Administrator's Guide

Administrator's Guide. Introduction

On this page:

The purpose and structure of the Guide

POS PSIM. The Administrator's Guide is a reference manual to support the administration of the *POS PSIM* software package.

The purpose of the POS PSIM system

The *POS PSIM* software package is designed for monitoring cashier operations in retail outlets and has the following functionality:

1. Simultaneous viewing of the video image, the receipt contents and the POS-terminal events in real time.
2. Simultaneous recording of the video image, the receipt contents and the POS-terminal events.
3. Creating user queries allowing to search the video archive by receipt contents and by system events.
4. Integration with common POS-terminals.
5. Possibility to create, view and process general and itemized on the POS-terminal events in *Web Report System PSIM* subsystem.

Note.

WEB Report System PSIM subsystem is an optional component of *Axxon PSIM* software package and is delivered separately.

General description of the POS PSIM software

POS PSIM includes the following software modules:

1. The basic version of the *Axxon PSIM* software package — *Axxon PSIM* (base);
2. *POS-operations* module.

The *POS-operations* module has the following functionality:

1. Simultaneous viewing of the video image, the receipt contents and the POS-terminal events in real time.
2. Simultaneous recording of the video image, the receipt contents and the POS-terminal events.
3. Creating user queries allowing to search the video archive by receipt contents and by system events.
4. The module provides user interfaces for the following functional modules:
    a. *Monitor* module (video and titles display), represented by the **Monitor** window;
    b. *Search by captions* module (searching the video database by captions), represented by the **Captions search** window;
    c. *Receipt viewer* module (searching the receipts by event), represented by the **Receipt viewer** window.

The following databases are used in *POS PSIM*:

1. Internal database of the server — contains the system settings and the data on registered events.
2. Captioner — contains the data from POS-terminals.
3. Receipts database — contains the data from POS-terminals.

> **Note**
>
> By default, the received local timestamp is recorded to the corresponding *POS PSIM* database without any changes. To convert it to UTC, set the value "**1**" for the **UseLocalTimestamp** parameter (see Registry keys reference guide for details. For information about system registry, refer to Working with Windows OS registry).

Database has MS SQL format. A list of MS SQL Server versions, supported in *POS PSIM* is identical to the list of supported versions by *Axxon PSIM*.

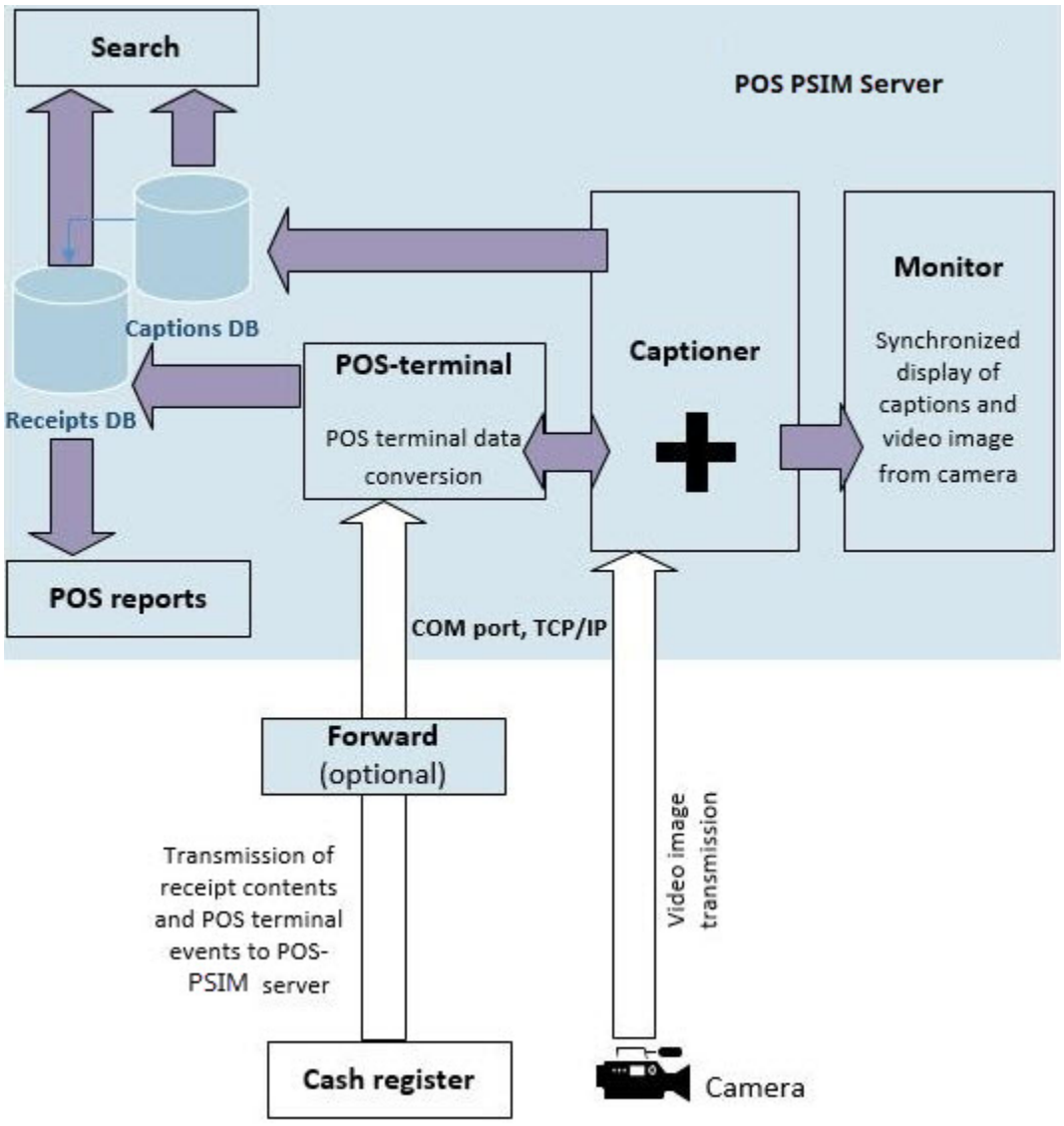
The *POS-operations* module uses the *Captioner* module, which is installed with *Axxon PSIM* (base) by default. Using the *POS-terminal* module, the *Captioner* module forms the receipts database; overlays the video image received from the surveillance camera with the receipt contents; adds the captioning results to the captioner, and displays the resulting video image via the **Monitor** interface object.

The *Search by captions* module allows searching the captioners, and the *Receipt viewer* module allows searching the receipts database. The captions and receipts databases are stored in the folder specified during the MS SQL Server setup, see the information at http://www.microsoft.com.

The video archive is stored in the folder specified during *Axxon PSIM* (base) setup; see the Axxon PSIM Software Package. The Administrator's Guide document.

The *POS PSIM* functionality is specified in the **psim.sec** key file of the *Axxon PSIM (base)* software platform; see the Axxon PSIM Software Package. The Administrator's Guide document.

The *POS-operations* module structure is shown in the figure below:


Search
POS PSIM Server
Captions DB
Receipts DB
POS-terminal
POS terminal data conversion
Captioner
Monitor
Synchronized display of captions and video image from camera
POS reports
COM port, TCP/IP
Forward
(optional)
Transmission of receipt contents and POS terminal events to POS-PSIM server
Video image transmission
Cash register
Camera

Hardware requirements

On the page:

Computer requirements

POS PSIM requires the same computer configuration as *Axxon PSIM (base),* see Axxon PSIM Software Package. The Administrator's Guide.

Operating system requirements

POS PSIM requires the same operating system configuration as *Axxon PSIM (base),* see Axxon PSIM Software Package. The Administrator's Guide.

Video camera requirements

POS PSIM requires the same video cameras as *Axxon PSIM (base),* see Axxon PSIM Software Package. The Administrator's Guide.

POS terminal requirements

We recommend creating no more than 200 **POS terminal** objects (see The POS terminal object setup procedure) on one computer to ensure fail-free system operation.

MS SQL software should be installed on the same computer as the **POS terminal** objects.

> **Attention!**
>
> Creating web reports (see WEB Report System PSIM. User Guide) may take a long time when there are lots of POS terminals and the receipt database storage is big.

Determine required disk space (receipts database size)

Disk space required for storage of receipts database can be calculated by the following formula:

Required disk space, GB = N (pcs.) * K (items/hr) * T (days) * 24 (hrs/day) * 2.4 (KB) / 10242 (KB/GB),

where

N is a number of objects generating events;

K is an average number of items per object per hour. It can be estimated experimentally in operation conditions;

T is an archive depth in days set while system configuration;

2.4 KB is a disk space required for storage of one event.

Example. Let us have 75 objects, each of them processes 1 item in 5 seconds (~720 items per hour). Archive depth is 90 days, 16 hours per day.

Required disk space, GB = 75 (pcs.) * 720 (items/hr) * 90 (days) * 16 (hrs/day) * 2.4 (KB) / (1024*1024) (KB/GB) = 177.98 GB ~ 180 GB

Personnel skills requirements

POS PSIM requires the same personnel skills as *Axxon PSIM (base). S*ee Axxon PSIM Software Package. The Administrator's Guide.

Installation of the POS PSIM system

General description of the POS PSIM distribution kit

POS PSIM is supplied as a software installation package (distribution kit). The current version of the distribution kit can be downloaded from the official AxxonSoft website.

The distribution kit contains all necessary software components for installing *POS PSIM* on a base computer.

The distribution kit allows you to install, restore, and remove *POS PSIM*.

Attention!

- Prior to installing, restoring or removing *POS PSIM*, the *Axxon PSIM* operation should be shut down.
- Administrator rights are required for installing, restoring or removing *POS PSIM*.

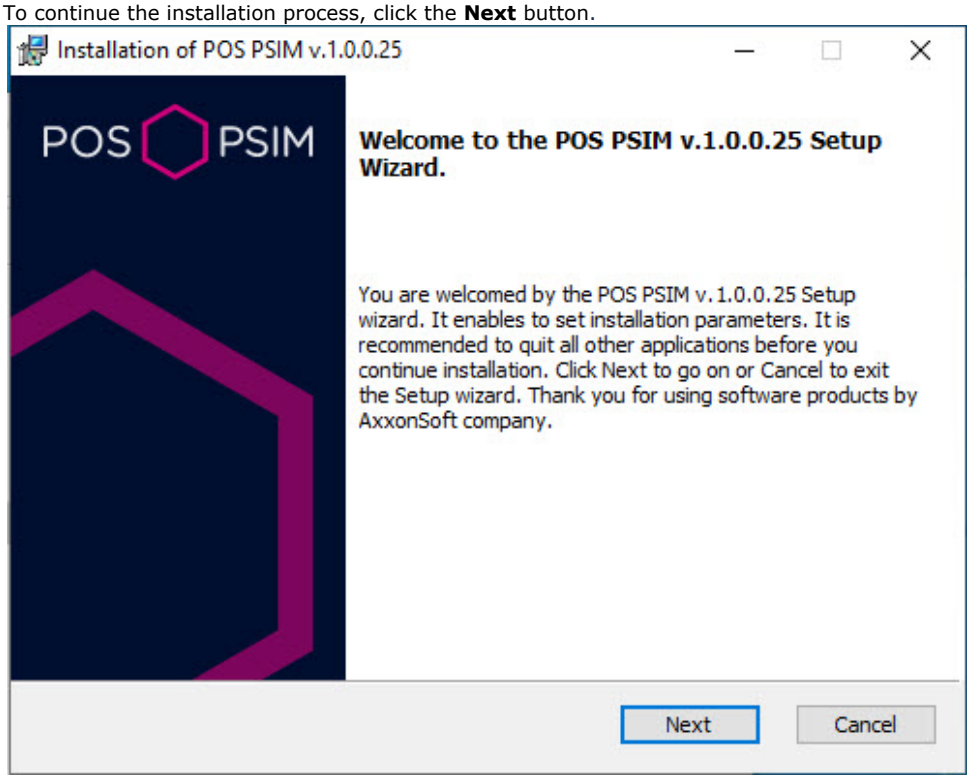
Installation

POS PSIM is installed as a part of *Axxon PSIM*.

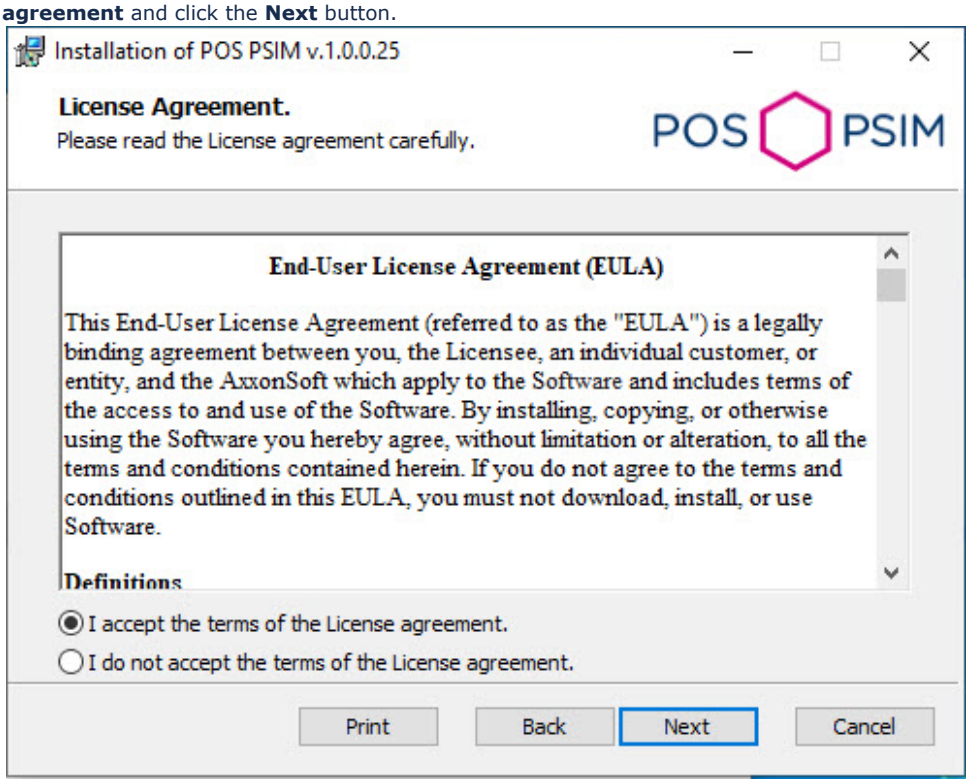
> **Attention!**
>
> *POS PSIM* should be installed on both the **Server/Remote Administrator's workstation** and the **Client**. For details, see Axxon PSIM. Administrator's Guide.

To install *POS PSIM*, do the following:

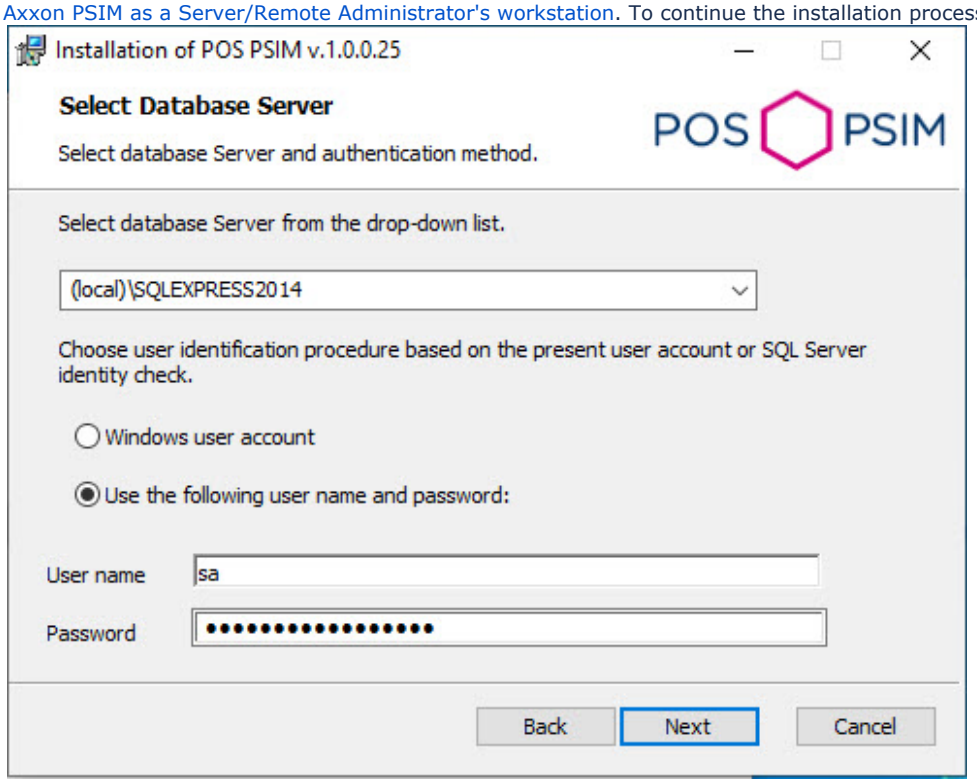
1. In the root directory of the distribution package, run the setup.exe executable file.
2. To continue the installation process, click the **Next** button.



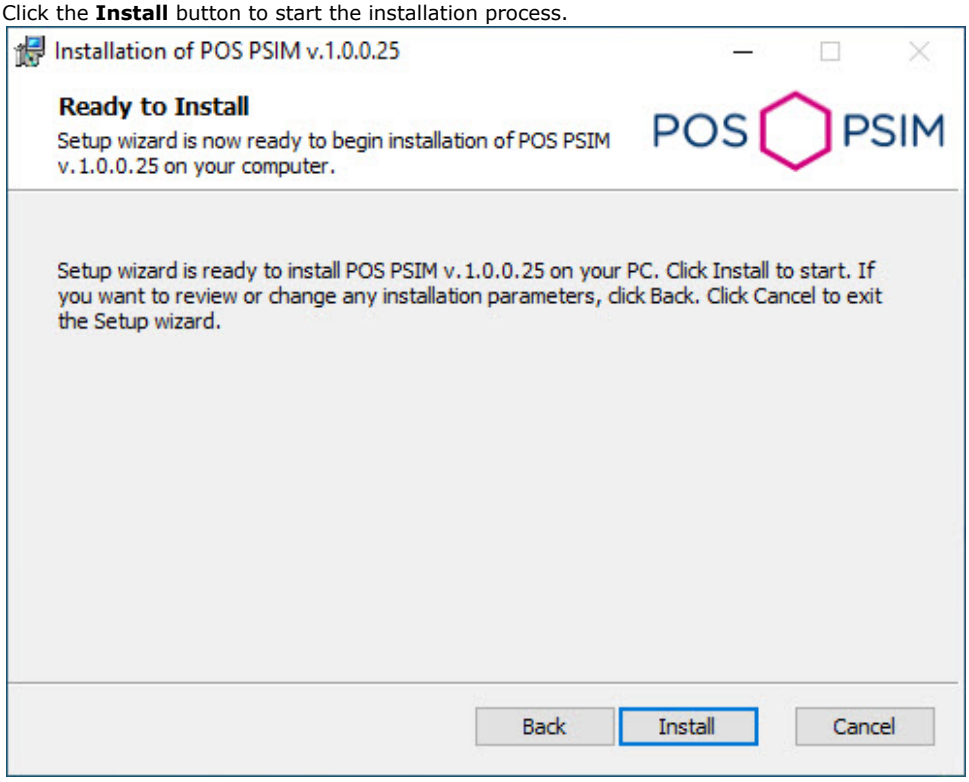
3. Read the terms of the license agreement carefully. Then set the radio button to **I accept the terms of the License agreement** and click the **Next** button.



