

Teletext



Receiving and Rebroadcasting
Video Signal with Teletext

*Revision as of
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Quick Start

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FCC Information

FCC ID:

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

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Shielded cables and I/O cards must be used for this equipment to comply with the relevant FCC regulations. Changes or modifications not expressly approved in writing by SoftLab-NSK Ltd. may void the user's authority to operate this equipment.

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Our company warrants this product against defects in materials and workmanship for a period of one year from the date of purchase. During the warranty period, products determined by us to be defective in form or function will be repaired or replaced at our option, at no charge. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or as a result of service or modification other than by us.

This warranty is in lieu of any other warranty expressed or implied. In no event shall we be held liable for incidental or consequential damages, such as lost revenue or lost business opportunities arising from the purchase of this product.

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Introduction

Teletext is a system of transmitting digital text data consisting of a completely coloured video signal.

The Soft-Lab NSK company products support dealing with VBI and DVB teletexts. The following variants are possible:

- VBI teletext transmitted in analog or SDI signal with SD resolution – solutions on FD322/FD422 boards base;
- DVB teletext transmitted in MPEG TS – solutions on FD422/FDVrt boards base.

The following functions are supported for a video signal with teletext:

- receiving and rebroadcasting in a real time;
- receiving and rebroadcasting with a signal delay;
- conversion of VBI teletext to DVB and vice versa in case if signals of different types (for example, SDI–IP) are used at input/output of a broadcasting server.

Function of text generating is not supported.



VBI Teletext

1. General Information

The ForwardT Software products set supports receiving and transmitting of VBI teletext. Parameters of the text correspond to GOST R 50861-96 «Teletext System. General Parameters. Dimension Methods».

- Note:
1. VBI teletext is a text that is transmitted via unused TV lines in a reverse VBI beam direction (Vertical Blanking Interval).
 2. Requirements to VBI teletext are considered according to the ETSI ETS 300 706 «Enhanced Teletext specification» standard on international level.

Teletext data is transmitted in packets. According to GOST P 50861-96 packets with digital data must be located from the 6th up to 22nd line of the first field and from 319 up to 335 line of the second field of a fully colour video signal for a correct functioning of teletext decoder.

Dealing with VBI teletext is possible when using the FD322/FD422 boards in the following modes (at the moment of guide creation):

- FD422:
 - SDI 1ch;
 - SDI 2ch;
 - SDI + ASI output;
- FD322:
 - Output 1ch;
 - Output 2ch.

Customize board in the FDConfig2 program (see the subsequent «2. Board Customizing» section) to work with a signal with VBI teletext.

You do not need customizing any other settings in FDO nAir for a further working with teletext.

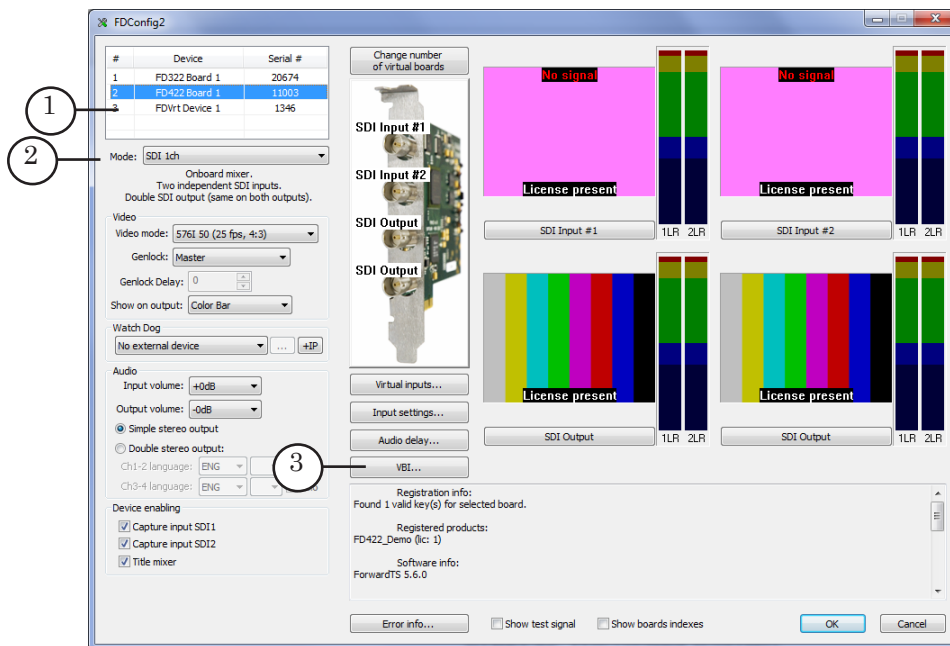
2. Board Customizing

The [«FDConfig2. Program for Control and Customizing of FDExt Working Board Parameters»](#) user's guide has a brief instruction on customizing of FD422 and FD322 boards.

