ForwardT Software Package

# **Use of SoftGPI signals**

Exchange of control signals between programs



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User's Guide

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#### Introduction

It is possible to organize exchange of signals between some programs using the ForwardT Software Set. To exchange signals program GPI signals are used.

This document presents information on how you can control data capture in FDCapture from FDOnAir using SoftGPI signals.

## **General Information**

#### **1. Program GPI signals**

For exchange of control signals between programs SoftGPI signals are used.

SoftGPI signals are program-generated signals, used in the same way as signals transferred over GPI (through COM port).

Programs are not able to transfer GPI signals directly to other programs. GPI signals are transferred through SoftGPI Server only.



For transferring a control signal from one program to another a pair of GPI signals (input and output) is used:

- Output GPI signal is the signal sent by the control program;
- Input GPI signal is the signal that arrives at the program being managed.

The figure below presents general scheme of interaction between FDOnAir and FDCapture.



SoftGPI signals are configured by user in the SLGPISoftConfig application, which is a part of the ForwardT Software Set.

During configuration, signals are named and paired:

- the following prefixes are added automatically to signal names entered by user:
  - SoftOut\_ for output signals;
  - SoftIn\_ for input signals;
- an output signal sent by the program being controlled and the corresponding input signal that arrives at the program being managed are paired.

#### 2. Use of GPI signals in FDCapture

You can control data capture in FDCapture using GPI signals. GPI signals can launch the following commands:

• start capture;



- stop capture;
- split movie.

GPI control can be set in the Program Settings window in the GPI Control panel (see the setting order in this document below).

Program Settings	×
- FD300/FD422/FD322/FD8 - General - Optimization	GPI Control GPI control settings for standard capture mode
⊖ Files → AVI files → Disk Management ⊖ Video → Video data compression	Enable input GPI for "Start capture" command Name: SoftIn_Start_rec      Type: On Closing
- Field order - Date/Time Typing - Text Typing - Audio	Enable input GPI for "Stop capture" command Name: SoftIn_Start_rec      Type: On Closing
Audio capture params     Audio level meter     VTR Remote Control     GPI Control	Enable input GPI for "Split movie" command Name: SoftIn_Start_rec      Type: On Closing
	-The GPI control is available only in the standard capture mode.     -The GPI names for the "Start capture" (or "Stop capture") and "Split movie" commands must be different.

## 3. Sending GPI signal from FDOnAir

To send SoftGPI signal in FDOnAir, use the Send signal command. To send a particular GPI signal, configure a separate command in the program.

To configure the Send signal commands, use the GPI events tab in the Settings panel (see below for details).

🧟 Settings 🛛 🔀	
Default pictures         Title objects         Time options         RPM         Video files preparation         Mirroring           CPU usage         Schedule autoload         Default command parameters           General         Configuration         Input settings         Log-book         Time synchronization           GPI events         External device events         Autodetect events	0
SoftOut_Start_rec), 1 500 : Output command "Start recording"           Image: SoftOut_Stop_rec), 1 500 : Output command "Stop recording"	<u>, (1</u> )
Properties     Actions editor       Action     Active state       Output command     I       Schedule command title     Duration, ms       Stop recording     500	
Close	

The configured Send signal commands (1) look like this:

**[**] {**GPI\_ID**}, **AS Du** : Output command **"Command title**"

where:

- E is an icon of the Send signal command. If the icon icon looks like this , it means that the command is configured inappropriately and will not be implemented;
- **GPI\_ID** denotes the GPI signal identifier;
- **AS** denotes the Active state parameter value, i.e. a number that defines active state of external device:
  - 0 when contacts are open;
  - 1 when contacts are closed.
- **Du** denotes the Duration parameter value, i.e. a number that defines the impulse duration;
- **Command title** is an arbitrary text. The command title is displayed in the Name column when adding the Send signal command to the schedule.

To send the signal, add the Send signal command to your schedule. When the Send signal command is implemented on the schedule, the GPI signal is sent.