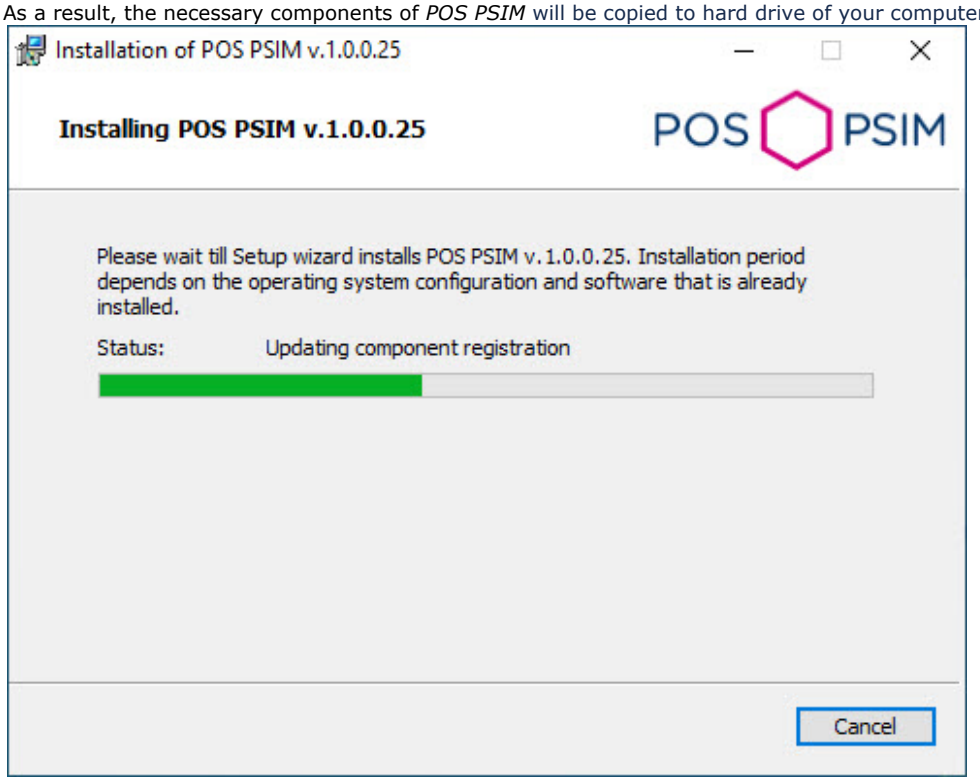
4. Select the database MS SQL Server and specify the authorization parameters for connection. For details, see Installation of Axxon PSIM as a Server/Remote Administrator's workstation. To continue the installation process, click the **Next** button.



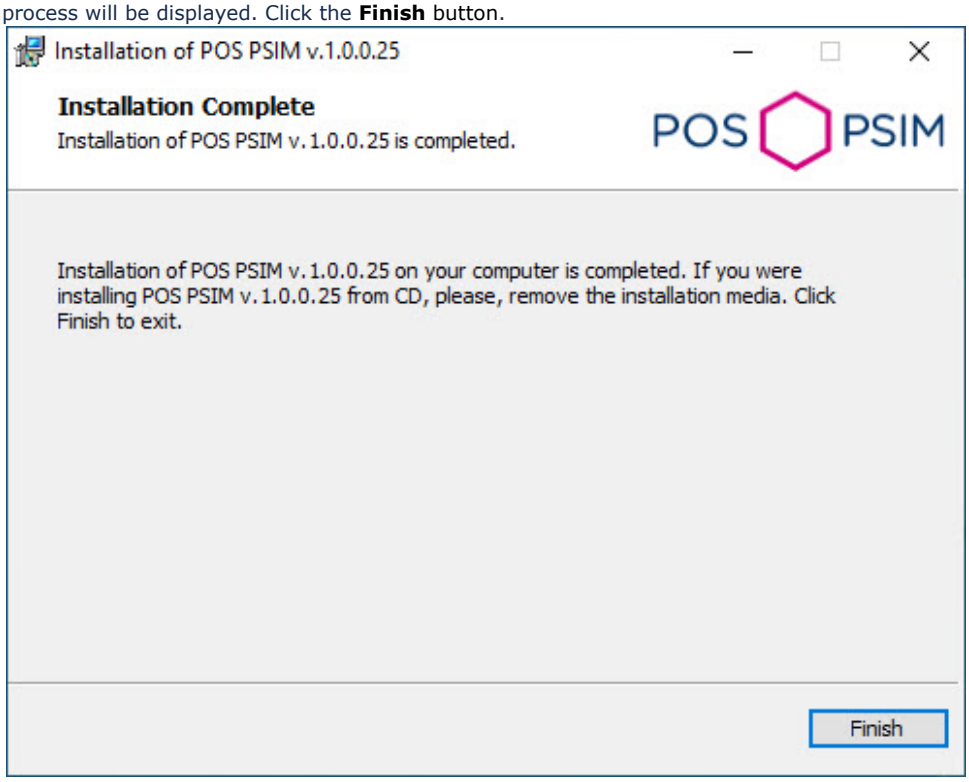
5. Click the **Install** button to start the installation process.



6. As a result, the necessary components of *POS PSIM* will be copied to hard drive of your computer.



7. After all software components are successfully copied on your hard drive, the message about the completion of the installation process will be displayed. Click the **Finish** button.



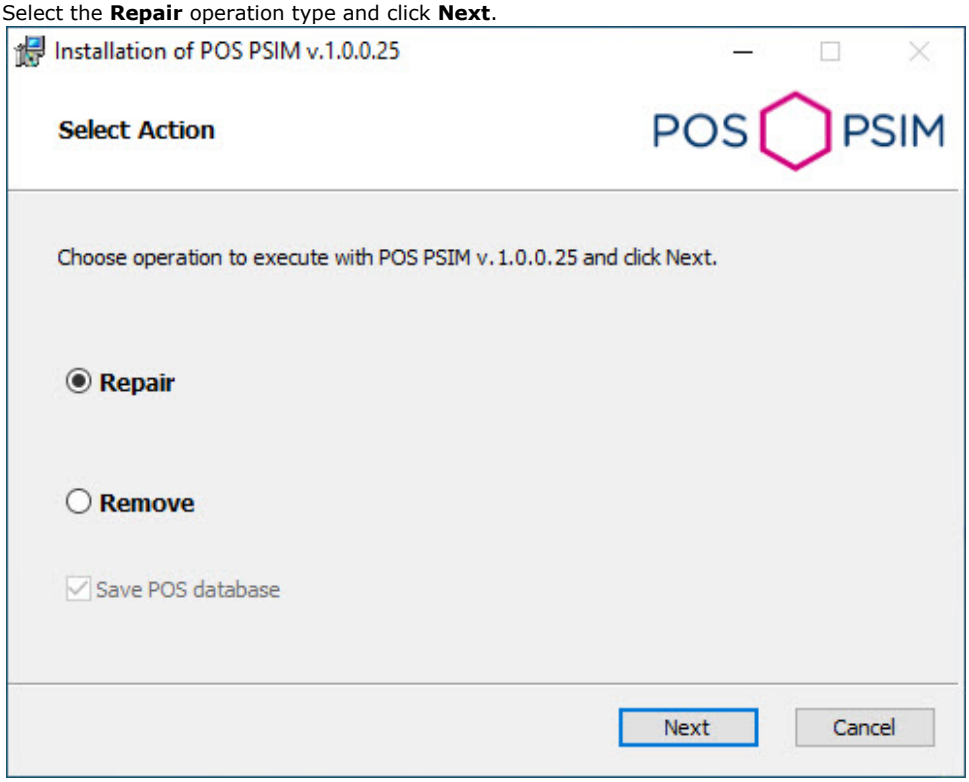
The *POS PSIM* installation is now complete.

Repair

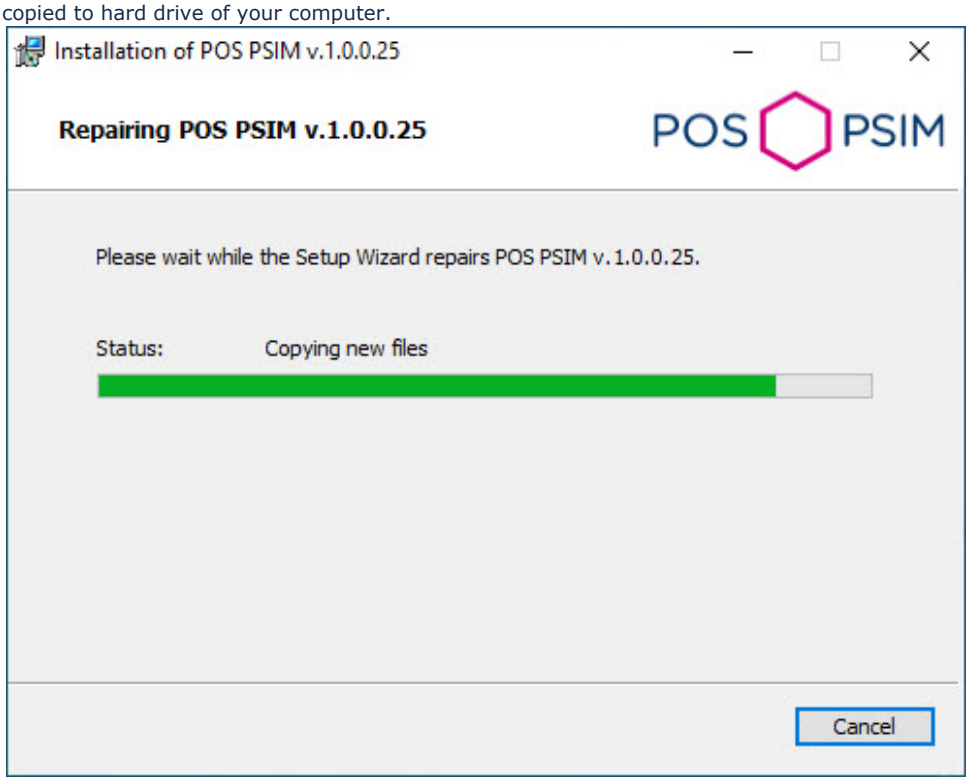
The repair mode is used if *POS PSIM* software components need to be re-installed.

To repair the *POS PSIM* software, do the following:

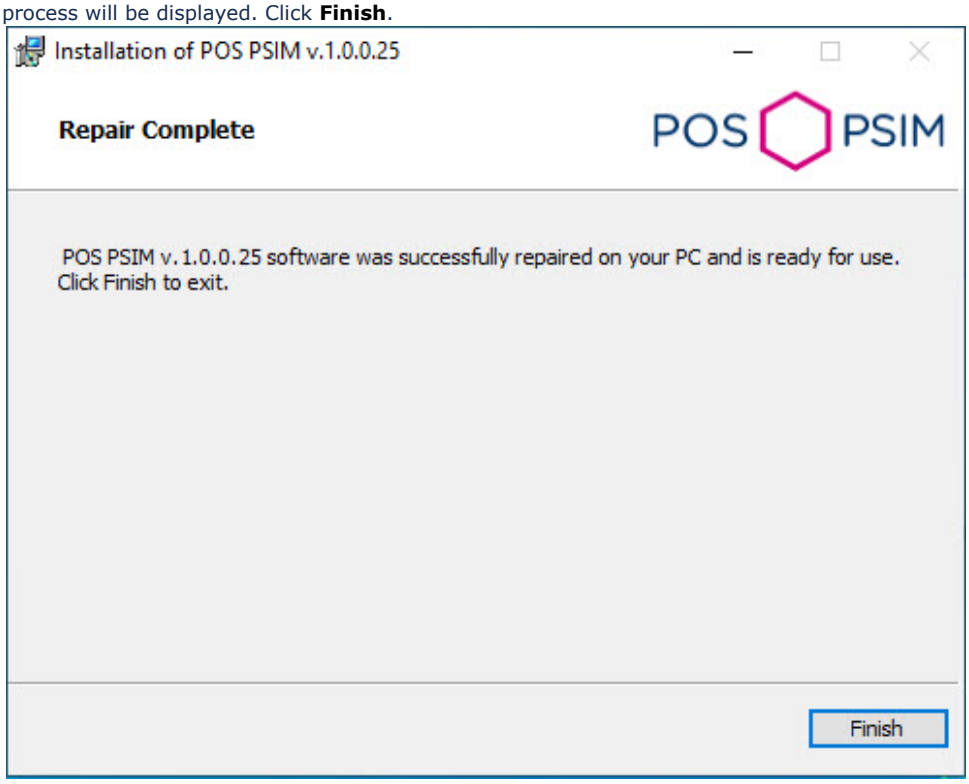
1. In the root directory of the distribution kit, run the setup.exe file.
2. Select the **Repair** operation type and click **Next**.



3. As a result, the installed components will be checked and the necessary components of the *POS PSIM* software package will be copied to hard drive of your computer.



4. After all software components are successfully copied on your hard drive, the message about the completion of the repairing process will be displayed. Click **Finish**.



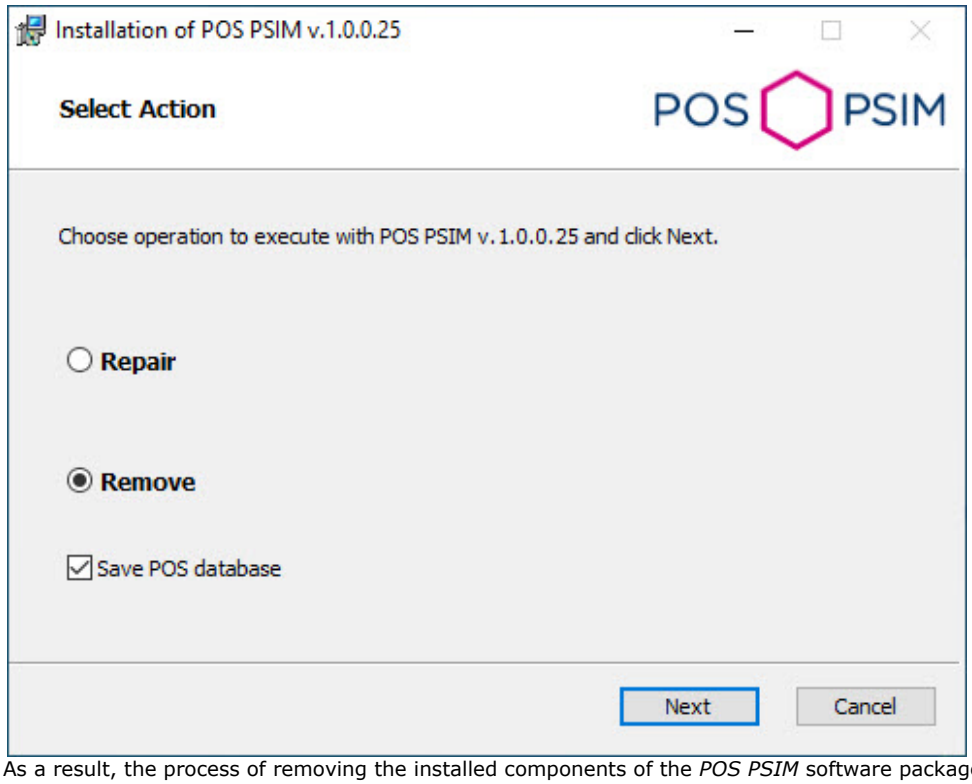
The *POS PSIM* repair is now complete.

Removal

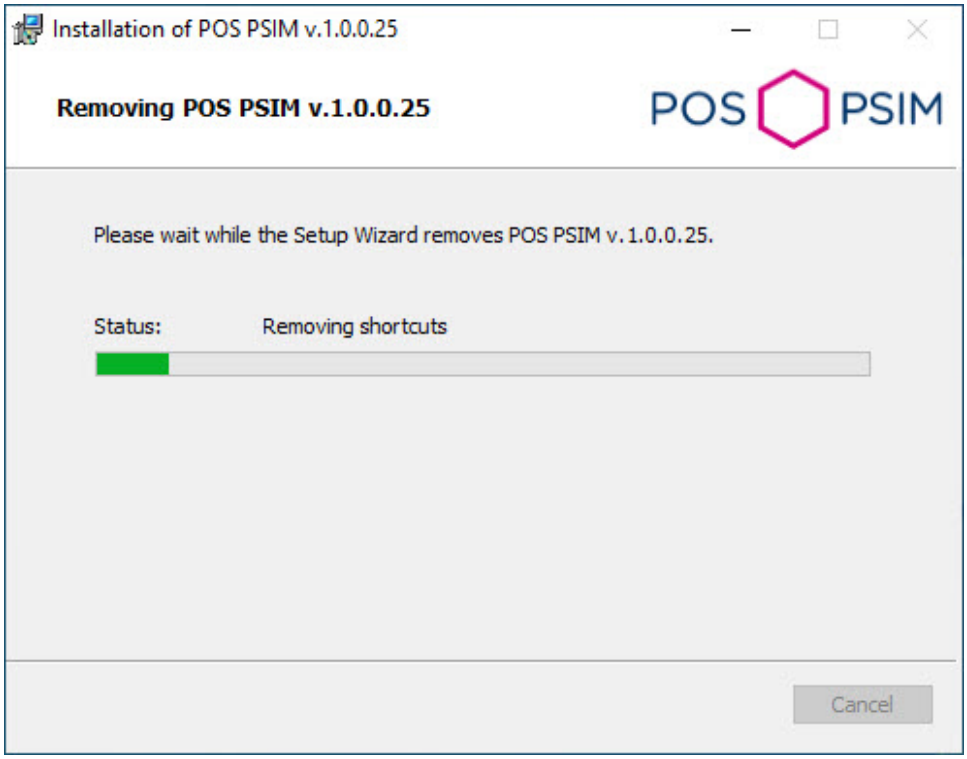
To remove the *POS PSIM* software, do the following:

1. In the root directory of the distribution kit, run the setup.exe file.
2. Select the **Remove** operation type and click **Next**.

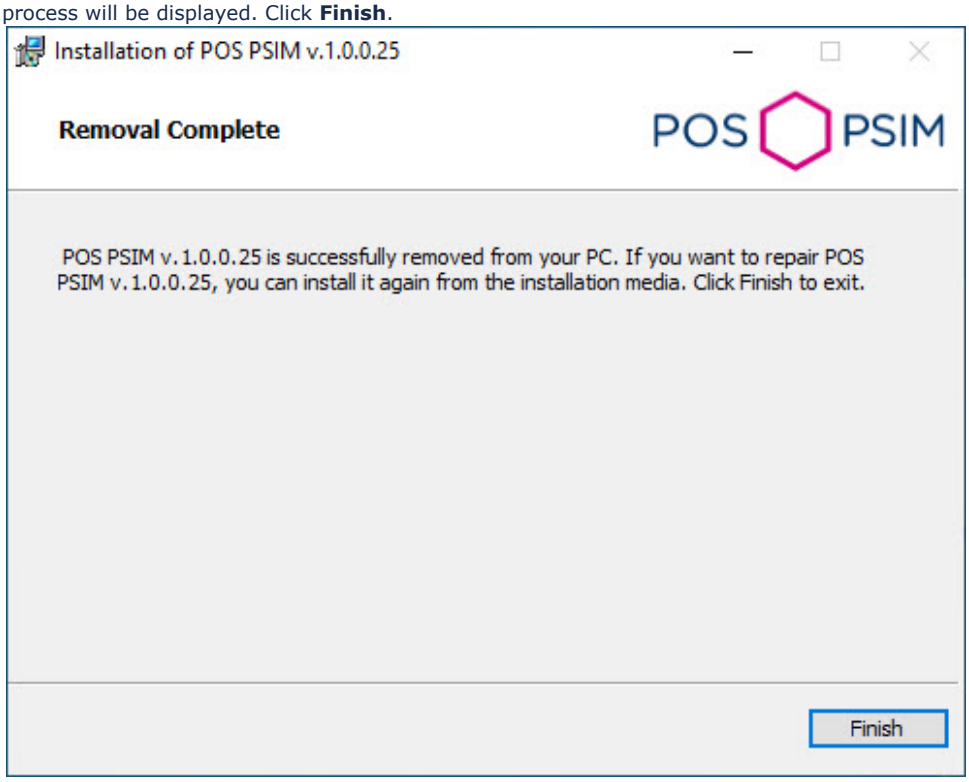
> **Note**
>
> To also remove the receipt face database, uncheck the **Save POS database** checkbox.



3. As a result, the process of removing the installed components of the *POS PSIM* software package from the hard drive of the computer will begin.


Installation of POS PSIM v.1.0.0.25
Removing POS PSIM v.1.0.0.25
POS PSIM
Please wait while the Setup Wizard removes POS PSIM v.1.0.0.25.
Status:
Removing shortcuts
Cancel

4. After all software components are successfully removed from hard drive, the message about the completion of the removing process will be displayed. Click **Finish**.