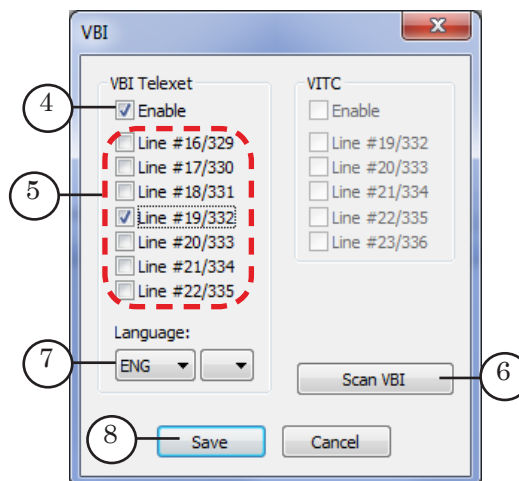


Complete the following steps to work with VBI teletext in FDConfig2:

1. Select board in the list (1) to which FDO nAir program is configured.
2. Be sure that mode (2) that supports working with a teletext is selected for board (see «1. General Information» section).



3. Click the VBI button (3).
4. Put the Enable mark (4) in the VBI appeared window of the Teletext group of elements.





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5. If indices of frame lines where teletext is transmitted are known then put mark that corresponds to #X/Y line (5), where X is line index in the first field and Y is line index in the second field.

If indices numbers where teletext is transmitted are unknown then click the Scan VBI button (6). Line is specified basing on input signal scanning automatically.

✓ **Important:** Be sure that corresponding signal is transmitted to board input before automatic detection of lines with teletext.

6. If you need to specify teletext language then select it in the Language list (7).

Specifying language is important for solutions where VBI is transformed to DVB. Correct selection of language ensures correct combining of teletext tracks.

7. Close VBI window by clicking Save (8).



DVB Teletext

1. General Information

Solutions for working with audio and video data in MPEG TS (on input and/or output) support receiving/transmitting of DVB teletext.

Note: Forward TS products set is aimed for organizing digital TV broadcasting via ASI/IP interfaces.

Solutions for working with audio and video data in MPEG TS (at input and/or output) support receiving/transmitting DVB teletext.

Specification of DVB teletext is given in an international ETSI EN 300 472 standards («Digital Video Broadcasting (DVB); Specification for conveying ITU-R System B Teletext in DVB bitstreams»).

Working with DVB teletext is possible when using the boards:

- FDVrt;
- FD422 when working in the following modes only:
 - Mixed (ASI/SDI);
 - HD-SDI.

Implement the following to work with a signal with DVB teletext:

1. Customize board in the FDConfig2 program (for more information see «2. Board Customizing» section).
2. Customize graphs that receive/transmit stream with additional data (for more information see «3. Graph Customizing» section).

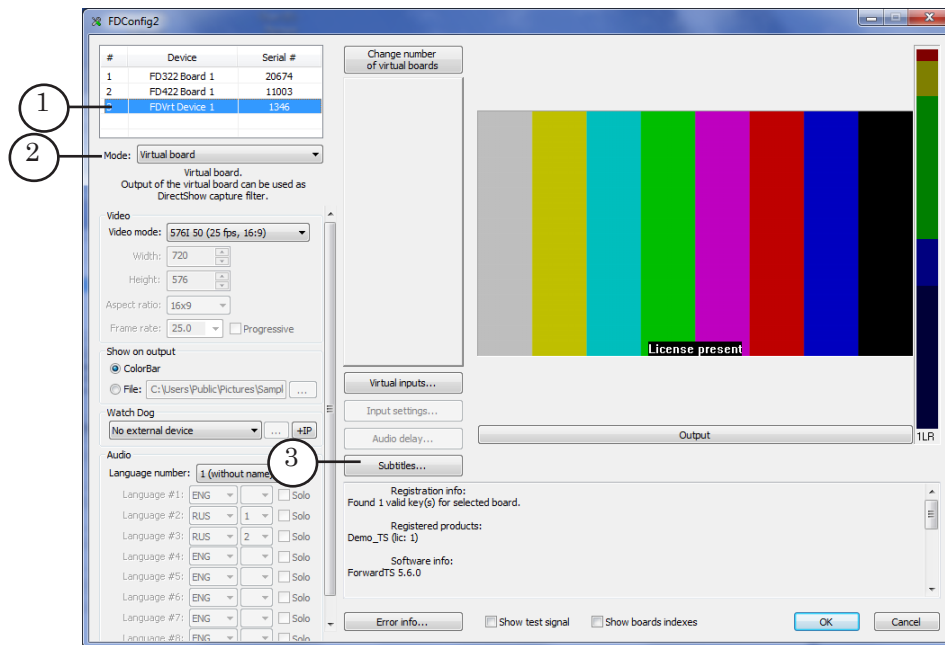
FDOAir requires no any additional customizing.

2. Board Customizing

Detailed information on customizing FDExt boards you can find in the [«FDConfig2. Program to Control and Customize FDExt Board Parameters»](#) guide.