The command named Start\_recording (1) is intended to send the GPI signal which launches the Start Capture command in FDCapture.

The command named Stop\_recording (2) is intended to send the GPI signal which launches the Stop Capture command in FDCapture.





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- 1. Configure pairs of output and input SoftGPI signals in the SLGPISoftConfig application.
- 2. Do the following in FDOnAir:
  - $1.\ Configure the Send signal commands to send GPI signals;$
  - 2. Create a schedule.
- 3. Set GPI control in FDCapture.

#### 2. Configuring program GPI signals in the SLGPISoftConfig application

**Important:** We recommend closing FDOnAir before configuring SoftGPI signals. Otherwise, the added GPI signals will not be displayed in FDOnAir until the application is restarted.

Specify identifiers for SoftGPI signals and pair output and input GPI signals in the SLGPISoftConfig application.

Workflow:

1. Launch the application by opening the following file ~\Tools\SoftGPI\SLGPISoftConfig.exe, where ~ denotes the full path to the folder where the ForwardT Software is installed.

The main window opens.

			Pairs of GPI events:	
			Output GPI events	Input GPI events
Add	Edit	Remove		
Inpactor revents.				

Add an output signal. To do this, follow the steps below:
 Click Add (1). The Add GPI event window opens.

Add GPI event	
Name:	
Full name:	SoftOut_
	OK Cancel

2. In the Name text box (2) enter the output signal name.

Add GPI ever	nt 🔀	
Name:	Start_rec	-(2)
Full name:	SoftOut_Start_rec	(3
	OK Cancel	
	4	

In the Full name text box (3) the signal name with the SoftOut\_prefix will be displayed automatically.

3. Click OK. The Add GPI event window closes.

In the main window in the Output GPI events field (5) the signal name is displayed.

	SLGPISoftConfig			
$\bigcirc$	Output GPI events:	Pairs of GPI events:		
(5)—	SoftOut_Start_rec	Output GPI events	Input GPI events	
$\bigcirc$				
	Add Edit Remove			
	Input GPI events:			
$(6)_{-}$	Add Edit Remove	Add	dit Re	move
$\bigcirc$				
			ОК	Cancel

Add an input signal. To do this, follow the steps below:
 Click Add (6). The Add GPI event window opens.

Add GPI event		
Name:		
Full name:	SoftIn_	
	OK Cancel	

2. In the Name text box (1) enter the input signal name.



In the Full name text box (3) the signal name with the SoftIn\_ prefix will be displayed automatically.

3. Click OK (3). The Add GPI event window closes. In the main window in the Input GPI events field (4) the signal name is displayed.

1	no superior state and stat		
	Output GPI events:	Pairs of GPI events:	
	5 7 Add Edt Remove Input GPI events:	Output GPI events	Input GPI events
4	6 8 Add Edit Remove	Add	šk Remove

- 4. Add the required number of input and output signals by repeating the steps 2 and 3.
- 5. To rename the added signals, select in the list the one you want to rename and click Edit: (5) to rename an output signal, (6) to rename an input signal.
- To remove a signal, select it in the list and click Remove: (7) – to remove an output signal, (8) – to remove an input signal;

Pair off the events. To do this, follow the steps below:
 Click Add (1).

👫 SLGPISoftConfig		
Output GPI events:	Pairs of GPI events:	
SoftOut_Start_rec	Output GPI events	Input GPI events
Add Edit Remove		
Input GPI events:		
SoftIn_Stop_rec		
	(1)	
	$\bigcirc$	
Add Edit Remove	Add	dit Remove
		OK Cancel

2. In the Add pair window that opens in the Output GPI event name (2) and Input GPI event name (3) lists select the names of the GPI signals you want to pair off.

Add pair 🔀	$\bigcirc$
Output GPI event name: SoftOut_Start_rec	-(2)
Input GPI event name: SoftIn_Start_rec	-(3)
4 OK Cancel	$\bigcirc$

3. Click OK (4). The window closes.

In the main window in the Pairs of GPI events list the added pair is displayed.