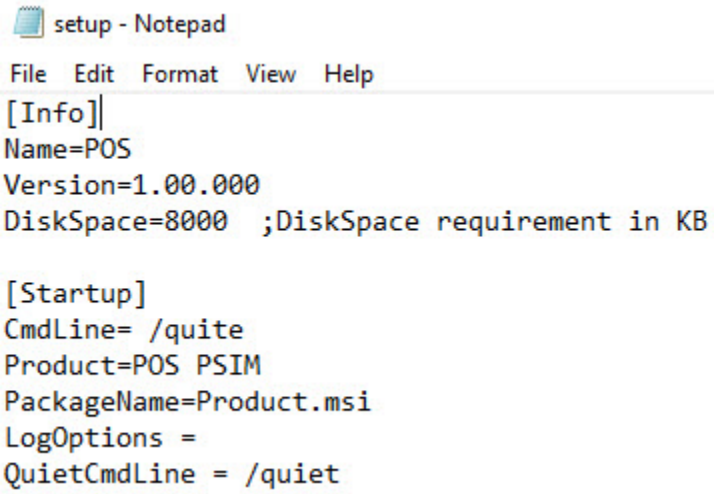
The *POS PSIM* removal is now complete.

Installation in silent mode

It is possible to install *POS PSIM* software in silent mode. To do this, select one of the following options:

1. In the setup.ini file, located in the directory with the *POS PSIM* distribution kit, specify the following:

```
CmdLine= /quiet
```



   When you run the setup.exe file, the *POS PSIM* installation in silent mode will begin.
2. Go to the directory with the *POS PSIM* distribution kit, and enter the following command at the Windows command prompt:

```
setup.exe /quiet
```

   Immediately after running this command, the *POS PSIM* installation in silent mode will begin.

Remote installation and deinstallation of POS PSIM

You can remotely install and deinstall *POS PSIM* using the wmic.exe command line utility. This utility is a part of Windows OS. To run the utility, enter "wmic" without quotation marks in Windows command line.

Detailed information about this utility can be found on Microsoft technical documentation page https://docs.microsoft.com/en-us/. At the moment of creating this section, the description of the utility is available at https://docs.microsoft.com/en-us/windows/win32/wmisdk/wmic.

> **Note**
>
> The wmic.exe utility does not work correctly with VMware virtual machines. It is not guaranteed to work with other virtual machines.

To run wmic on a remote computer, you should disable UAC (for instructions on how to do this, see OS settings for correct operation of Remote Admin Workstation or Server).

The installation and deinstallation methods described in this section apply to domain and extra-domain computers.

It is necessary to copy *POS PSIM* distribution kit to the computer local disks where the installation will be performed in advance.

To do this, you can use the following command line script:

```
xcopy %Path_to_folder_with_distribution_kit% %Network_folder_on_the_target_PC% /e
```

where:

- *%Path_to_folder_with_distribution_kit%* is the path to the folder with the distribution kit on the local computer:
- *%Network_folder_on_the_target_PC%* is the path to the folder on the computer where you want to install the software. You should have the write access to it;
- the */e* attribute copies all subdirectories and their contents, including empty directories.

> **Note**
>
> The UNC path is in the format \\<server IP address>\<Shared folder on this server>\... . The ellipses here represent the path from the shared folder to the folder with the distribution kit. If you are installing on the computers in the domain, specify the address of the server that contains the distribution kit folder available to all computers.

Detailed information about the xcopy utility can be found on Microsoft technical documentation page. At the moment of creating this section, the description of the utility is available at https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-xp/bb491035(v=technet.10).

Note that the installation method described in this section allows you to install or upgrade only the core product without any add-ons.

Remote installation of POS PSIM

In order to install *POS PSIM* on a remote computer, run the following command with the wmic.exe utility:

```
/NODE:"Computer_name" /USER:"User_name" /PASSWORD:"Password" product call install true, "%installer parameters%",
"%Path_to_folder_with_distribution_kit%\Product.msi"
```

Here:

- /NODE – the name of the target computer on which *POS PSIM* is being installed;

> **Note**
>
> The NODE list can be a text file that specifies the names of the target computers in column.

- /USER and /PASSWORD – login and password of the user who has the rights to install the software on the remote computer;
- "%Path_to_folder_with_distribution_kit%\Product.msi" – path to the Product.msi installer file you need to run. It is the local path to the folder to which you copied the distribution kit.;
- %installer parameters% – installer options. The following parameters can be applied to Product.msi:
    1. The parameters that can be applied to any msi file (for reference, run the msiexec.exe /? command in the command line from <WINDOWS>\system32\ directory).
    2. The parameters described in the setup.exe help article in the /CMD="[commands]" section (for reference, run the setup.exe /? command in the command line from the installer folder. These commands are also described in Installing Axxon PSIM™ software in a silent mode section).
    3. The parameters that are set in setup.exe during installation:
        - CMD_INSTALLTYPE – Client, Server, Admin;
        - REMOVEALL (0, 1) – removal with/without saving the configuration;
        - NOOSCHECK=1 – disable the OS compatibility check.

> **Note**
>
> The operation of these parameters is not guaranteed if there is a branch in the registry:
>
> - For x86 system: HKEY_LOCAL_MACHINE\SOFTWARE\AxxonSoft\PSIM\InstallPropertyInfo
> - For x64 system: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\AxxonSoft\PSIM\InstallPropertyInfo
>
> The branch has the parameters of the previous installation.

> **Example**
>
> Example of an installer parameter string:
>
> REBOOT=ReallySuppress LANGUAGE="en" TRANSFORMS="%Path_to_folder_with_distribution_kit%\languages\Setup\en\en.mst" CMD_INSTALLTYPE="Server"
>
> In the example above:
>
> REBOOT=ReallySuppress cancels computer reset at the end of installation.
>
> LANGUAGE="en" selects the product language. The product language is English.
>
> TRANSFORMS="%Path_to_folder_with_distribution_kit%\languages\Setup\en\en.mst" specifies the path to the installer language mst-patch (specifies the installer language).
>
> CMD_INSTALLTYPE="Server" specifies *Axxon PSIM* installation type – Server. It can also take the Admin value (if Remote Administrator's workplace installation type is required) and Client (if Remote Client installation type is required).

Remote deinstallation of POS PSIM

In order to deinstall *POS PSIM*, run the following command in the wmic.exe utility:

```
/NODE:"Computer_name" /USER:"User_name" /PASSWORD:"Password" product where name="Product_name" call uninstall
```

Here **Product_name** is the name under which *POS PSIM* is installed, usually **POS PSIM v.Build_number**. The name can be found in the registry in HKEY_LOCAL_ MACHINE\Software\Microsoft \Windows\CurrentVersion\Uninstall section.

POS PSIM configuration and setup

POS PSIM configuration and setup procedure

Configuration of *POS PSIM* includes the following stages:

1. Create and configure the **Captioner** objects for the cameras, the video image from which must be superimposed with captions.
2. Create and configure the **Shop** system object (used to generate reports in *WEB Report System PSIM*).

   > **Note**
   >
   > In order for the receipt data to be saved in the POS database, you must create the **Shop** object before POS terminals. Otherwise, you must click the **Apply** button on the settings panel of all POS terminals again or restart *Axxon PSIM*.

3. Create and configure the **POS terminal** system object.
4. Create and configure the **Captions search** interface object.
5. Create and configure up the **Receipt viewer** interface object.
6. Create and configure the **POS Replicator** system object (used to generate reports in *WEB Report System PSIM*).

> **Note**
>
> In addition, you must configure *WEB Report System PSIM* (see WEB Report System PSIM. User Guide).

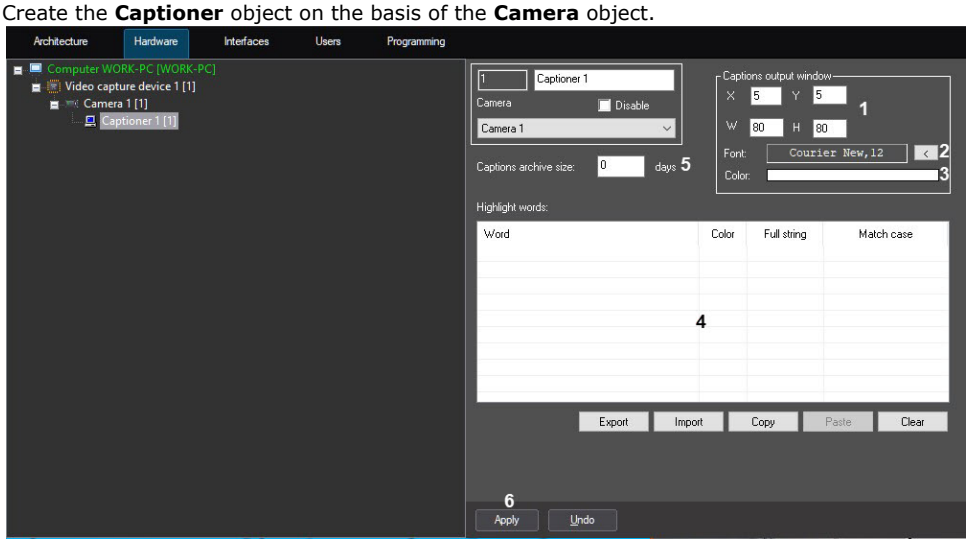
The Captioner object setup

The **Captioner** object is a child object of the **Camera** system object. It is used to configure captions display on a video recording and maintain captions database.

> **Attention!**
>
> If the incoming packets are sent to the POS terminal in the UTF-8 code, set the **1** value for the **DecodeUtf8** registry key for the correct display of captions (for details, see Registry keys reference guide, for more information about working with the registry, see Working with Windows OS registry).

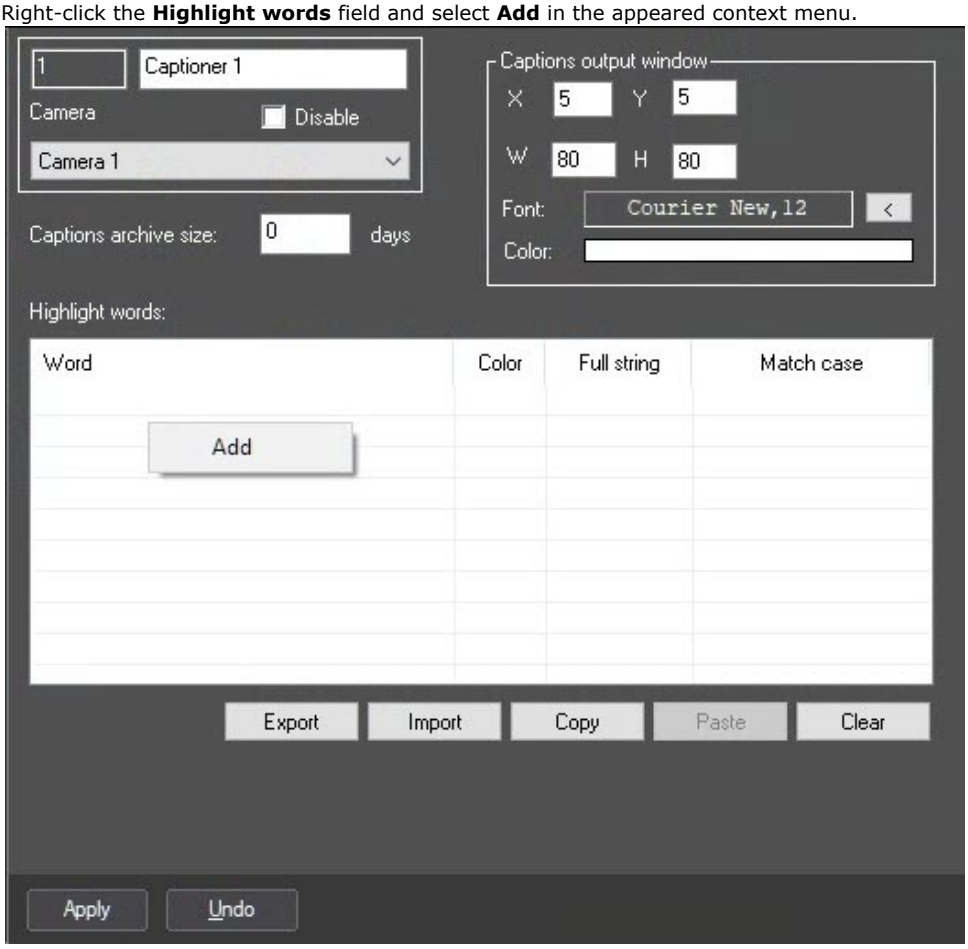
To configure the **Captioner** object, do the following:

1. Go to the **Hardware** tab of the **System settings** dialog box.
2. Create the **Captioner** object on the basis of the **Camera** object.

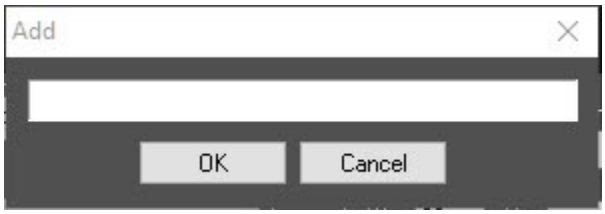


3. Specify the parameters of the captions output window (**1**):
   a. Set coordinates of the upper left corner of the captions output window: **X** (horizontal indent from left border of screen) and **Y** (vertical indent from top border of screen) fields.
   b. Set measurement of the captions output window: **W** (width of the captions output window) and **H** (height of the captions output window) fields.
4. Specify the parameters of font used for captions output:
   a. Click the < button (**2**).
   b. In the appeared Windows dialog box, specify font parameters and click the **OK** button.
   c. Double left-click the **Color** field (**3**)
   d. In the appeared Windows dialog box, select color and click the **OK** button.
5. Specify the parameters for words highlighting (**4**):

a. Right-click the **Highlight words** field and select **Add** in the appeared context menu.



b. In the appeared dialog box, enter a required word and click the **OK** button. The word is added to the **Highlight words** table.



c. Specify the color with which the word will be highlighted by double left-clicking the **Color** field next to the specified word. In the appeared Windows dialog box, select color and click the **OK** button.
d. If the full string with a word should be highlighted, then set the **Full string** checkbox.
e. If word characters should be matched, then set the **Match case** checkbox.
f. Repeat steps 5.1-5.5 for all required words.

> **Note**
>
> Use the context menu for operations with words in the table (right-click a word). If the table is to be cleared, then click the **Clear** button.

6. Specify the maximum number of days as the difference between the newest and the oldest entry in the captions database for the given captioner in the **Captions archive size__days** field (**5**). Entries which were added earlier than the specified number of days before the most recent entry will be automatically deleted "in a loop". If the **0** value is specified, the entries will not be deleted "in a loop".

> **Example**
>
> For example, the captions archive size is 1 day. On Friday, the captions from the **Captioner 1** were added to the captions database. On Saturday and Sunday the camera was turned off, and the captions were not recorded. On Monday the camera was turned on, and the captions from the **Captioner 1** from Friday remained in the captions database until the new record was added to the captions database of the **Captioner 1**. In 3 minutes after the new record was made on Monday, the captions from Friday were deleted.

7. Click the **Apply** button (**6**).

The **Captioner** object is now configured.

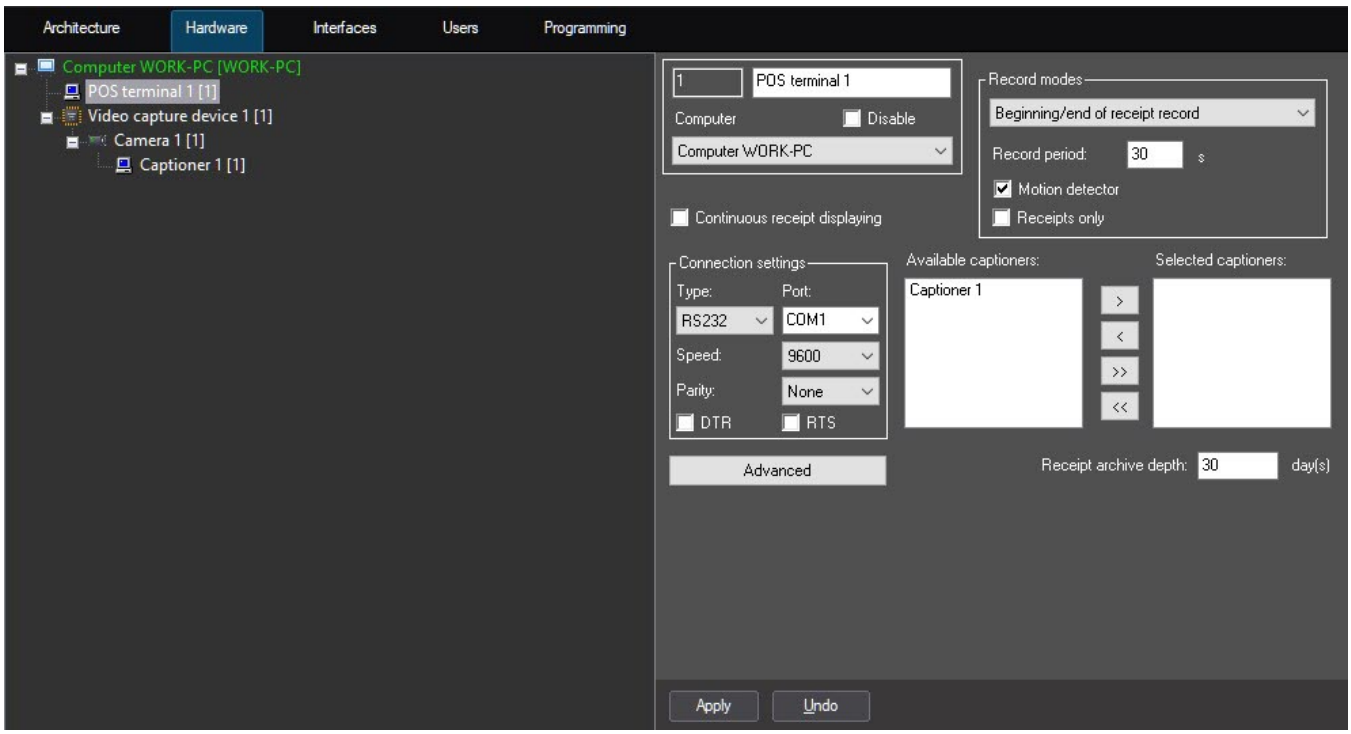
> **Note**
>
> Use the **Copy** and **Paste** buttons to import all settings from one **Captioner** object to another.
>
> The **Highlight words** table can be saved and imported from a file. The **Export** and **Import** buttons are used to save and import the table.

The POS terminal object setup

The POS terminal object setup procedure

The **POS terminal** object is the main object of *POS PSIM*. It processes the data received from the real-world POS terminals.

To create and set up the **POS terminal** object, use the **Hardware** tab in the **System settings** window.



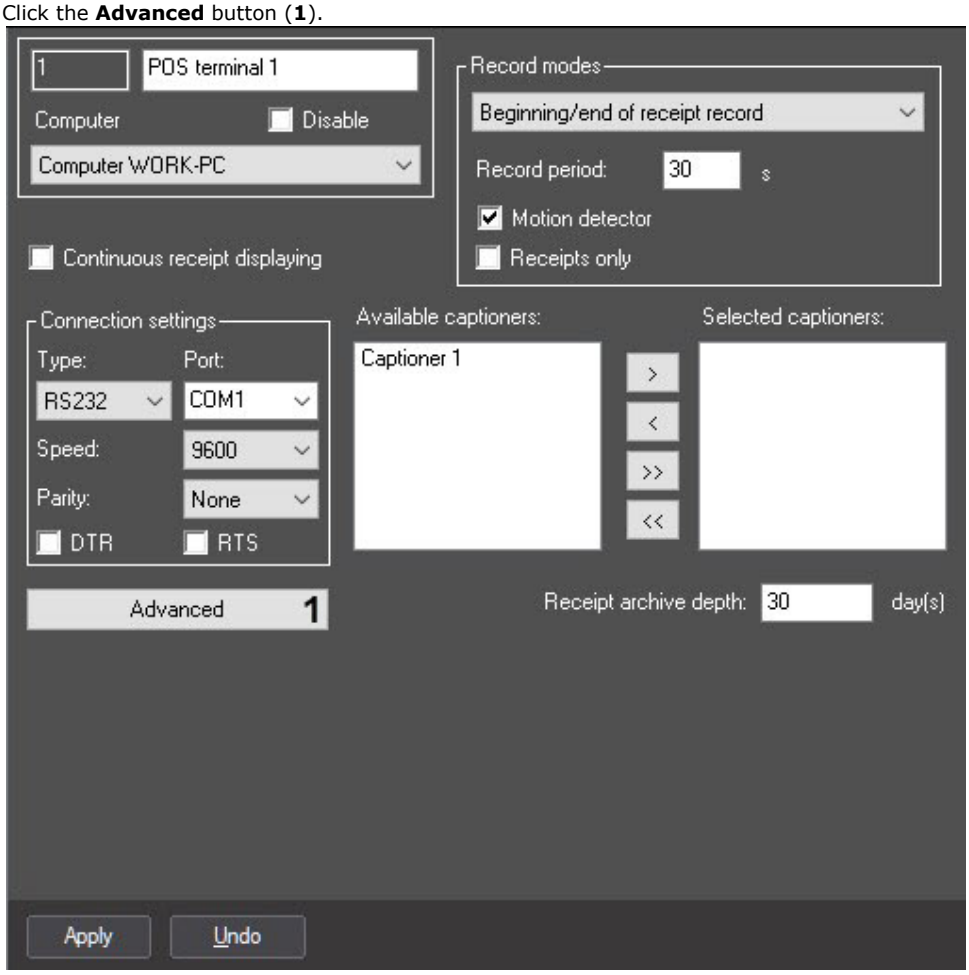
The **POS terminal** object setup includes the following steps:

1. Select the type of **POS terminal** and set the connection parameters.
2. Select the captioners.
3. Specify the receipt processing rules.
4. Specify the video recording parameters.
5. Specify the receipts archive size.
6. Specify the text events rules (optional).
7. If necessary, enable the continuous receipt displaying.
8. Set up the parser (optional).

