writing due to the intuitive VUI.

Focus Lite

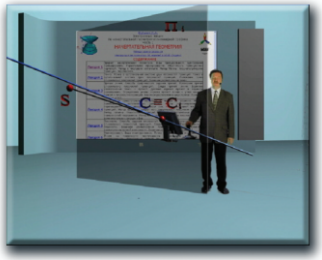
This product is designed to work with ready-made projects (sceneries, scripts, and interfaces) and oriented to low-budget studios not hawing own designers. Due to extremely simple installation procedure and high usability, a real TV production is possible literally in a few days after the first encounter:

- A wide variety of ready projects (scenes) from the library of adaptable templates is available, it being also possible to order own unique scenery from the producers or from the «Focus» studio users;
- This product allows you to quickly adapt the delivered scene templates to specific tasks by creating own themes (parameter sets and modified multimedia data);
- This product has a full-fledged tool kit for interactive control.

Virtual Presenter

«Virtual Presenter» is a hardware/software system using the Virtual Studio technology in education, presentation, and IPTV spheres of application:

- working with data of arbitrary resolution from standard SDTV to HDTV and various XVGA resolutions both on the system input and output;
- the lecturer's presence effect in a thematic virtual environment – rising interest in teaching material and its comprehensibility by the trainees;
- displaying objects, appliances, and equipment in an arbitrary foreshortening that changes in real time;
- a virtual environment can be any micro or macro environment from the structure of a complex molecule to the surface of Mars;
- interactivity is the most important part providing an imitation of the lecturer's direct interaction with the objects and phenomena modeled, the inner structure of the objects and connections between them being presented in the most visual way;

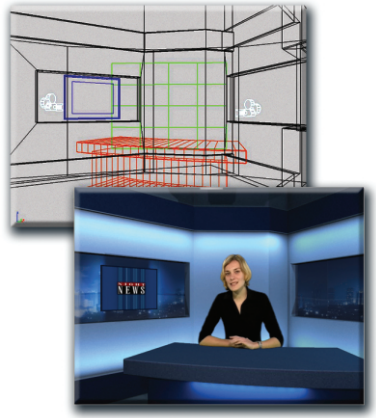


- easy and intuitive UI based on the TouchScreen technology, which allows the lecturer or presenter to control the presentation process, select mixing modes and media sources;
- poperation in the “interactive board” mode with interactive drawing on any scene materials or over the whole output image.

Virtual Presenter can be completed with a wide range of options and optional studio equipment (video, audio, light, chroma key) to build turnkey systems for specific spheres of application. It is possible to build distance learning systems providing broadcast and reception of HD audio and video in real time.

Focus Designer

This open software product functionally corresponds to the full version of the authoring tools for creating virtual studios, but it does not admit of full-blown operation in real time and exporting projects for “Lite” systems. This product could be of interest for designers to remotely work with limited preview mode projects as well as for potential users to estimate the functional.



Virtual Studios and Creating Contents

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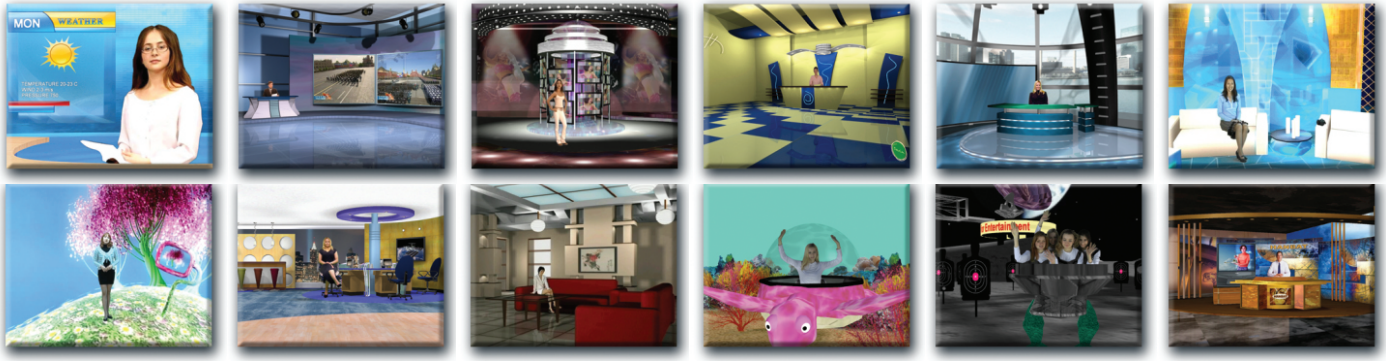
Creating Contents & Interior Templates

The «Focus» virtual studio technology provides TV content creators with new creative tools and allows them to realize original creative ideas. This technology will find a place in entertainment programs, sports programs, news programs. We provide all users of «Focus» studios with a tool kit for creating your own unique virtual scenery based on popular applications for creating 3D graphics.