SLGPISoftConfig		
Output GPI events:	Pairs of GPI events:	
SoftOut_Start_rec	Output GPI events Input GPI events	
	SoftOut_Start_rec SoftIn_Start_rec -	-(ə)
		$\smile$
Add Edit Remove		
Input GPI events:		
SoftIn_Start_rec		
SoftIn_Stop_rec		
	(6) $(7)$	
Add Edit Remove	Add Edit Remove	
	OK Cancel	
	(8)	



- 4. To edit a pair, click on it and then click  $\mathsf{Edit}\xspace(6).$
- 5. To remove a pair, click on it and then click  $\ensuremath{\mathsf{Remove}}$  (7).
- 8. To close the application, click OK (8).

## 3. Before sending the program GPI signals in FDOnAir

- 3.1. Configuring the Send signal commands
  - 1. In the main FDOnAir window click Settings (1).



2. In the Settings window that opens open the GPI events tab (2).

	🧟 Settings 🛛 🔀
(2)-	Default pictures         Title objects         Time options         RPM         Video files preparation         Mirroring           CPU usage         Schedule autoload         Default command parameters           General         Configuration         Input settings         Log-book         Time synchronization           GPI events         External device events         Autodetect events
	Properties Actions editor
	Close

3. In the GPI events tab click on 🗈 (3). The output signals list opens.

Select in the list the SoftGPI signal identifier by clicking on it.

2 Settings		
Default pictures   Title objec CPU usage   S General   Configuration GPI events	ts   Time options   RPM   Vid chedule autoload   Def   Input settings   Log-boc External device events	eo files preparation   Mirroring   ault command parameters k   Time synchronization Autodetect events
Properties Action	Actions editor	SoftOut_Start_rec
Schedule command ti	tle	SoftOut_0_Output SoftOut_1_Output
		Close

Por



Using the Send signal command you can send three types of signal: impulse  $\mathbb{I}$ , closing  $\mathbb{I}$  and opening  $\mathbb{I}$ .

**Tip:** To send SoftGPI signals we recommend using the commands intended to send impulse signals **E**.

5. Configure the command.

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The default value of the Active state (5) and Duration parameters (6) works well for commands sending impulse signals.

Enter the command name to the Schedule command title field (7), marked with this icon  $\mathbb{I}$  (7). This text is displayed when the command is added to schedule in FDOnAir in the Name schedule column.

4. In the list the Send signal command (4) appears.

	CPU usage Schedule autoload Default command parameters	
	General Configuration Input settings Log-book Time synchronization	
	IsoftOut_Start_rec), 1 500 : Output command ""	
(7)-	Properties     Actions editor       Action     Active state       Output command     I       Schedule command title     Duration, ms       Image: Schedule command title     500	56

6. Create commands for sending all necessary SoftGPI signals by repeating steps 3-5.

🥥 Settings	
Default pictures   Title obj CPU usage   General   Configuratio GPI events	ects   Time options   RPM   Video files preparation   Mirroring Schedule autoload   Default command parameters on   Input settings   Log-book   Time synchronization External device events   Autodetect events
Controller	1.500 : Output command "Stop_recording" 1.500 : Output command "Stop_recording"
Action Schedule comman	Actions editor
	Close

7. To close the application, click OK (8).

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#### 3.2. Creating a schedule

To add the Send signal commands to your FDOnAir schedule, open the Custom commands files page in the main window by clicking E.

For each Send signal command configured in the GPI events tab in the Settings window, three commands intended to send signals of different types (impulse (1), opening (2) and closing (3)) are displayed in the files page.



To add a command to your schedule, do the following:

- 1. Click on the Name field to place the position indicator (
- 2. In the Custom commands files page double click on the command line.

To see an example of a schedule with the Send signal commands check out the General Information section, p.3 "Sending GPI signal from FDOnAir".