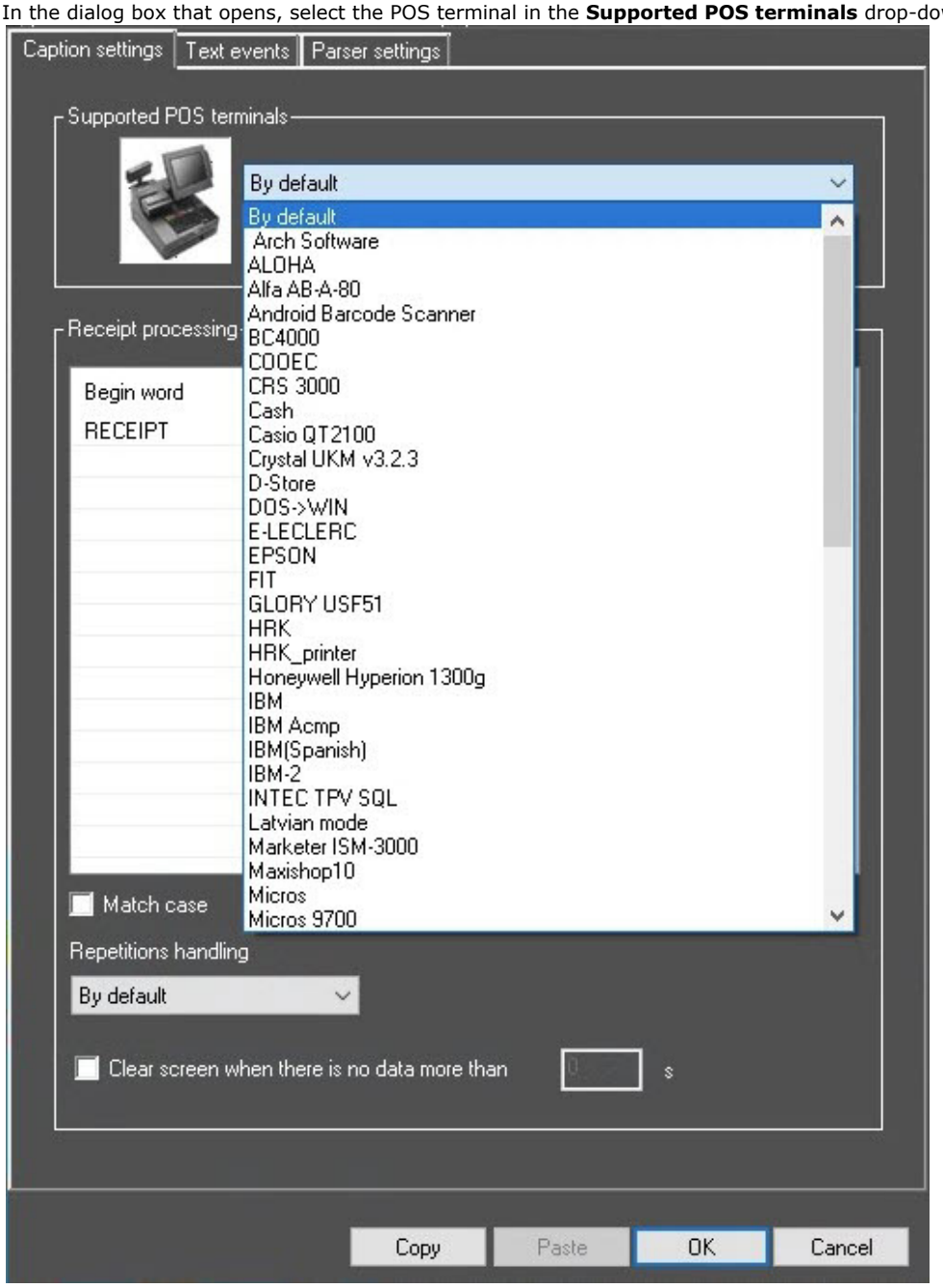
Selecting the type of POS terminal and setting the connection parameters

To start using a **POS terminal**, select its type and set up the connection. To select the type of **POS terminal** and set the connection parameters, do the following:

1. Click the **Advanced** button (**1**).



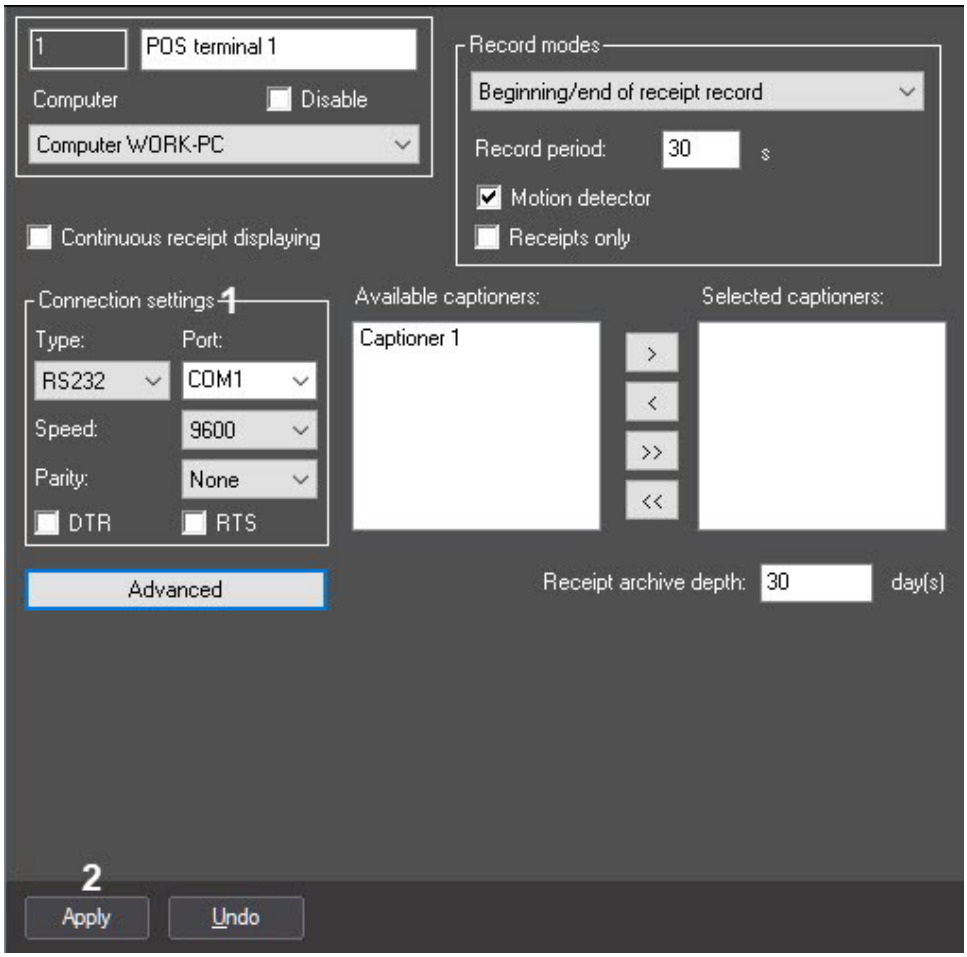
2. In the dialog box that opens, select the POS terminal in the **Supported POS terminals** drop-down list and click **OK**.



> **Note**
>
> Parser xml_titles.txt configuration is needed when choosing the XML protocol from the **Supported POS terminals** dr op-down list (see Parser types, and Description of XML protocol packages for interaction with POS PSIM system).

3. Specify the parameters in the **Connection settings** group (**1**).

> **Note**
>
> If a Serial-USB (Serial-Ethernet) adapter is used to connect the POS terminal, select RS232 in the Type field (see the Auxiliary communication devices section).



> **Note**
>
> To test the connection, use the HyperTerminal utility included in Windows (see the Testing the connection between the POS-server and the POS-terminal section).

4. Click the **Apply** button (**2**).

The type of POS terminal and its connection parameters are now set.

> **Attention!**
>
> To enable re-connection to the POS-server in case of connection failure (including regular connection failures) set the line **EnablePing** parameter to **1** in the Windows registry (for more details, refer to the Registry Keys Reference Guide).

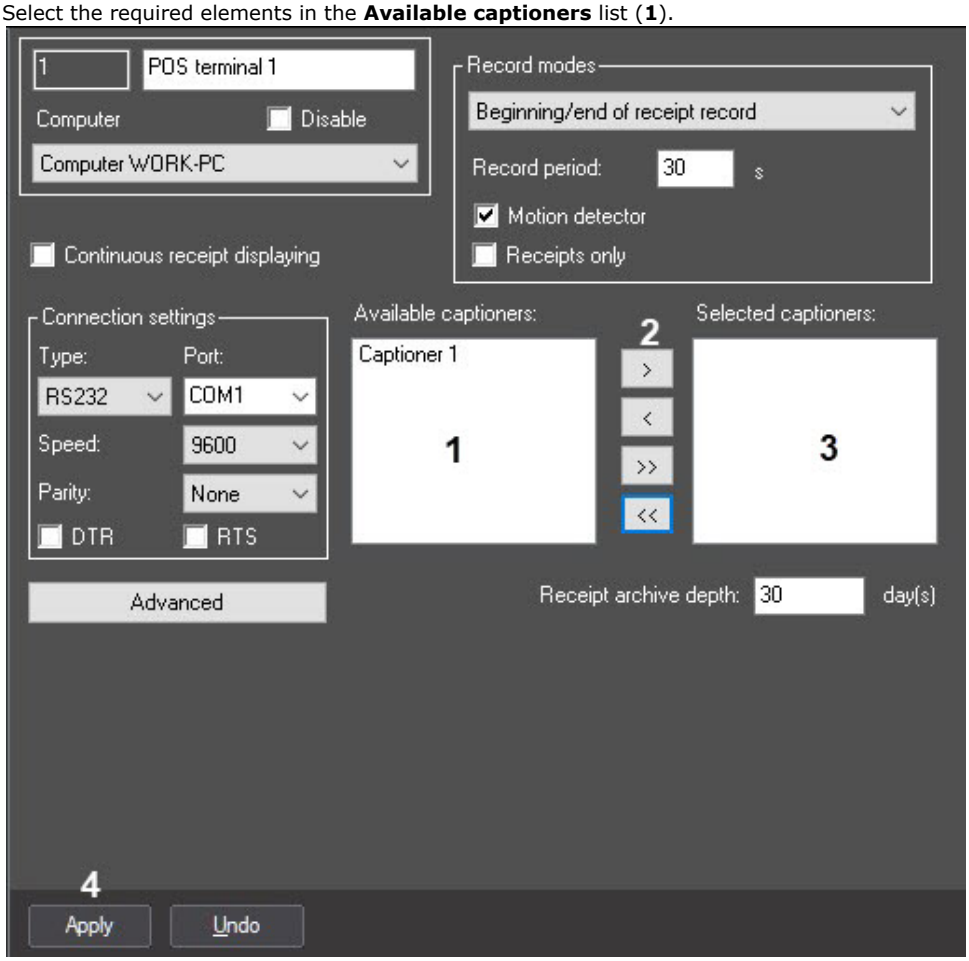
> **Attention!**
>
> If POS terminal failure occurred while connecting it to the *POS PSIM*, disable the COM port control by setting the **SetFlowControlNone** parameter to **0** in the Windows registry (for more details, refer to the Registry Keys Reference Guide).

> **Note**
>
> Handling the Windows registry is described in the *Axxon PSIM* Software Package. The Administrator's Guide document.

Selecting the captioners

Selecting the captioners allows you to specify to which captioners the processed data of the POS terminal should be sent. To select the captioners, do the following:

1. Select the required elements in the **Available captioners** list (**1**).



2. Click the > button (**2**) to move the selected captioners, or the >> button to move all captioners from the **Available captioners** list to the **Selected captioners** list (**3**).

> **Note**
>
> Alternatively, the < and << buttons are used to move the selected or all captioners from the **Selected captioners** list to the **Available captioners** list.

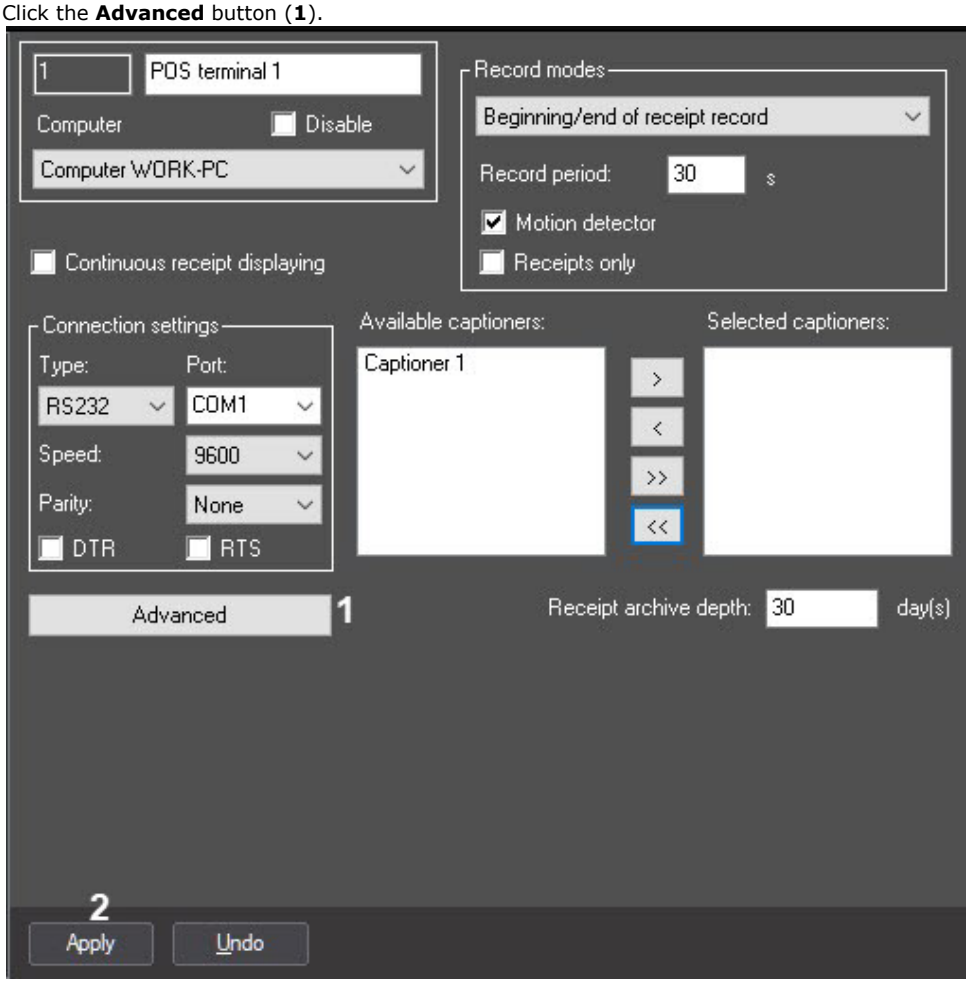
3. Click the **Apply** button (**4**).

The captioners are now selected.

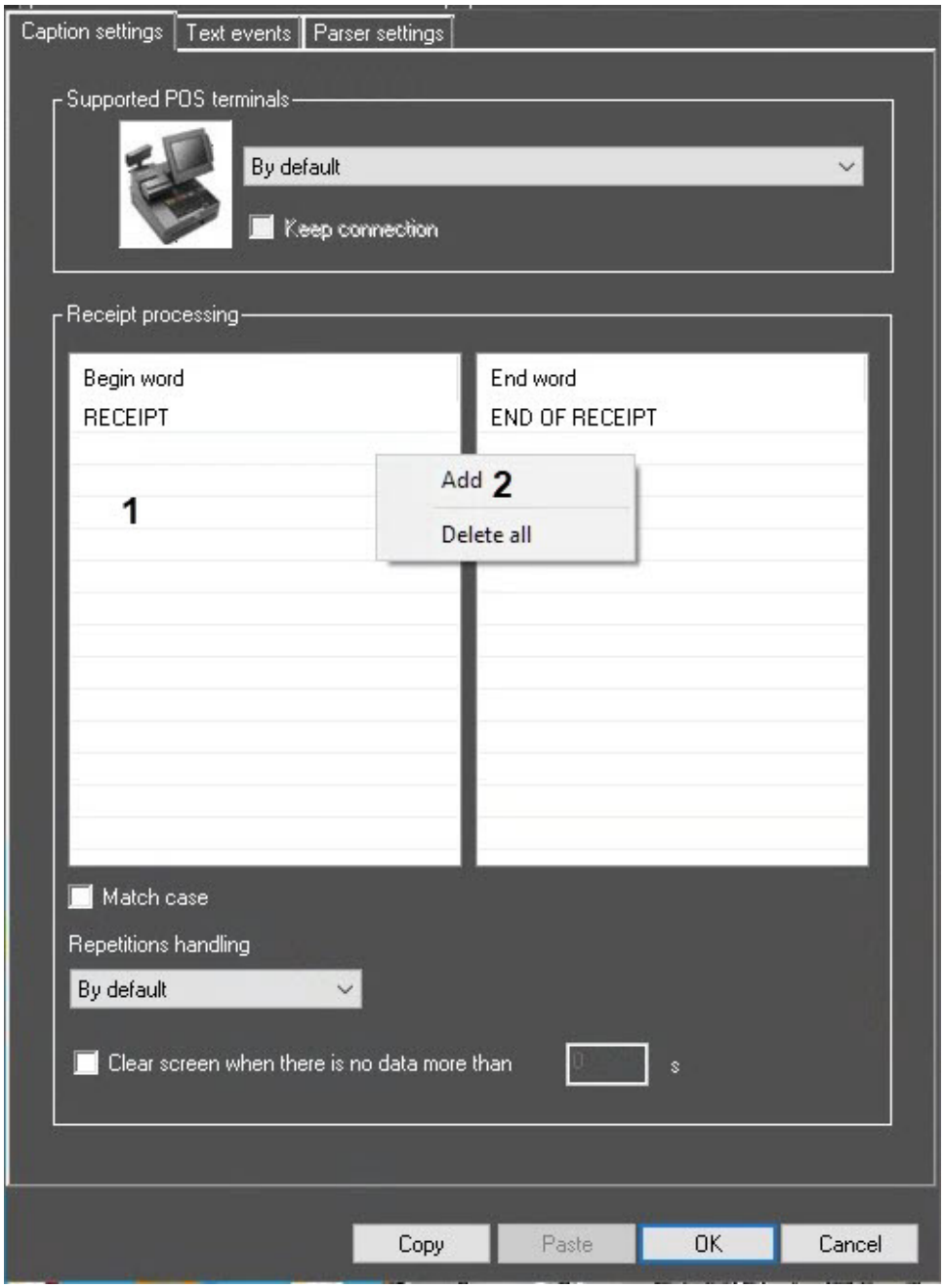
Specifying the receipt processing rules

The receipt processing rules determine the beginning and end of a receipt. To specify the rules, do the following:

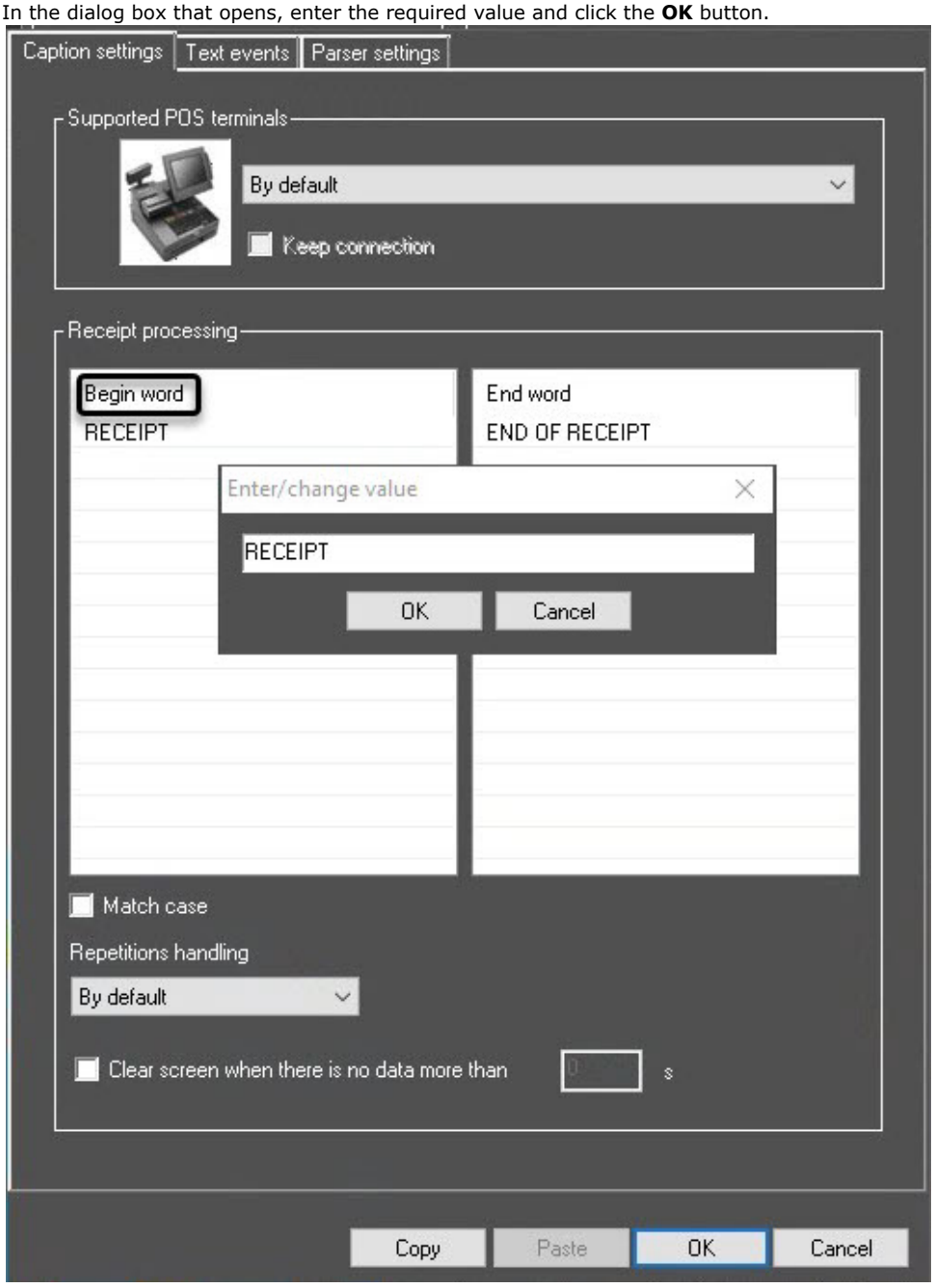
1. Click the **Advanced** button (**1**).



2. Specify the string of characters (words) denoting the beginning of a receipt. Right-click the **Begin word** column (**1**) to open the drop-down menu, click **Add** (**2**).


Caption settings
Text events
Parser settings
Supported POS terminals
By default
Keep connection
Receipt processing
Begin word
RECEIPT
End word
END OF RECEIPT
1
Add 2
Delete all
Match case
Repetitions handling
By default
Clear screen when there is no data more than
s
Copy
Paste
OK
Cancel

3. In the dialog box that opens, enter the required value and click the **OK** button.



The regular expressions can be also used to denote the beginning of a receipt.

> **Note**
>
> If you need to make the appropriate settings to use the regular expressions, contact the AxxonSoft company.

4. Repeat steps 2-3 for all words denoting the beginning of a receipt.

> **Note**
>
> To modify the words in the table, right-click a word to open the drop-down menu, or use the **Copy** or **Paste** buttons.

5. In the same way, specify the string of characters (words) denoting the end of a receipt. Right-click the **End word** column to open the drop-down menu, click **Add**, then enter the word in the dialog box that opens and click the **OK** button.
6. Repeat step 5 for all words denoting the end of a receipt.

Note

To modify the words in the table, right-click a word to open the drop-down menu, or use the **Copy** or **Paste** buttons.

7. Set the **Match case** checkbox (**1**) to make the begin and end words case-sensitive.

8. In the **Repetitions handling** drop-down list, select the **Ignore repetitions** option to make the system ignore all subsequent receipt begin words unless the end word of the current receipt is received (**2**).

Note

To recognize the receipts by the begin word only while ignoring end words, select the **By default** option in the **Repetitions handling** drop-down list.

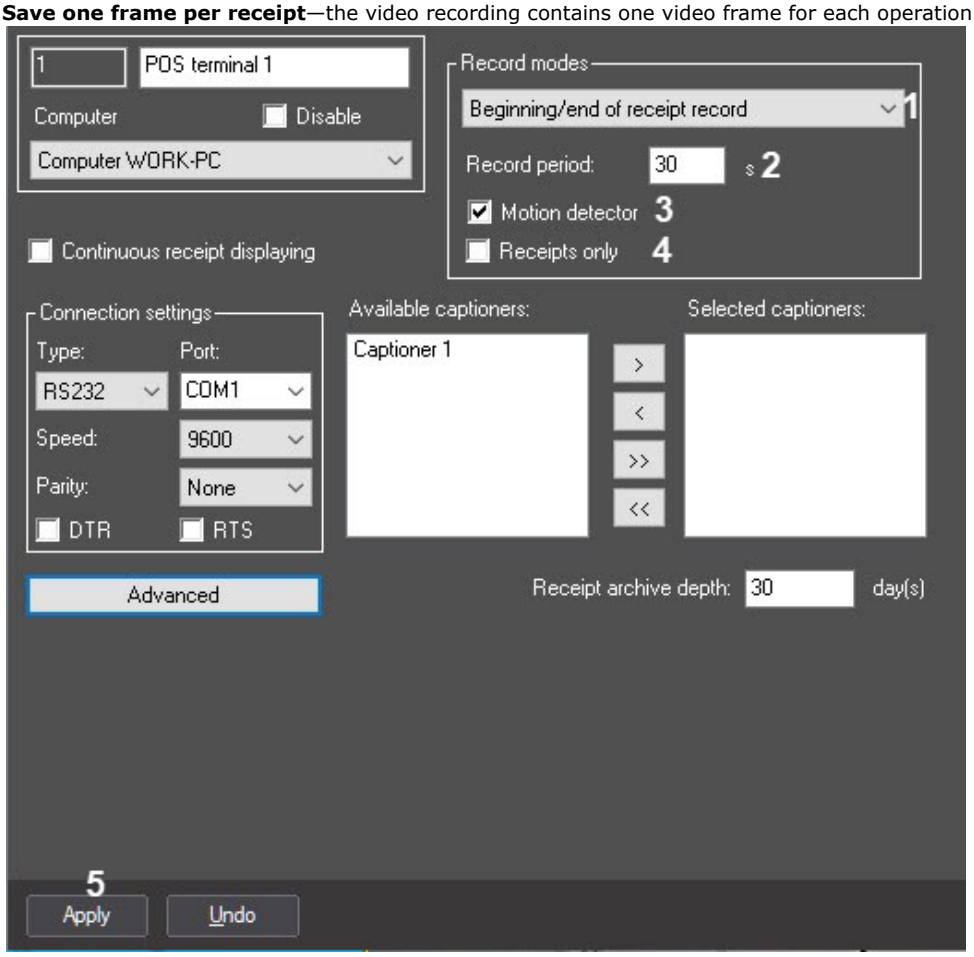
9. To clear the captions display area after a certain amount of time if no data is received, set the **Clear screen when there is no data more than___s** checkbox, and enter the waiting time (in seconds) in the text field next to it (**3**).
10. Click the **OK** button (**4**) to close the **Advanced** dialog window.
11. Click the **Apply** button (**2**) on the **POS terminal** object settings panel.

The receipt processing rules are now specified.

Specifying the video recording parameters

Video recording includes the video image received from the camera overlaid with receipt data. To specify the video recording parameters, do the following:

1. Select the video recording mode in the **Record modes** drop-down list (**1**). The following modes are available:
   a. **Continuous recording**—video is recorded continuously.
   b. **Beginning/end of receipt record**—video recording starts at the beginning of a receipt and stops at the end.
   c. **Save one frame per receipt**—the video recording contains one video frame for each operation in the receipt.



2. If the **Beginning/end of receipt record** mode is selected, enter the duration of the receipt record in seconds in the **Record period___s** field. Recording starts after receiving any events from the POS terminal, on which the beginning and end of the receipt are found between the strings (**2**).

> **Note**
>
> Record will be performed continuously if the **Record period___s** is 0 sec.

3. Set the **Motion detector** checkbox to enable the video recording upon a motion detector alarm (**3**).

> **Note**
>
> If the **Continuous recording** mode is selected, you don't need to enable recording upon motion detector.

> **Attention!**
>
> If the recording upon motion detector is enabled, clear the **Record alarms** checkbox in all cameras related to the captioners selected in this **POS terminal** (see Selecting the captioners). The **Record alarms** option in cameras settings is disabled automatically when the **Motion detector** option on the **POS terminal** object settings panel is applied.

4. Set the **Receipts only** checkbox to include into the captioners the receipt data between the begin and end word only (**4**).

> ⚠ **Attention!**
>
> When the **Receipts only** checkbox is set, but regular expressions of check begin and end are not set, recording to the **Captioner** database is not performed.

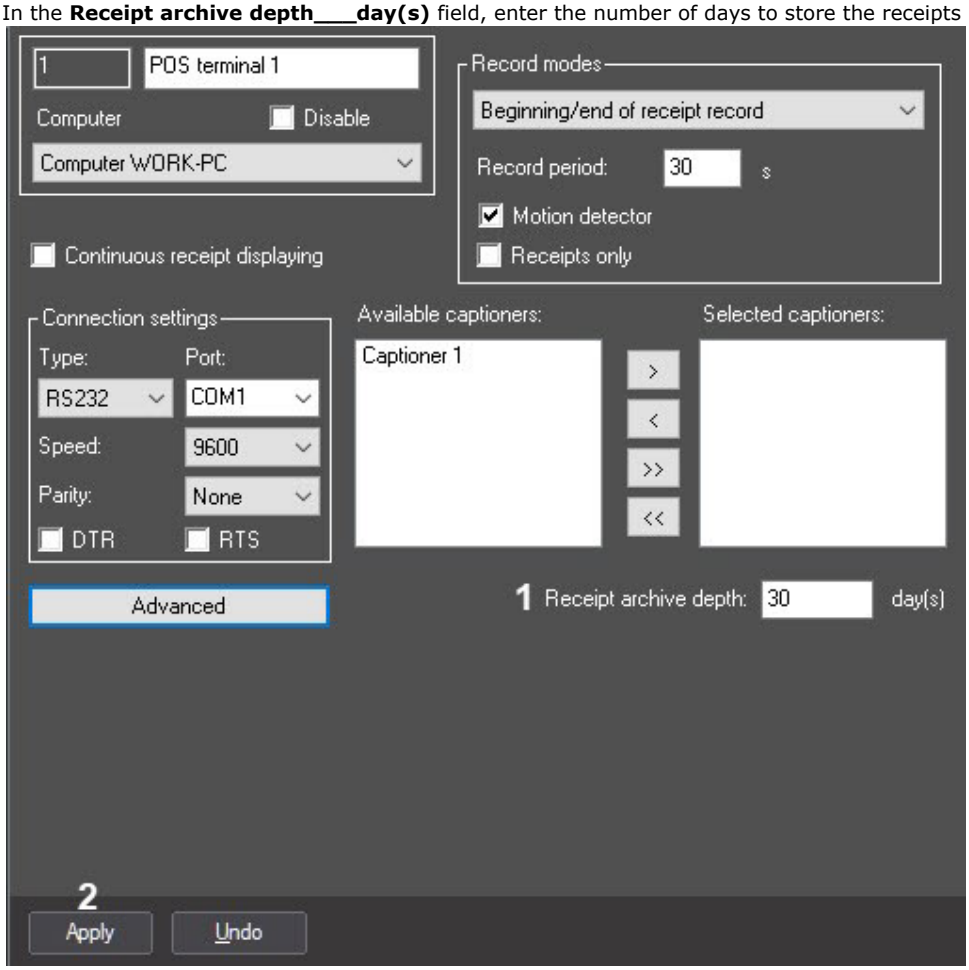
5. Click the **Apply** button (**5**).

The video recording parameters are now set.

Specifying the receipt archive depth

The receipts archive size limits the size of the receipts database. Old receipts are deleted automatically. To set the receipts archive size, do the following:

1. In the **Receipt archive depth___day(s)** field, enter the number of days to store the receipts (**1**).



2. Click the **Apply** button (**2**).

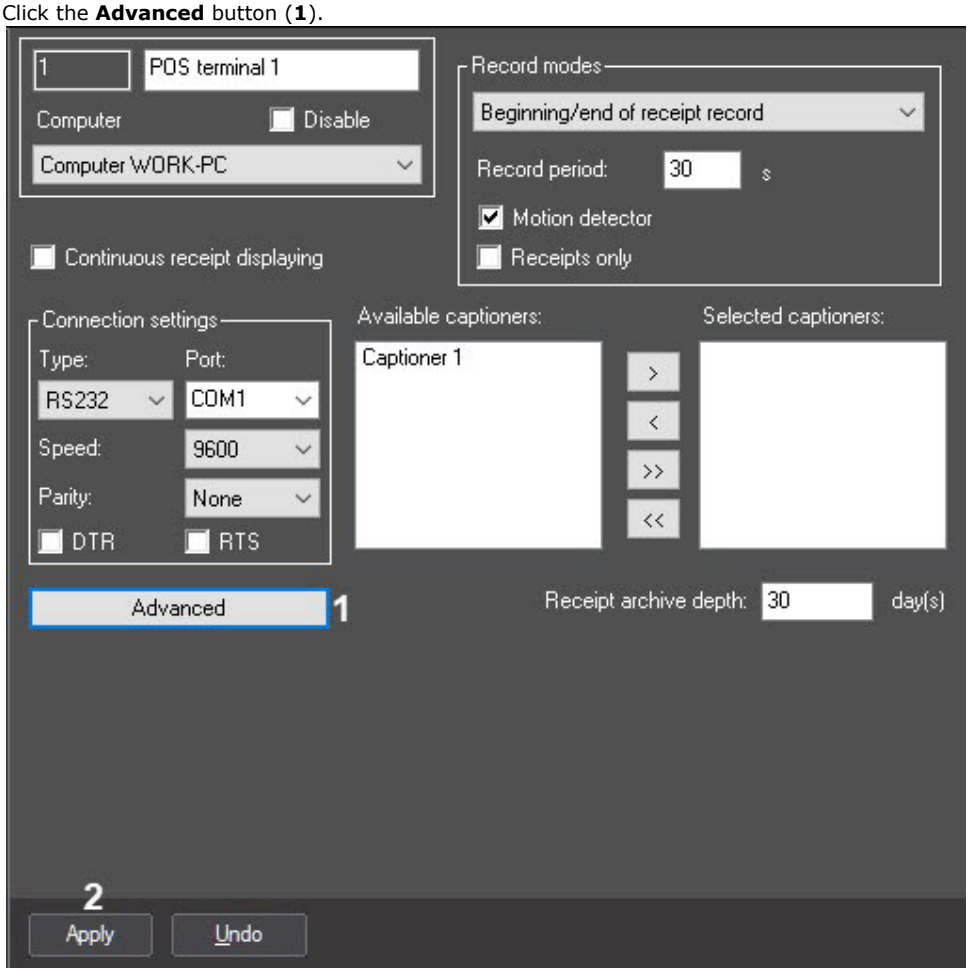
The receipts archive depth is now set.

Specifying the text events rules

Certain system events can be set to occur upon finding certain words in receipts. This is an optional function in addition to the system setup.

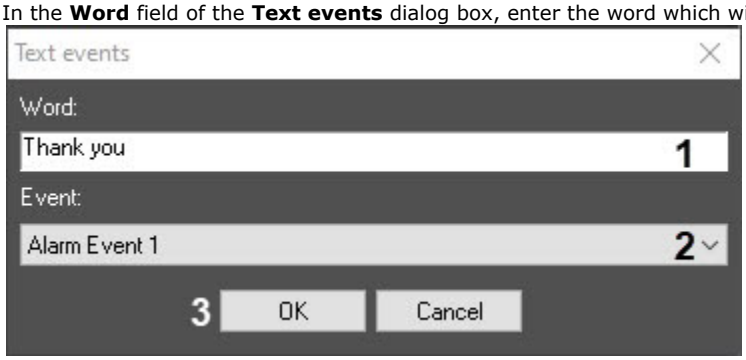
To specify the text events rules, do the following:

1. Click the **Advanced** button (**1**).



2. In the dialog window that opens, click the **Text events** tab (**1**) .

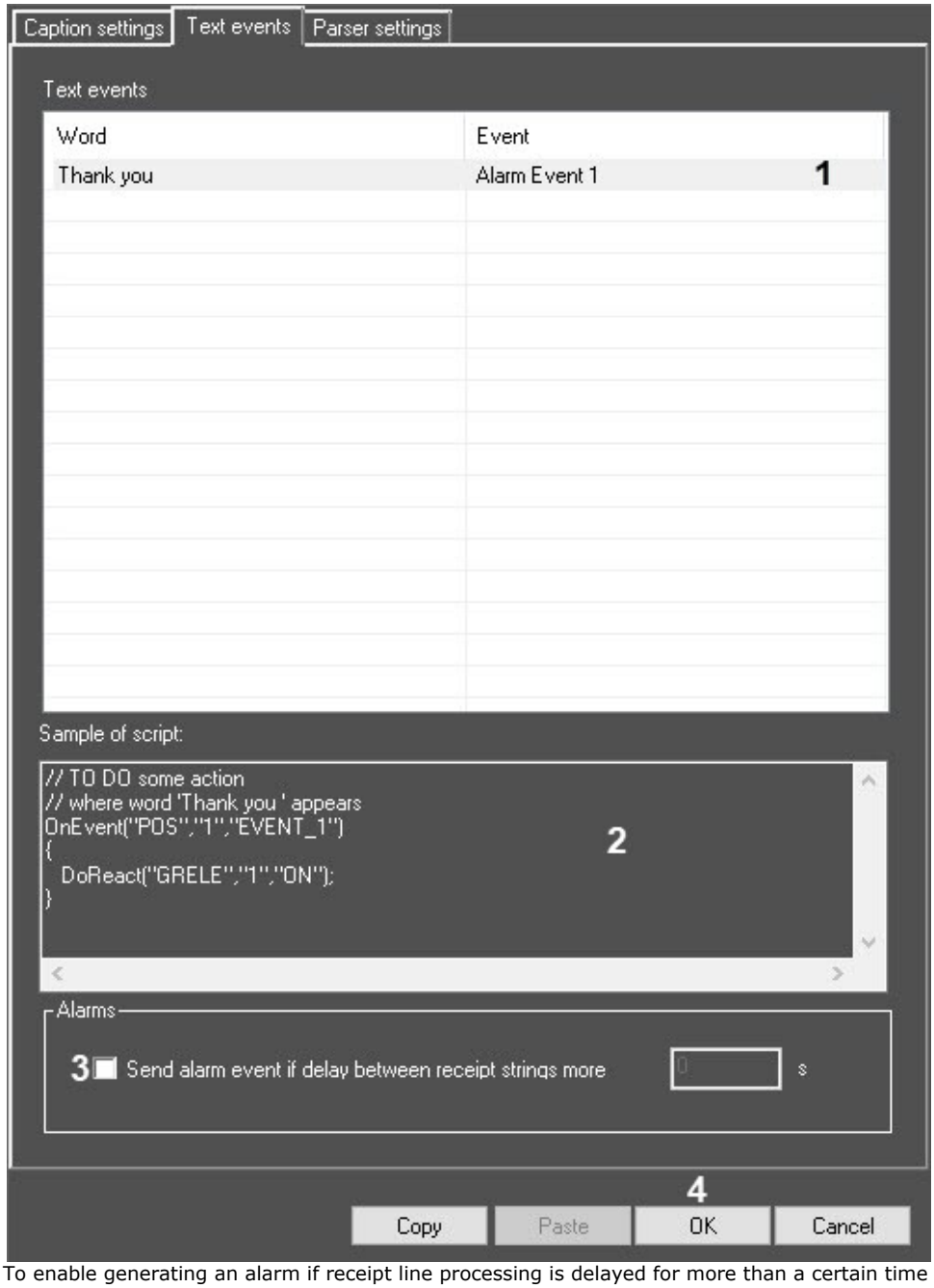
3. Right-click an empty cell in the table and select **Add** in the drop-down menu (**2**).
4. In the **Word** field of the **Text events** dialog box, enter the word which will activate an event (**1**).