Besides, there is one more solution for users of «Focus» studios – using interior libraries (virtual scene templates). The current library contains a set of various synthesized 3D interiors for creating various TV programs. Each option includes 3D data, control interface, and a tool kit for editing multimedia data (texts, graphics and video files, logos, etc.).

Each interior can be custom-tuned for an end user considering their wishes (change of the color solution, insertion of the TV channel symbols, etc.). Continuous technical support during the process of exploitation is provided. It is possible to custom-make specialized interiors by individual requests. Creating 3D scenes for «Virtual Presenter» is a special issue: as a rule, they require wider capabilities in operating multimedia data and additional animated 3D objects.



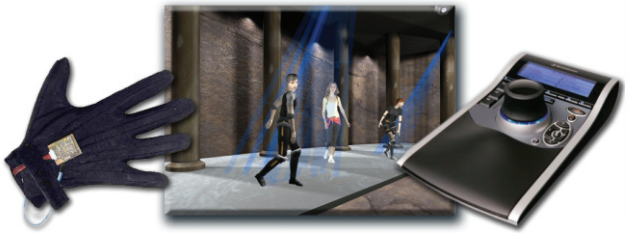
Options & Addons

«Focus» virtual studios provide a wide range of interactive control tools: from a remote computer via the network, joysticks, gloves and 3D controllers, motion capture sensors, touch screens, voice control, support for GPI interface, support for PTZ, a full set of digital, analog, and network interfaces for broadcasting multimedia data, and many others.

To display external dynamic information, there are realized modules providing links with such sources as dynamic WEB pages, SMS, and etc. For example, it is possible to output any information from the Internet, local and universal time. Besides, we realized a module allowing you to draw on any static textures in real time.

The existing modules supporting Java and HTVL scripts extend the capabilities in developing user interfaces for specific applications, e.g. for a visual imitation of a four-channel video mixer operation.

Available is custom-adaptation for various camera tracking systems, when real camera movements are synchronized with synthesized graphics and real images.



Focus HD & Custom Systems

«Focus HD» studio having optimum quality-price ratio for low-budget and medium-sized production was developed to operate in HDTV standards.

The base HDTV version of «Focus» virtual studio is oriented to operate in 720p standard, accepted in Europe and most convenient for using in computer systems (no need for additional video transformations). It is possible to build a configuration completely designed for operation in 1080i standard (but having somewhat larger performance restrictions).

Custom-made systems, unlike the standard configurations, can be completed for various requirements: enhanced volume and safety of storing data, ultimate performance, minimum power consumption and noise, adaptability and compactness for mobile stations, specific integrability, etc.

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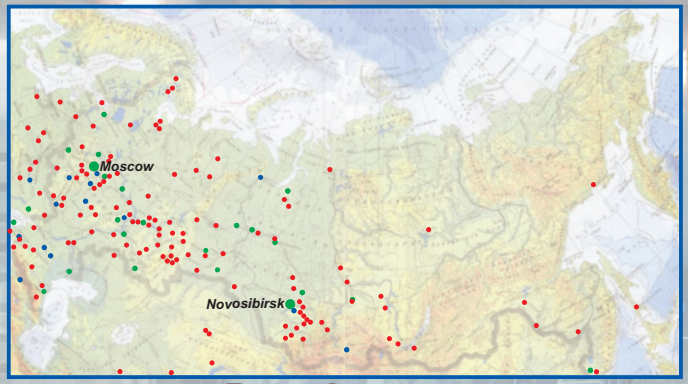

● Focus ● Forward ● Focus+Forward

JSC "SoftLab-NSK" is engaged in developing hardware/software for multimedia and TV broadcasting, VR systems, imaging systems for training simulators and computer games. The company was established in 1988 by a group of scientists from the Institute of Automatics and Electrometry of the Russian Academy of Sciences. The group took part in the Russian space program in the area of astronaut training systems. Since then, the company has grown and now unites experts of the highest level, with many years experience in various fields of computer technologies, and creative youth. This allows us to find optimal solutions to the real-life tasks. The "Multimedia" department is engaged in developing hardware/software for TV broadcasting. The department includes hardware development group, software group, testing, tech support, technical documentation, marketing and sales groups.

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