Complete the following steps in the FDConfig2 program to work with DVB teletext:

1. Select in the (1) list board for which FDOAir program is configured.
2. Be sure that you select mode (2) that supports working with teletext using FD422 board (see the «1. General Information» section).



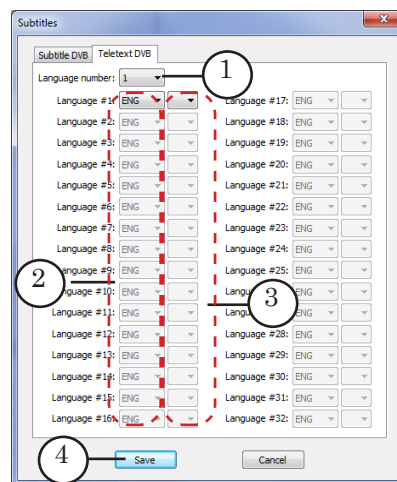
3. Click the Subtitles button (3).

Note: When dealing with FD422 board the Subtitles button is active in case if one of the modes is selected:

- Mixed (ASI/SDI);
- HD-SDI.

When dealing with FDVrt board the Subtitles button is active always.

4. Pass to the DVB teletext tab in the appeared window.



5. Specify quantity of teletext languages in stream (usually 1) in the list (1).



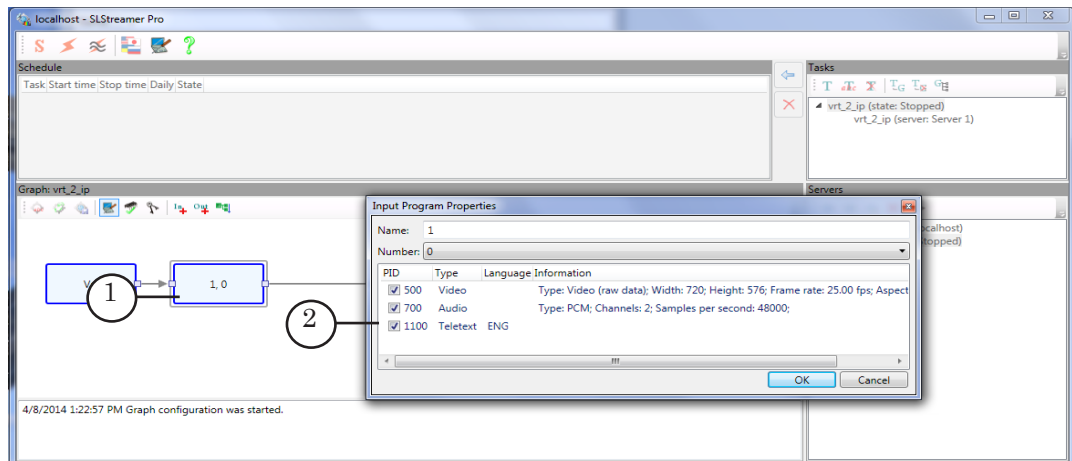
-
6. Select in drop-down lists located in corresponding lines (for example, Language #1):
 - language specification (2). For example, RUS denotes Russian language;
 - index (3). If you work with one language then it is not necessary to specify index.
 7. Close the Subtitles window by clicking Save (4).



3. Graph Customizing

The SLStreamer Pro program is used for customizing graphs (for more information see the [«SLStreamer Lite. SLStreamer Pro. Program for Monitoring and Control Over Digital Broadcasting Schemes Work»](#) guide).

Customizing work with teletext is implemented at configuring of the Input Program (1) graph node.



- ✓ **Important:** When graph that receives stream is being customized the stream must be received by device obligatory.

The Teletext line appears automatically (2) if there is a stream with teletext in Input Program graph node customizing window. Put the Teletext mark to transmit teletext.



Recording Signal With Teletext Into Storage (Signal Delay)

Function of support of teletext in signal with audio and video data is implemented in SoftLab–NSK products used for delay rebroadcasting too (more information on this issue you can find in the [«PostPlay. System of Rebroadcasting Delayed Signal»](#) guide).

If board is customized correspondingly (see the above given sections) then teletext data is automatically recorded to storages together with audio and video data.

Except board customizing you do need configuring any other settings.

At playback of clips from storage in FDO nAir teletext is broadcasted with audio and video data too.



Useful Links

ForwardT Software set: description, download, documentation, solutions

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

Support

e-mail: forward@softlab.tv

forward@sl.iae.nsk.su

forward@softlab-nsk.com

Forums

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

Documentation containing additional information:

[«FDConfig2. Program for Control and Customizing of FDEExt Working Board Parameters» guide;](#)

[«SLStreamer Lite. SLStreamer Pro. Program for Monitoring and Control Over Digital Broadcasting Schemes Work» guide;](#)

[«PostPlay. System of Rebroadcasting Delayed Signal» guide.](#)