5. In the **Event** drop-down list, select the event that should be activated (**2**).
   To set up the events, use the *Configuration setup utility* (ddi.exe) located in the **Tools** folder of the *Axxon PSIM* program folder. For the information on how to use the ddi.exe utility, see The Administrator's Guide.
6. Click the **OK** button to save the changes and close the **Text events** window (**3**).

7. Repeat steps 2 to 5 for all words and events.

> **Note**
>
> To modify the words in the table, right-click a word or event to open the drop-down menu, or use the **Copy** or **Paste** buttons.
> Click a line in the table (**1**) to see the script processing the word/event pair in the **Sample of script** field (**2**).



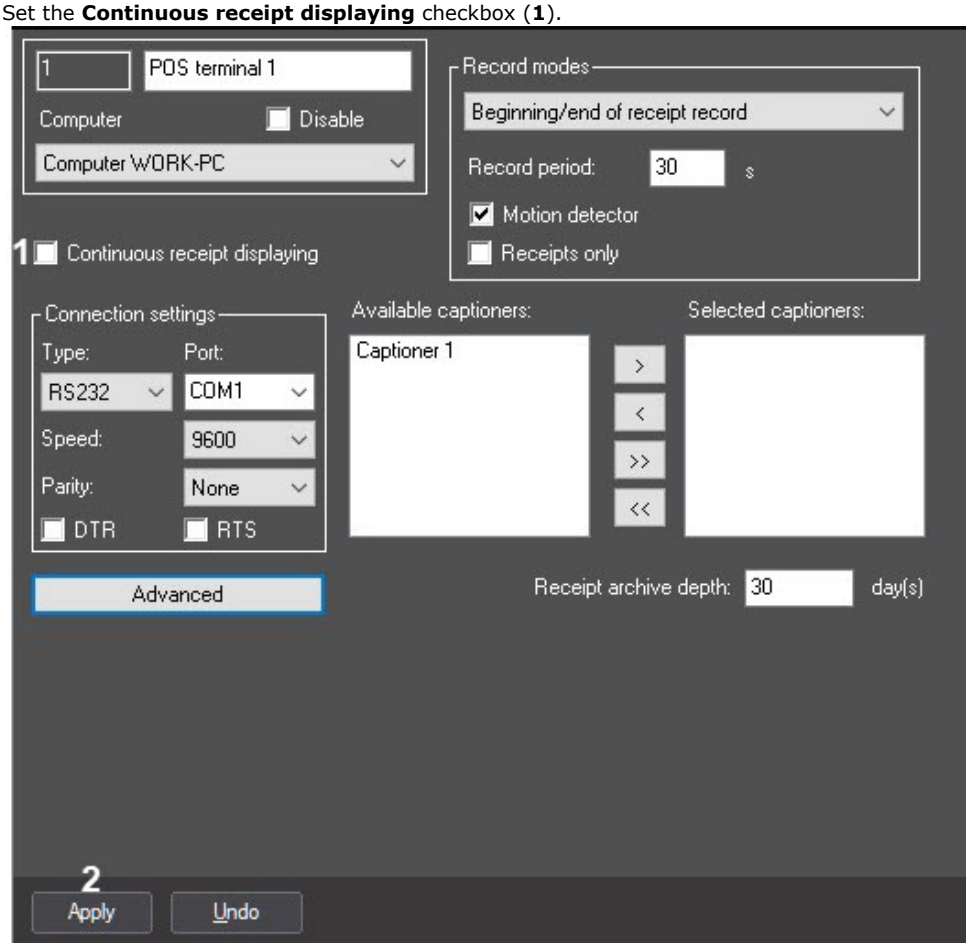
8. To enable generating an alarm if receipt line processing is delayed for more than a certain time interval, set the **Send alarm event if delay between receipt strings more___s** checkbox (**3**) and enter the delay (in seconds) in the field next to it.
9. Click the **OK** button to close this dialog window (**4**).
10. Click the **Apply** button (**2**) in the **POS terminal** object settings panel.

The text events rules are now set.

Enabling the continuous receipt displaying

Continuous receipt displaying option is used to put a space between receipts so that they do not overlap on the screen. If this option is disabled, the previous receipt becomes hidden when a new receipt is displayed. To enable the continuous receipt displaying on the screen, do the following:

1. Set the **Continuous receipt displaying** checkbox (**1**).



2. Click the **Apply** button (**2**).

Continuous receipt displaying option is enabled.

Setting up the parser (optional)

Parser types

The data is added to the receipts database using the parser which processes the receipts. This is an optional function in addition to the system setup.

> **Note.**
>
> The user can create structured queries on the receipts database (see the Editing the receipts database queries (optional) section).

Depending on the protocol of data transfer from the POS-terminal to the POS-server, the database can be filled up:

1. using the xml_titles.txt parser;
2. using a .prl parser.

The xml_titles.txt parser specifies the rules for adding data to the receipts database if the data is transferred from the POS-terminal to the POS-server using the XML protocol. The parser contents depend on the structure of the XML data. To use the xml_titles.txt parser, the parser file should be located in the ***<POS PSIM* program folder>\Modules\Pos** folder.

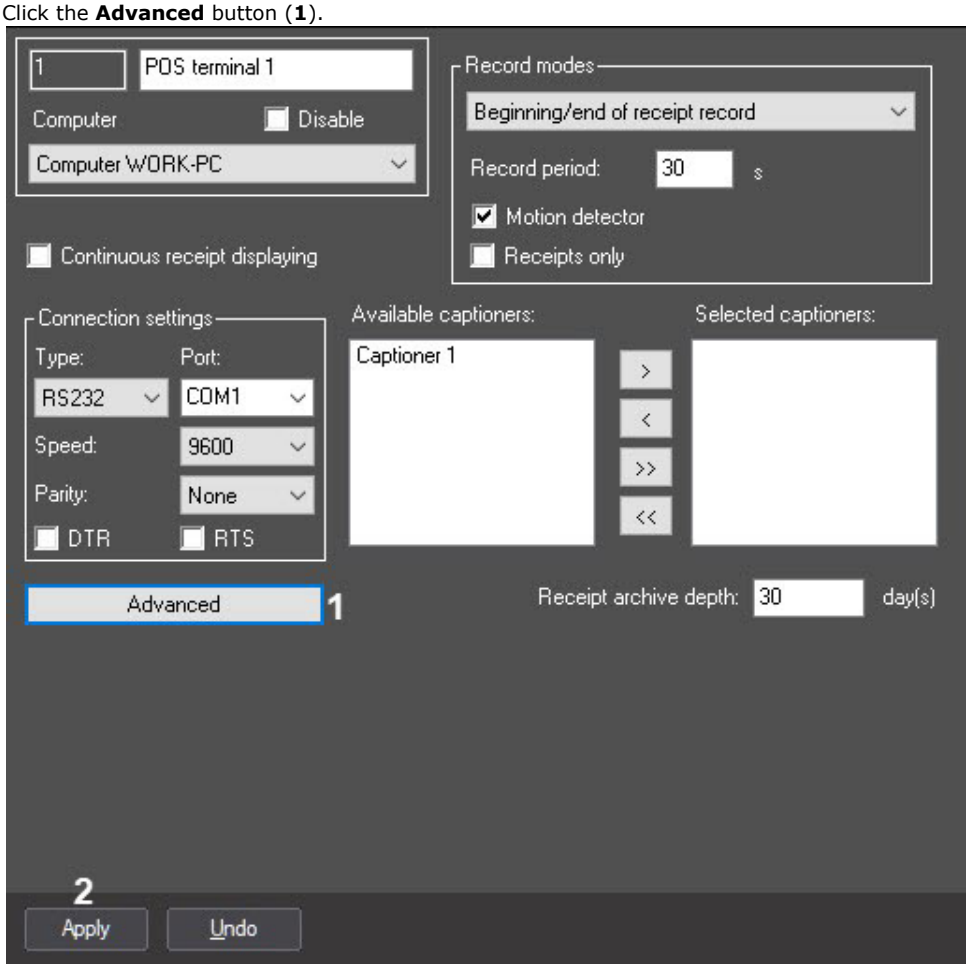
If the POS-terminals connected to the POS-server have the same XML data structure, common xml_titles.txt file can be used. If the POS-terminals connected to the POS-server have different XML data structures, a separate parser should be created for each terminal. The parsers should have files of the **xml_titles_N.txt** form, where N is the number of the corresponding POS-terminal object.

The .prl parser specifies the rules for adding data to the receipts database if the data is transferred from the POS-terminal to the POS-server using a protocol other than XML. The parser contents depends on the POS-terminal data structure. To use a .prl parser, its file should be imported into the system.

Import of .prl parser

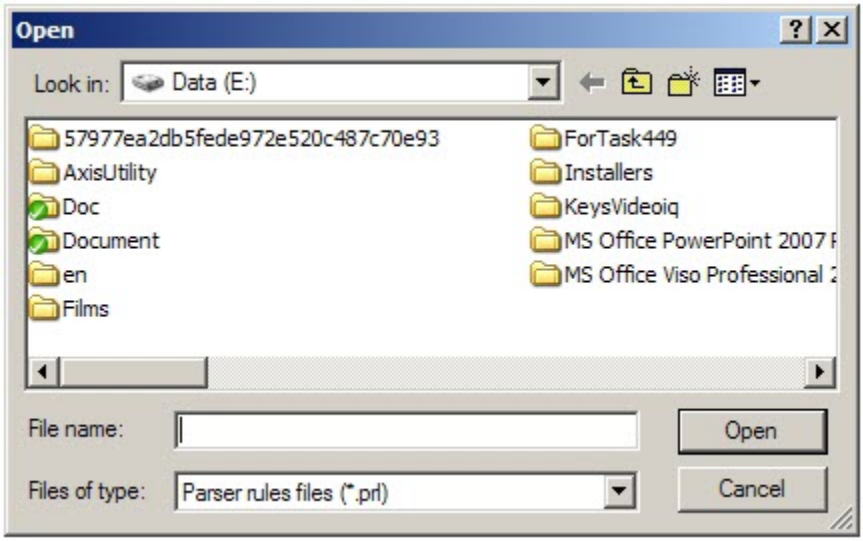
To import a .prl parser, do the following:

1. Click the **Advanced** button (**1**).



2. In the window that opens click the **Parser settings** tab (**1**).

3. Click the **Import** button (**2**) and select the parser file in the standard Windows file open dialog box.



4. In case of successful import, the name of the template is displayed in the **Template name** field (**3**).
5. Click **OK** to close the **Advanced** window (**4**).
6. Click **Apply** (**2**) in the **POS terminal** object settings panel.

The .prl parser has been imported.

Editing the .prl parser

To edit the.prl parser follow two stages:

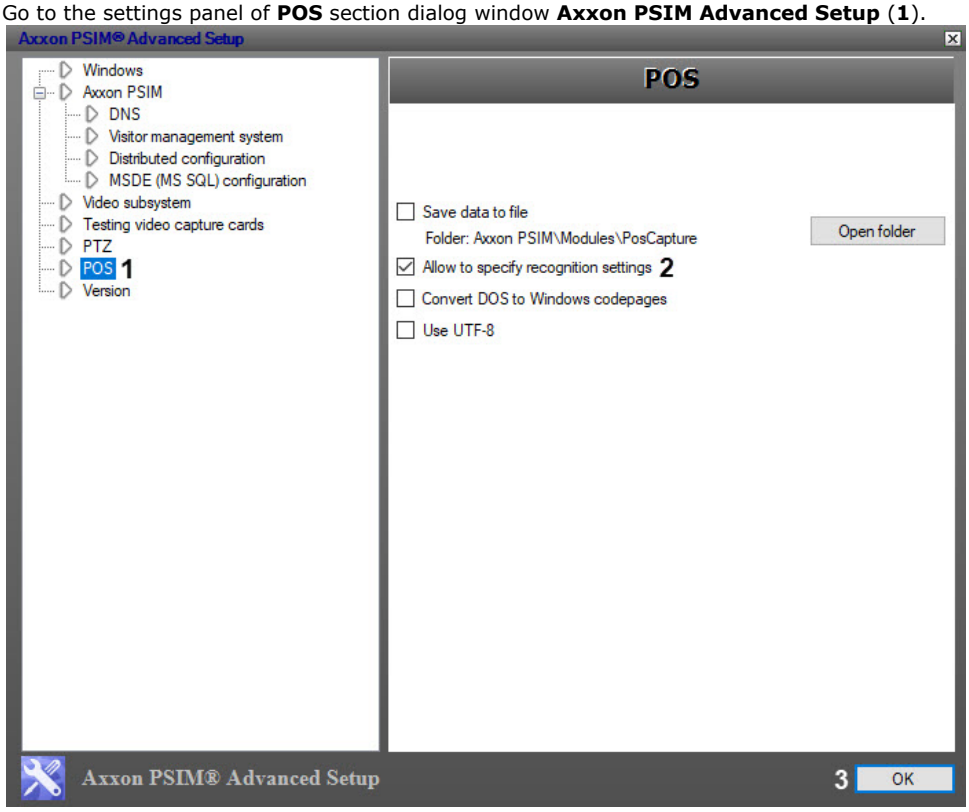
1. Enable the displaying of edit parser panel.
2. Set the rules of receipts structuring on the settings panel.

To the enable the displaying if edit parser panel do the following steps:

1. Run the utility Extended settings tweaki.exe from the Start menu OS Windows: Start -> Programs -> Axxon PSIM -> Advanced settings utility. **Axxon PSIM® Advanced Setup** dialog window will open in result.

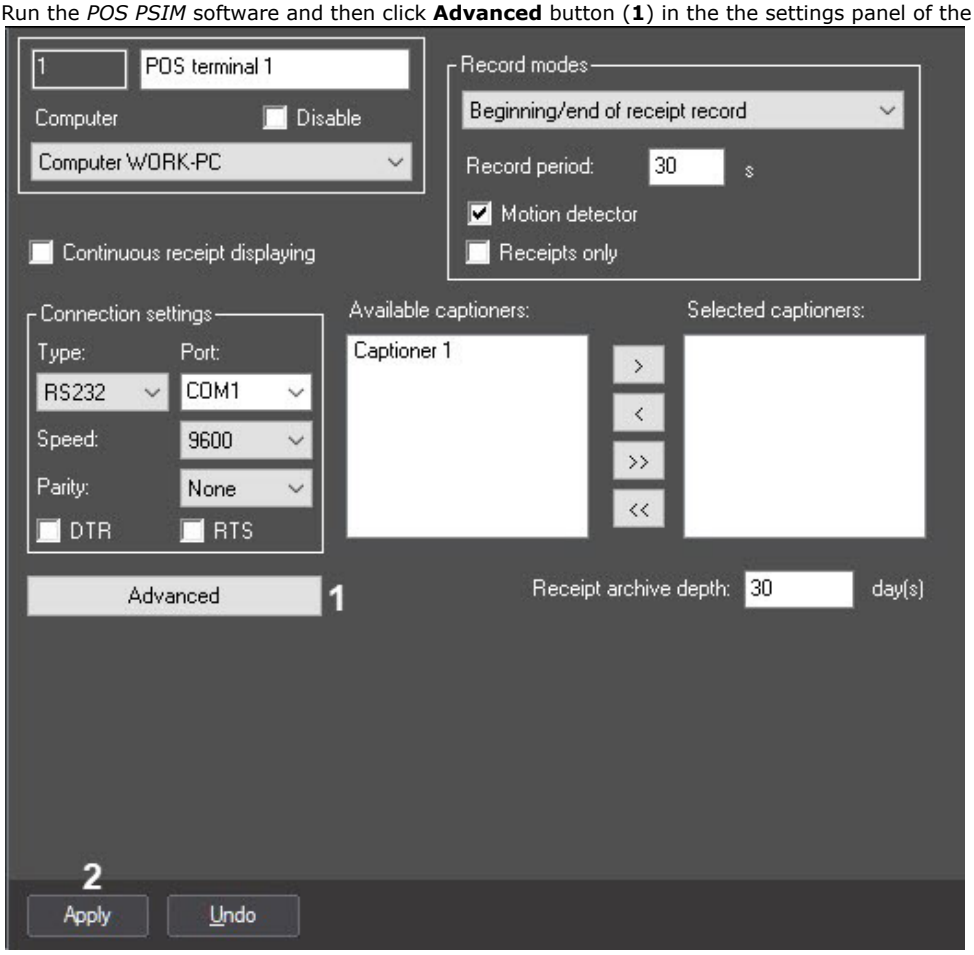
   > **Note.**
   >
   > The utility can also be run from **Tools** folder of *POS PSIM* install catalog: <*POS PSIM* installation directory>\Tools\tweaki.exe. Detailed description of work with tweaki.exe utility is given in the Administrator's Guide documentation.

2. Go to the settings panel of **POS** section dialog window **Axxon PSIM Advanced Setup** (**1**).

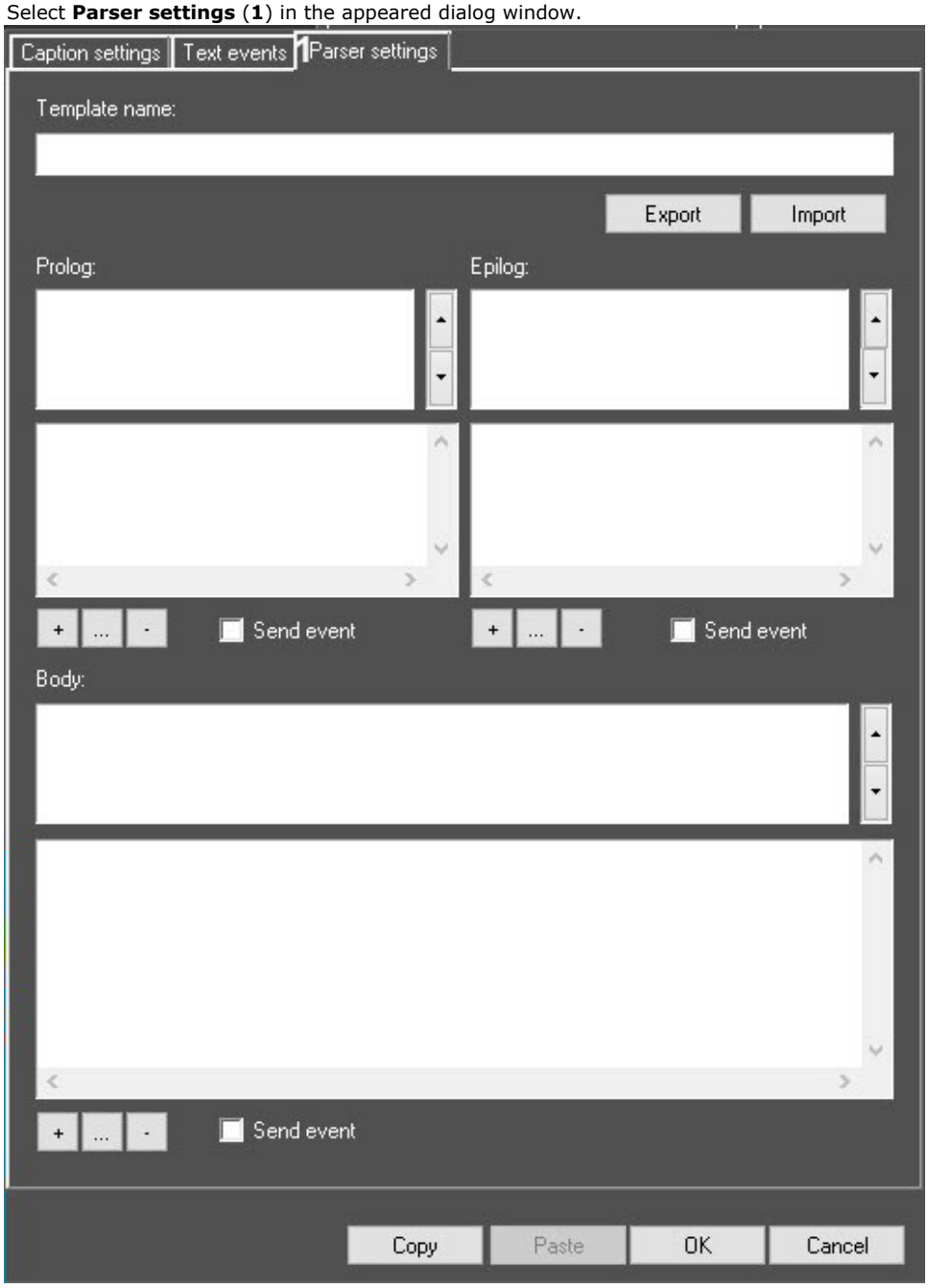


3. Set the checkbox **Allow to specify recognition settings** to display edit parser panel (**2**).
4. Click **OK** to save the changes and quit tweaki.exe utility (**3**).