#### 4. Setting GPI signals control in FDCapture

For more information on working with the FDCapture application, see the <u>FDCapture – Capturing Video and Audio</u> <u>Data User's Guide.</u>

To set GPI signals control, do the following:

- 1. Launch the FDCapture application by one of the following actions:
  - opening the file
     ~\Capture\FDCapture.exe, where ~ denotes the full path
     to the folder where the ForwardT Software is installed;
  - using the application shortcut on your desktop (1);



• through Start: ForwardT Software > Video > Capture.



🚰 FDCapture #1	
Capture Control 372,6 / 349,7 GB 16 : 57 : 42	×
Video 720 x 576, 25,00, CVBS8(2B), #1, Lower Dropped frames: 0 File Start	Stop
Audio     Line 1 Stereo - 48000/16/Stereo       Codec     SoftLab-NSK MPEG2 I-frames, 80-50/65, 5000	
Standard Timetable VTR	
Preview Control	
Preview in:     Image: Compression Load:     0%       Image: Compression Load:     0%       Image: Compression Load:     0%       Image: Compression Load:     0%       Image: Compression Load:     0%	
Audio Control	
Settings         ·96 · .64 · .72 · .60 · .48 · .36 · .24 · .12 · 0           ✓ Show Meters         ✓	>

The Program Settings window opens.



3. In the Program Settings window open the GPI control panel (2).

	Program Settings	
	- FD300/FD422/FD322/FD8- General Optimization	GPI Control GPI control settings for standard capture mode
	→ AVI files → Disk Management → Video	Enable input GPI for "Start capture" command Name: SoftIn_Start_rec      Type: On Closing
	<ul> <li>Video data compression</li> <li>Field order</li> <li>Date/Time Typing</li> <li>Text Typing</li> </ul>	Enable input GPI for "Stop capture" command Name: SoftIn_Start_rec  Type: On Closing
	Audio     Audio capture params     Audio level meter     VTB Bernote Control	Enable input GPI for "Split movie" command  Name: SoftIn_Start_rec      Type: On Closing
2)-	GPI Control	The GPI control is available only in the standard capture mode.     The GPI names for the "Start capture" (or "Stop capture") and "Split movie" commands must be different.
	OK Cancel << >>	

4. Select the Enable input GPI for "Start capture" command check box (3).

Program Settings	
- FD300/FD422/FD322/FD8 - General - Optimization	GPI Control GPI control settings for standard capture mode
Heles     AVI files     Disk Manageme     Uideo     Video     Video data con     on	Enable input GPI for "Start capture" command     Name: SoftIn_Start_rec      Type: On Closing
Field order Date/Time Ty Text Typing Audio	✓ Enable input GPI for "Stop capture" command     ✓
- Audio capture - Audio level meter - VTR Remote Control - GPI Control	Enable input GPI for "Split movie" command  Name: SoftIn_Start_rec      Type: On Closing      The GPI control is available only in the standard capture mode.
OK Cancel << >>	The GPI names for the "Start capture" (or "Stop capture") and "Split movie" commands must be different.

- 5. In the Name list (4) select the input GPI signal identifier. Select the one that is paired with that output signal which is configured to be sent from FDOnAir to start capturing.
- 6. Select the Enable input GPI for "Stop capture" command check box (5).
- 7. In the Name list (6) select the input GPI signal identifier. Select the one that is paired with that output signal which is configured to be sent from FDOnAir to stop capturing.
- 8. When using in FDOnAir the Send signal commands intended to send impulse signals, the Type parameter (7) can have any value.
- 9. To close the Program Settings window, click OK (8).

**Important:** Launch the FDCapture program before broadcasting.

# **Useful Links**

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

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

#### Support

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

forward@softlab-nsk.com

forward@softlab.tv

#### Forum

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

### **Documentation for Additional Information:**

FDCapture. Capturing Video and Audio Data

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