5. Run the *POS PSIM* software and then click **Advanced** button (**1**) in the the settings panel of the **POS terminal** object.



6. Select **Parser settings** (**1**) in the appeared dialog window.



Parser settings tab will be displayed in result

Displaying the **Parser settings** tab is completed.

Parser settings panel may be used both for editing and creating the parser. Settings group on the on the parser settings panel are shown in the figure.

> **Note.**
>
> Preliminary import with the help of Import button is necessary to edit the parser. Parser import order is identical to that one, described in .prl parser import.

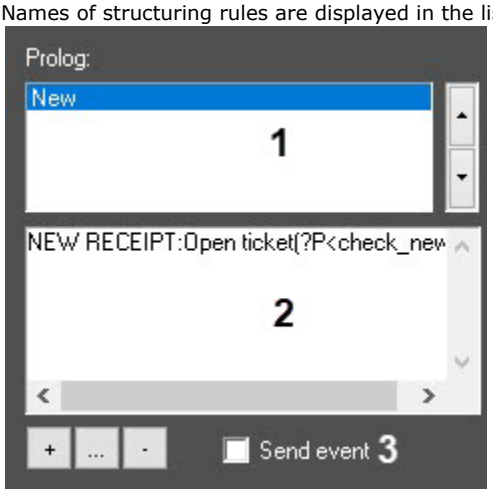
Description of settings group on the edit parser panel is given in the table.

№	Group	Description
1	Template name	Set the descriptive parser name
2	Prolog	Set the rules of receipt structuring while fulfilling receipt's databases
3	Epilog	Set the rules of receipt's end structuring while fulfilling receipt's databases.
4	Body	Set the rules of receipt's body structuring while fulfilling receipt's databases.

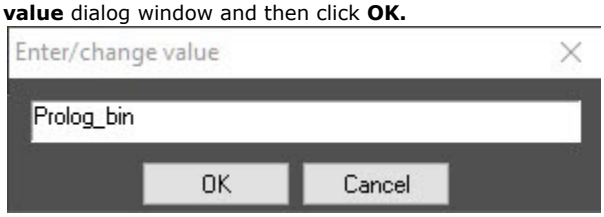
Groups 2-4 have the same set of user interface elements.

Editing the data structuring rules in groups 2-4 is done in the following way:

1. Names of structuring rules are displayed in the list **1**.



2. If it is necessary to add a new rule to the first list, click [+]. Enter the name of the new rule in the opened **Enter/change value** dialog window and then click **OK.**



3. If it is necessary to edit the name of the rule, select the name of this rule and click [...]. Set a new name of the rule in the opened dialog window **Enter/change value** and then click **OK**.

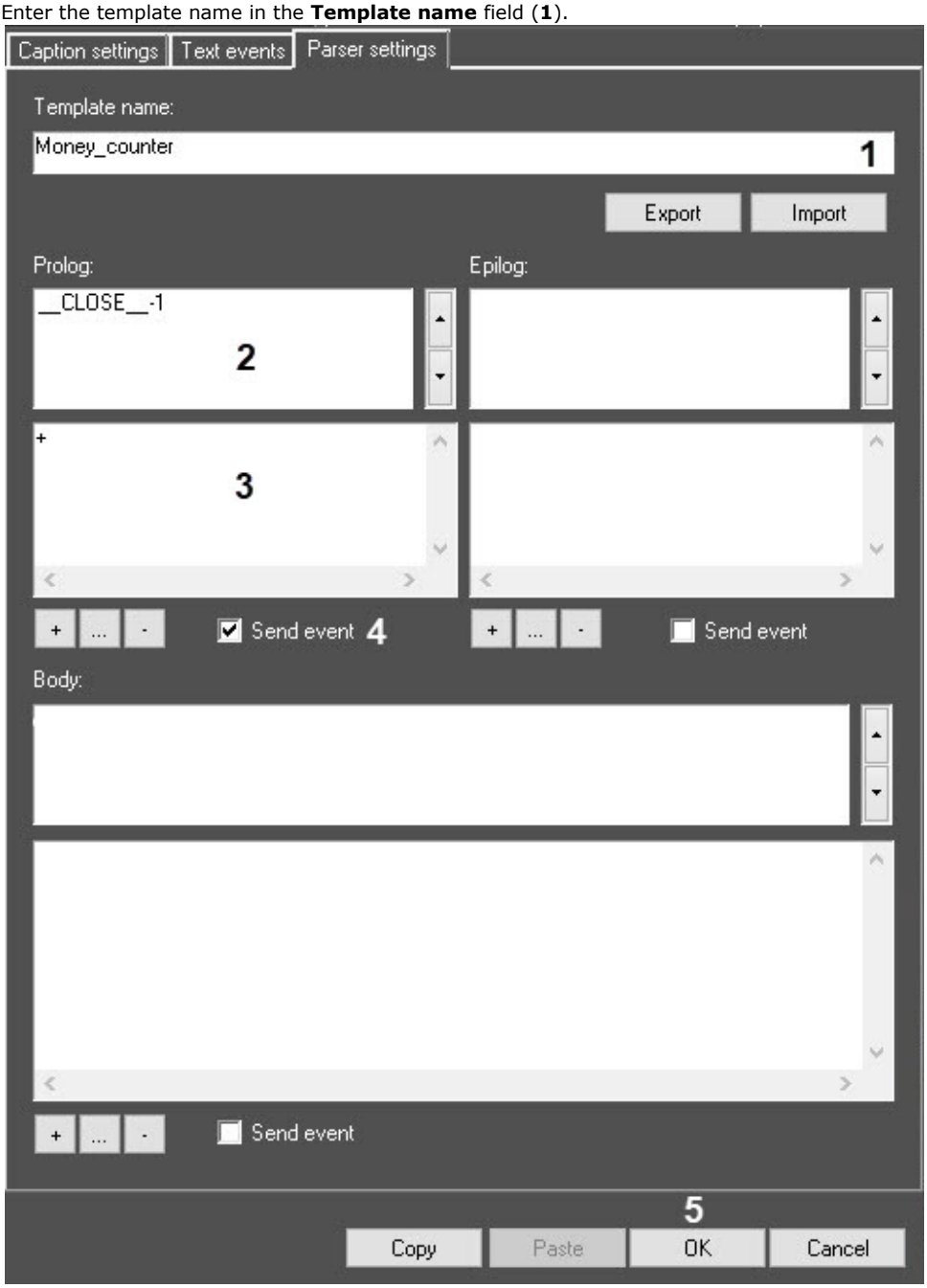
> **Note.**
>
> Instead of [...] button, you can double-click on the name of the rule.

4. If it is necessary to delete the rule, select the name of the rule in the list **1** and click [-] button.
5. If it is necessary to move the name of the rule upwards, click [▲]; [▼] – to be moved downwards.
6. Select the name of the rule in the first list and then enter the required changes in the field **2** to create/edit the text of the structuring rule.
7. If it is necessary to send the message about registration of the given receipt to POS-server, set the **Send event** checkbox (**3**).
8. Repeat steps 1-7 for all the required setting groups on the edit panel.

Editing the data' structuring rules in groups 2-4 is completed.

To configure the parser when data is received only about the beginning of a receipt, do the following:

1. Enter the template name in the **Template name** field (**1**).



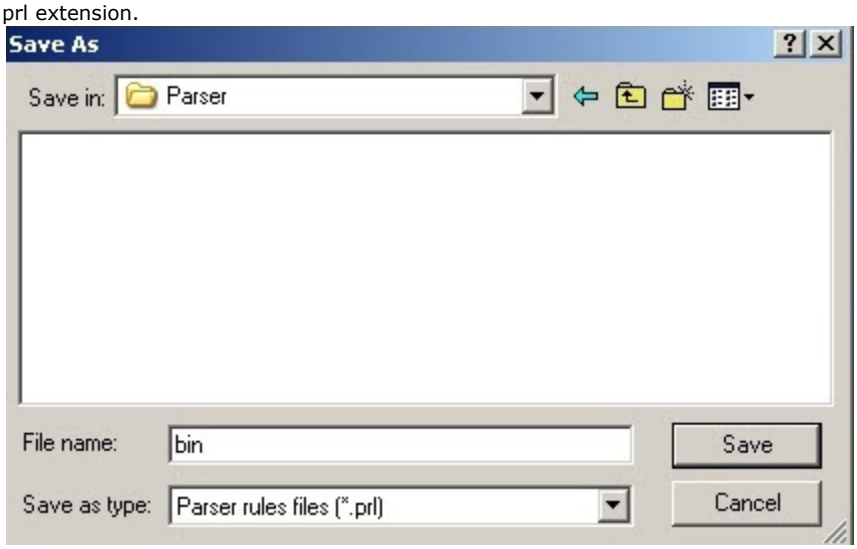
2. In the rule name area of the **Prolog** field (**2**), enter the value __CLOSE__=1, using a double underscore before and after the word CLOSE.
3. In the check structuring rules area (**3**), enter the value **.+** (**point plus**).
4. Set the **Send event** checkbox (**4**).
5. Press the **OK** button (**5**).

Setting up the parser when receiving data only about the beginning of the check is completed.

To export structuring rules to the parser file do the following:

1. Click **Export** button (**1**).

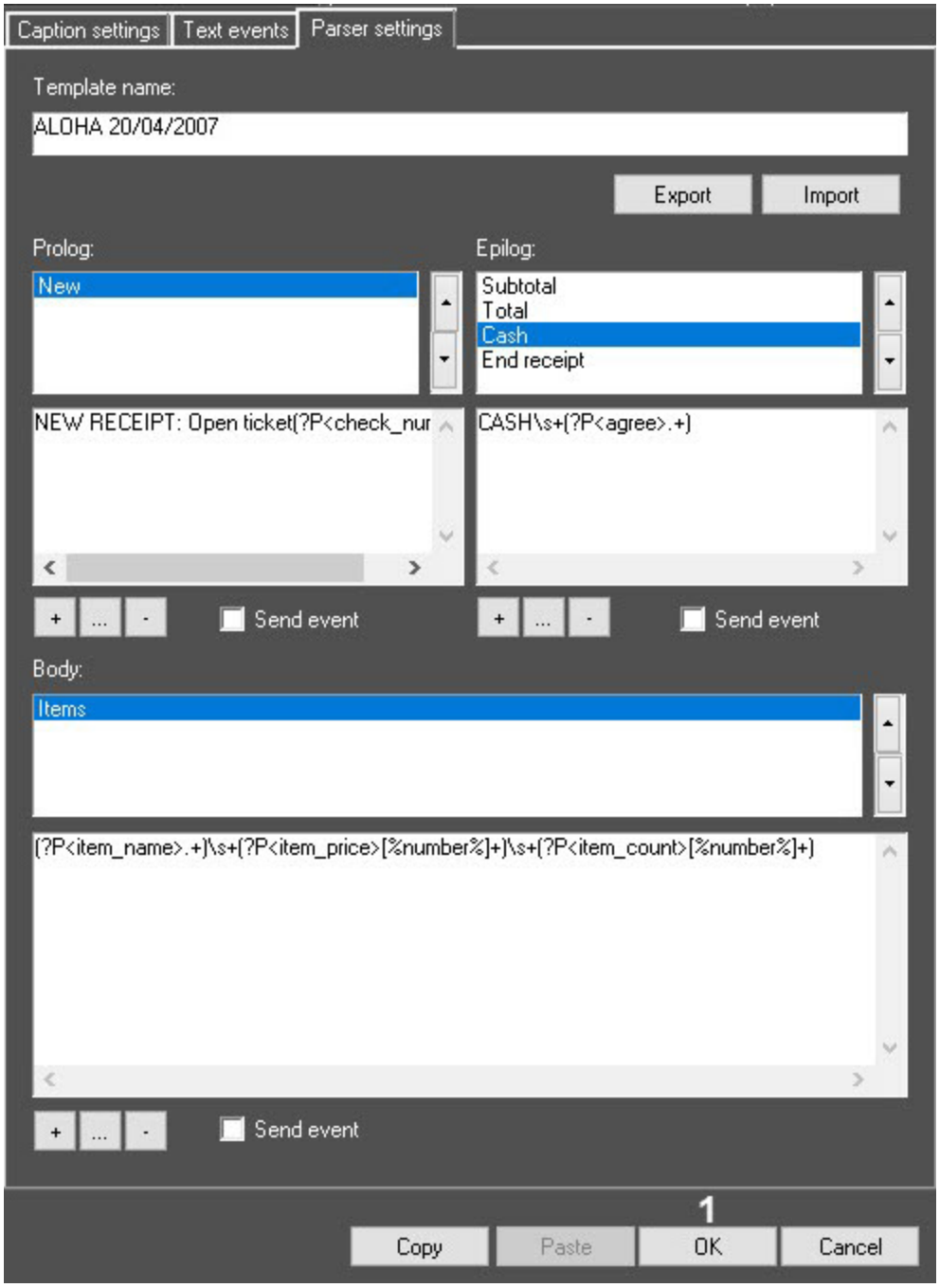
2. In the standard Windows **Save as** dialog box that appears, enter a file name, select a folder, and save the parser file with the .prl extension.



Exporting the structuring rules to the parser file is completed.

> **Note.**
>
> **Copy** and **Paste** buttons are very convenient for moving the structuring rules to other **POS terminal** objects, registered in the system.

Click **OK** (**1**) to save the changes and close the **Advanced** window.



Cick **Apply** on the **POS terminal** object's settings panel (**2**).

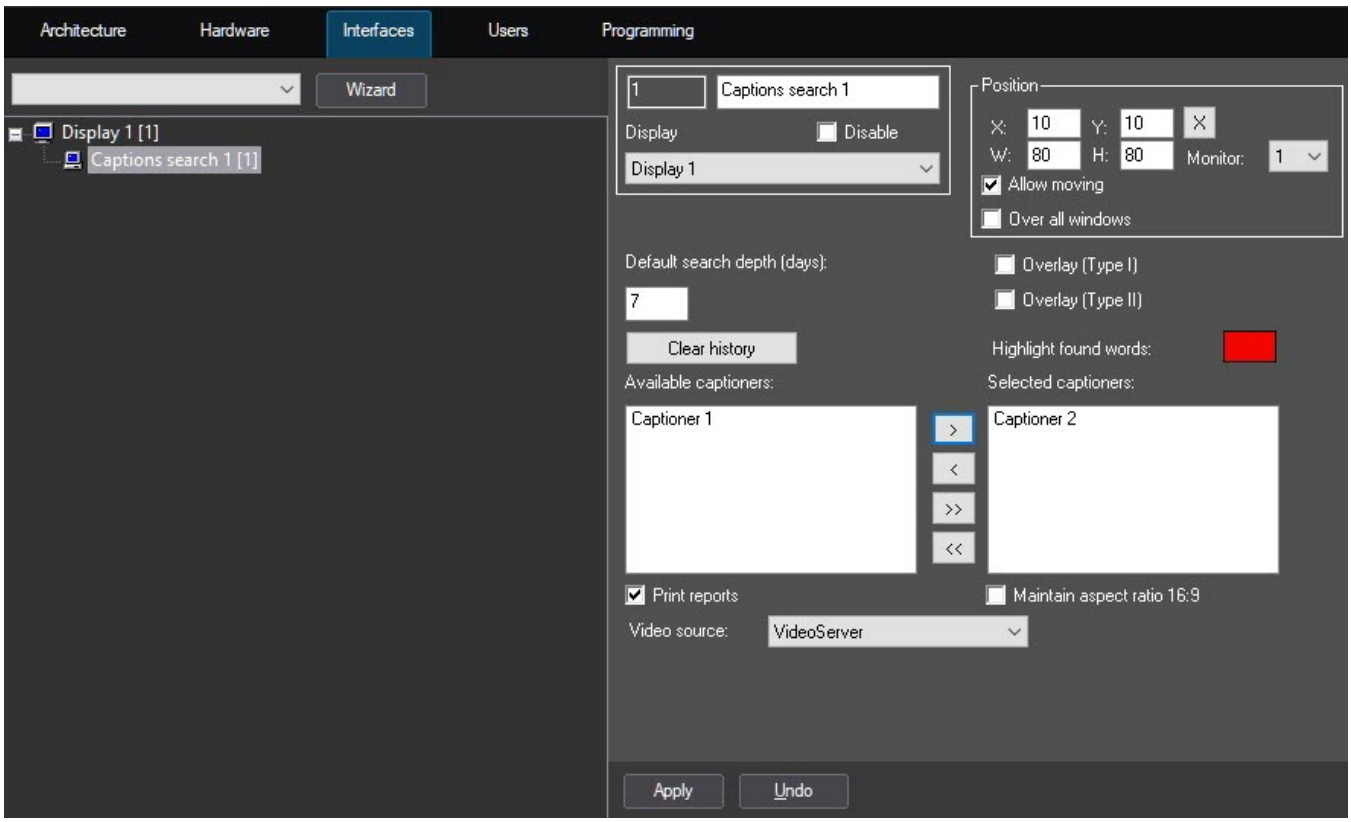
Editing the .prl parser is complete.

Setting up the Captions search window

The Captions search window setup procedure

The **Captions search** object is a child of the **Display** object. It is used to create user queries on the captions database.

To create and set up the **Captions search** object, go to the **Interfaces** tab in the **System settings** dialog window.



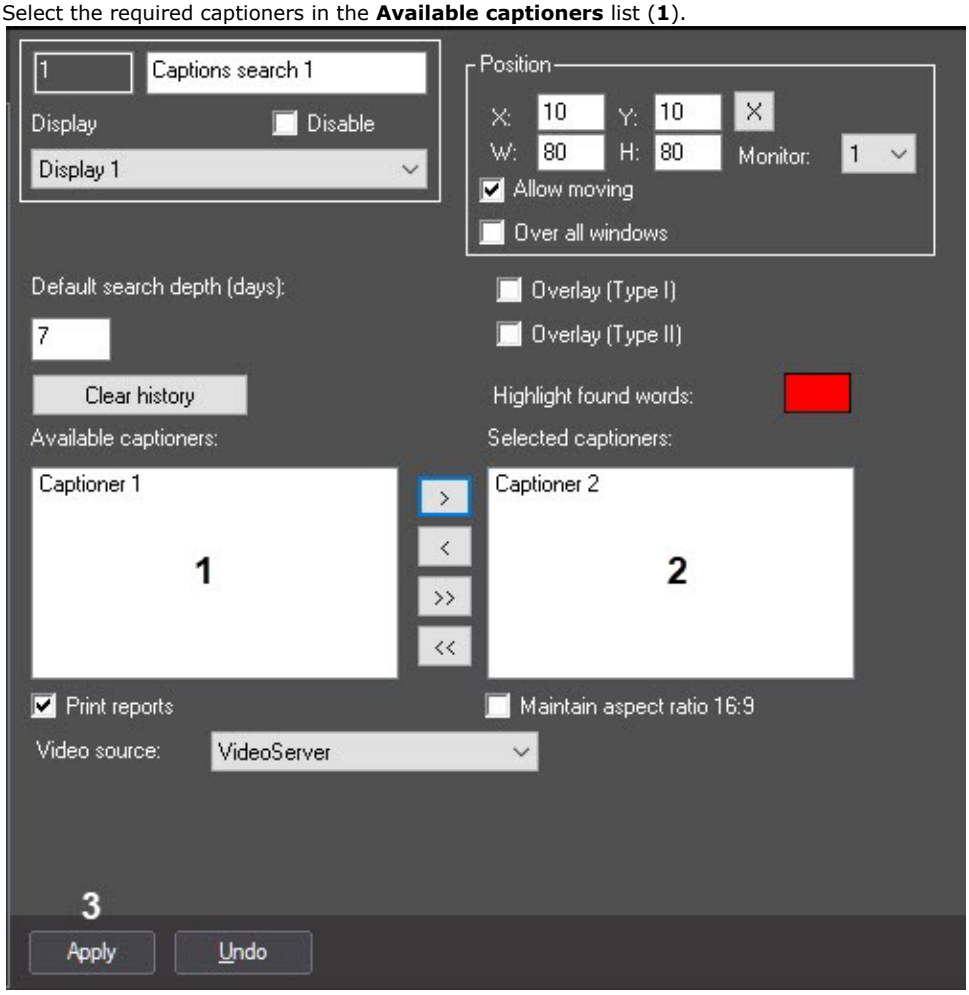
The **Captions search** object setup includes the following steps:

1. Select the captioners.
2. Specify the search criteria.
3. Set up the **Captions search** window.

Selecting the captioners for Captions search

Selecting the captioners allows you to specify which captioners archive data should be searched. To select the captioners, do the following:

1. Select the required captioners in the **Available captioners** list (**1**).



2. Click the > button to move the selected captioners, or the >> button to move all captioners from the **Available captioners** list to the **Selected captioners** list (**2**).

> **Note**
>
> Alternatively, the < and << buttons are used to move the selected or all captioners from the **Selected captioners** list (**2**) to the **Available captioners** list.

3. Click the **Apply** button (**3**).

The captioners are now selected.

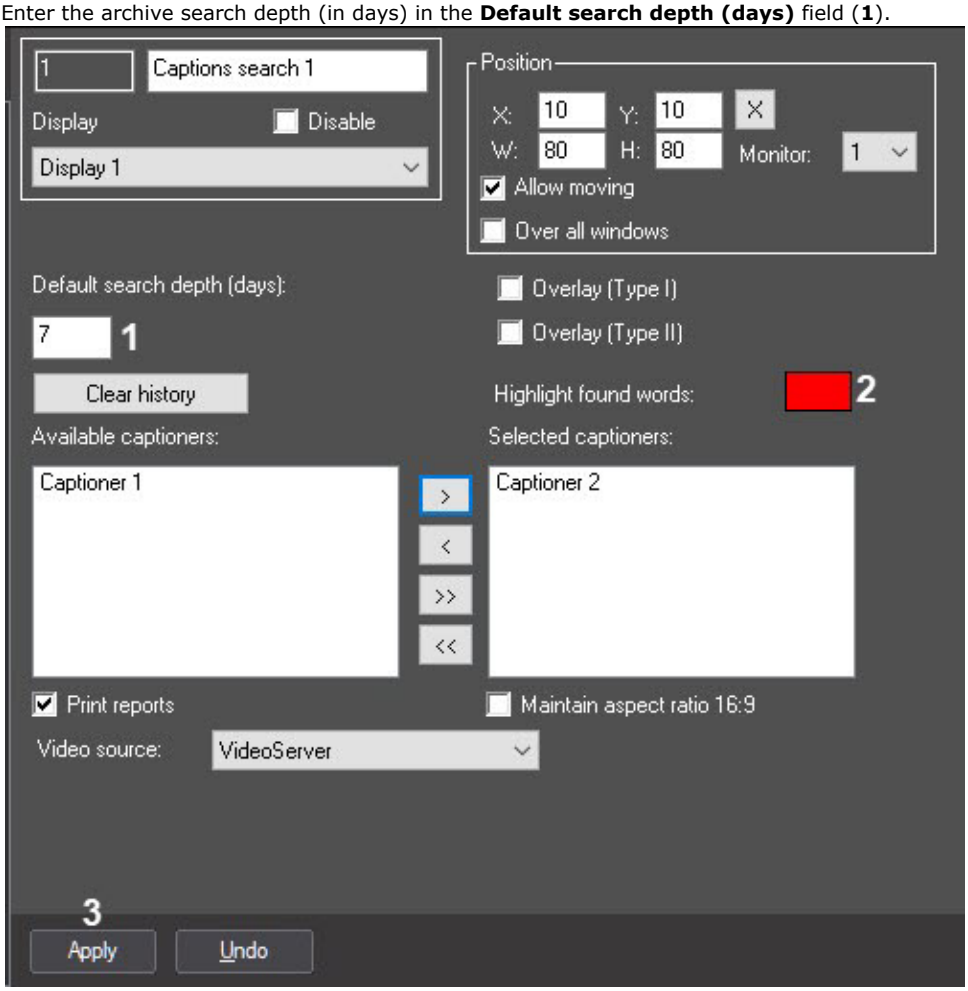
Specifying the captioners search criteria

To set up the captioner search, the following parameters should be specified:

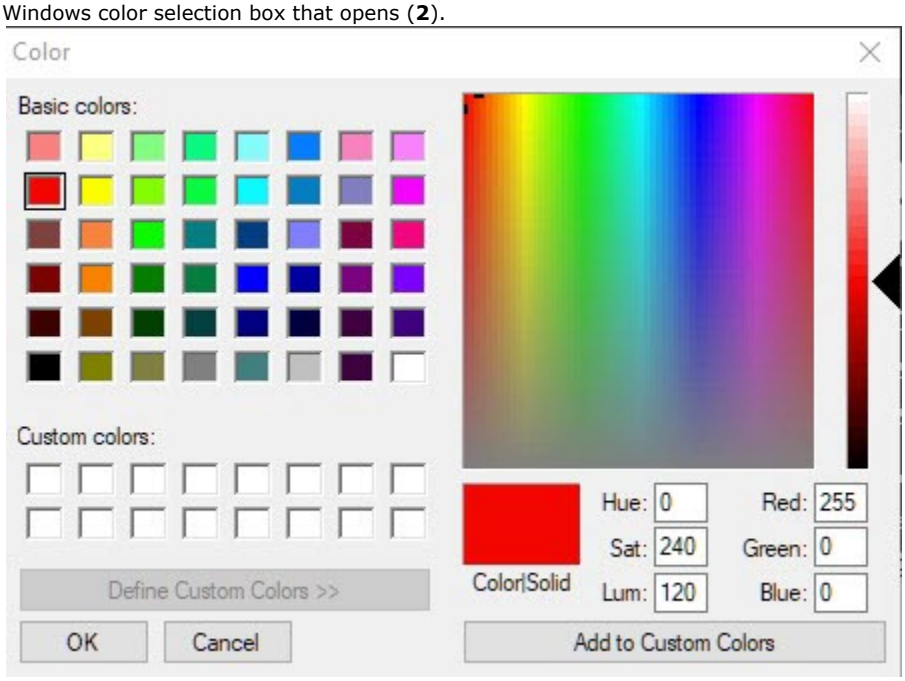
1. Search depth—the captioner search depth.
2. Highlighting a found word—the option for highlighting the found words in the search results.

To specify the captioner search criteria, do the following:

1. Enter the archive search depth (in days) in the **Default search depth (days)** field (**1**).



2. To enable highlighting of found words, double-click the **Highlight found words** color box and select the color in the standard Windows color selection box that opens (**2**).



3. Click the **Apply** button (**3**).

The captioner search criteria are now set.

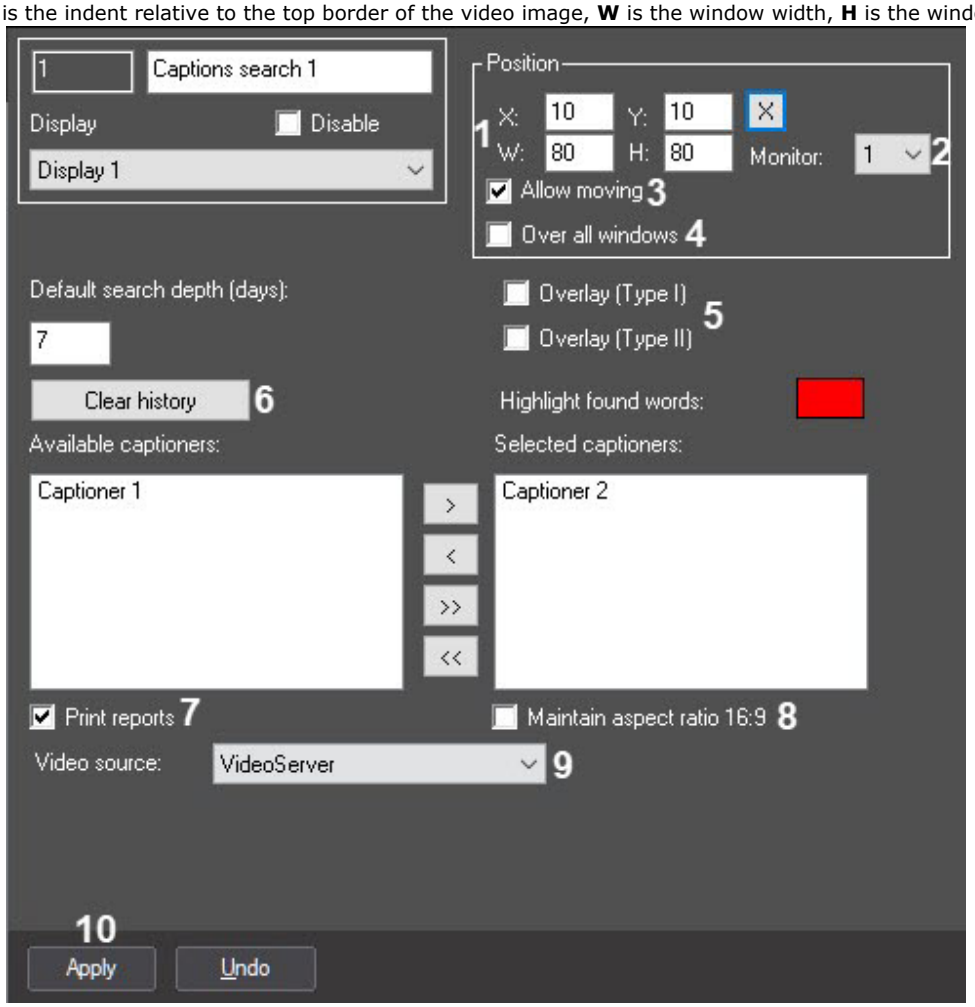
Setting up the Captions search window display

To set up the **Captions search** window, the following parameters should be specified:

1. Coordinates—the position and size of the window.
2. Monitor—the monitor for displaying the captioner search window.
3. Overlay type—the type of the overlay of the synchronous display of video image and search results.
4. Print reports—the user can print the search results.
5. Video source—the source of the video for search.

To set up the **Captions search** window, do the following:

1. Specify the position and size of the **Captions search** window: **X** is the indent relative to the left border of the video image, **Y** is the indent relative to the top border of the video image, **W** is the window width, **H** is the window height (**1**).



2. The coordinates can be set up using the visual method. Click the  button and use the mouse to set the location and size of the sample window, then click the **OK** button. The coordinates of the sample window will be filled in the **X**, **Y**, **W** and **H** fields automatically.

3. Select the monitor to display the **Captions search** window from the **Monitor** drop-down list (**2**).
4. By default, it is possible to move the **Captions search** interface window using drag&drop. To disable it, clear the **Allow moving** checkbox (**3**).
5. To display the **Captions search** interface window over all windows, set the **Over all windows** checkbox (**4**).
6. Set the overlay type by setting the **Overlay (Type I)** or **Overlay (Type II)** checkbox (**5**).

> **Note**
>
> As a rule, optimal mode of processing the video is Overlay (Type II). If this mode is not supported by video card, Overlay (Type I) should be selected or the Overlay should be completely disabled.

7. To clear the history of user queries in the **Captions search** window, click the **Clear history** button (**6**).
8. To allow the operator to print the search results, set the **Print reports** checkbox (**7**).
9. Set the **Maintain aspect ration of 16:9** checkbox to display the archive in 16:9 format (**8**).
10. Select the available video source from the **Video source** drop-down list (**9**).
11. Click the **Apply** button to save the changes (**10**).

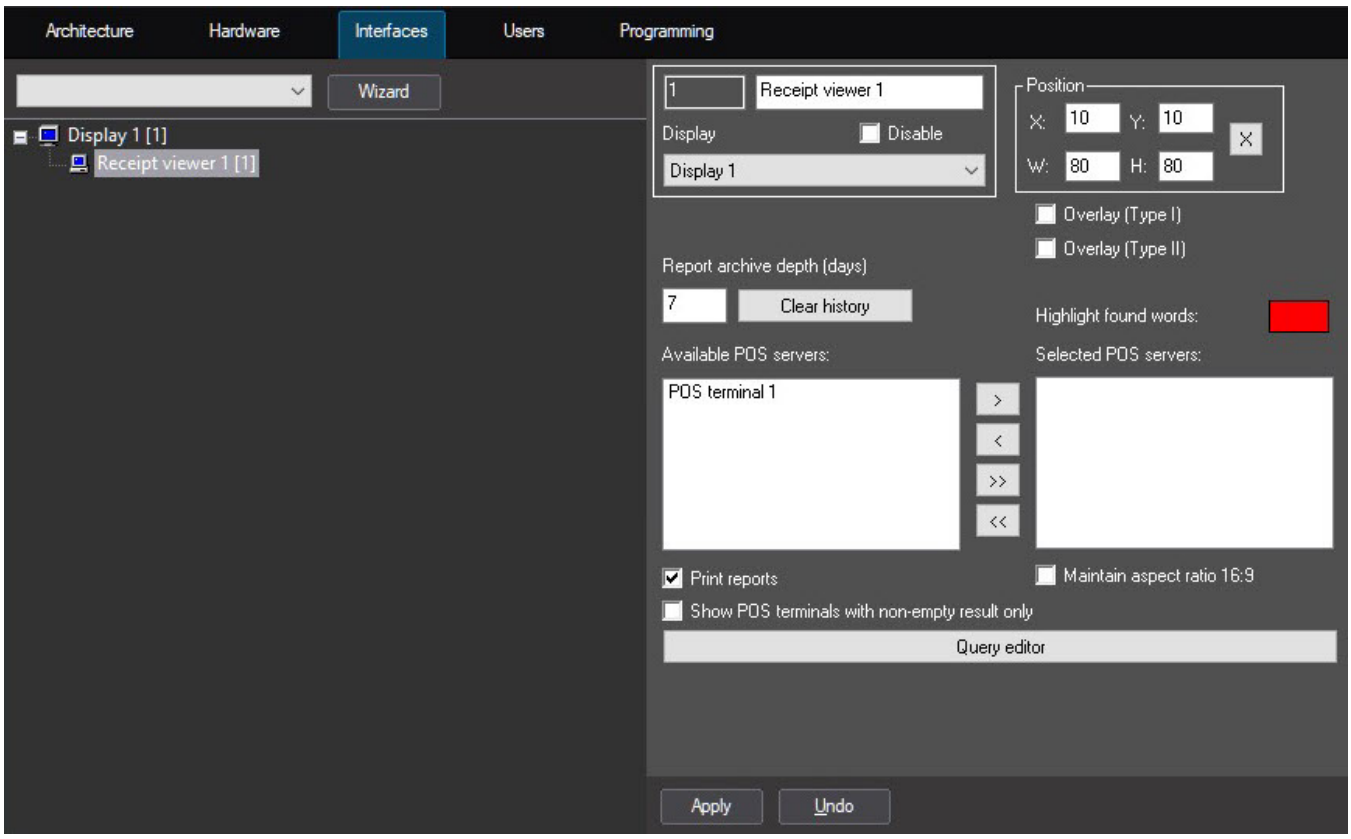
The **Captions search** window is now set.

Setting up the Receipt viewer window

The Receipt viewer window setup procedure

The **Receipt viewer** object is a child of the **Display** object. It is used to create user queries on the receipts database.

To create and set up the **Receipt viewer** object, go to the **Interfaces** tab in the **System settings** dialog window.



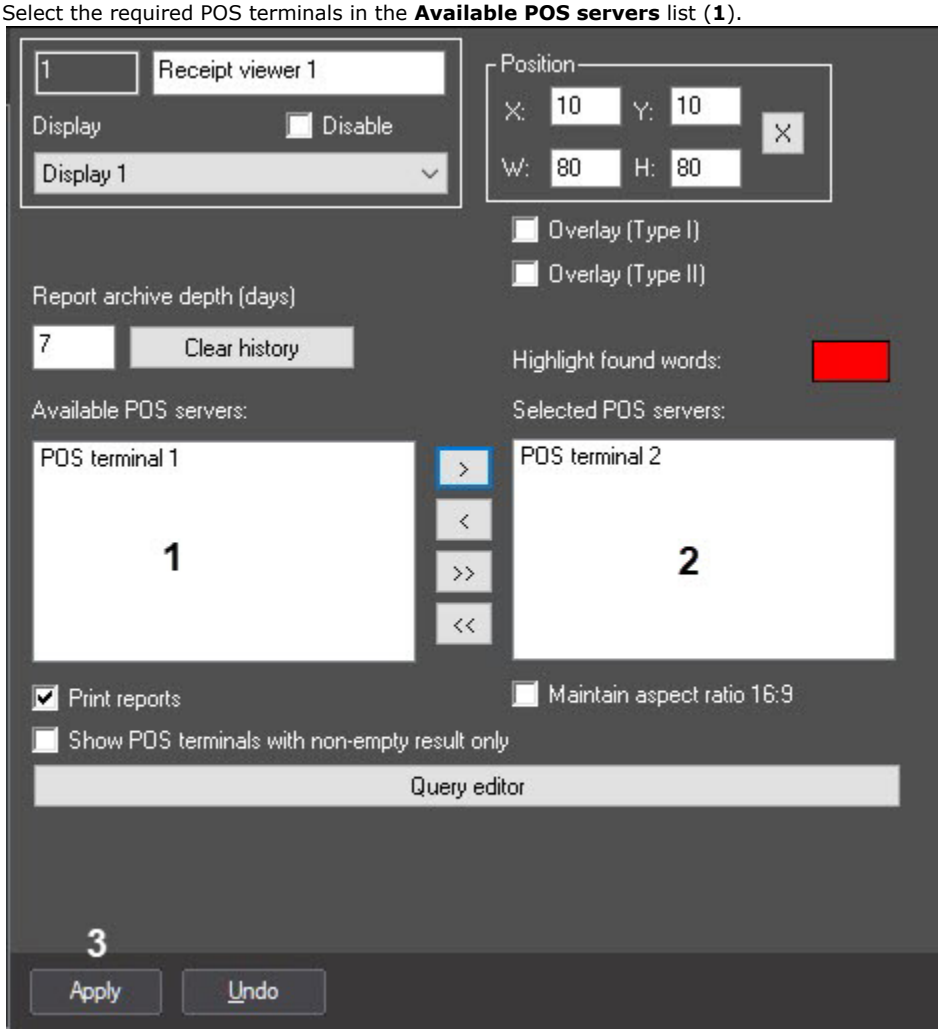
The **Receipt viewer** object setup includes the following steps:

1. Select the **POS terminals**.
2. Specify the search criteria.
3. Set up the **Receipt viewer** window.

Selecting POS terminals

Selecting POS terminals allows you to specify the archive data of which POS terminals should be searched. To select the POS terminals, do the following:

1. Select the required POS terminals in the **Available POS servers** list (**1**).



2. Click the > button to move the selected POS terminals, or the >> button to move all POS terminals from the **Availab le POS servers** list (**1**) to the **Selected POS servers** list (**2**).

> **Note**
>
> Alternatively, the < and << buttons are used to move the selected or all POS terminals from the **Selected POS servers** list (**2**) to the **Available POS servers** list (**1**).

3. Click the **Apply** button (**3**).

Selecting POS terminals is complete.

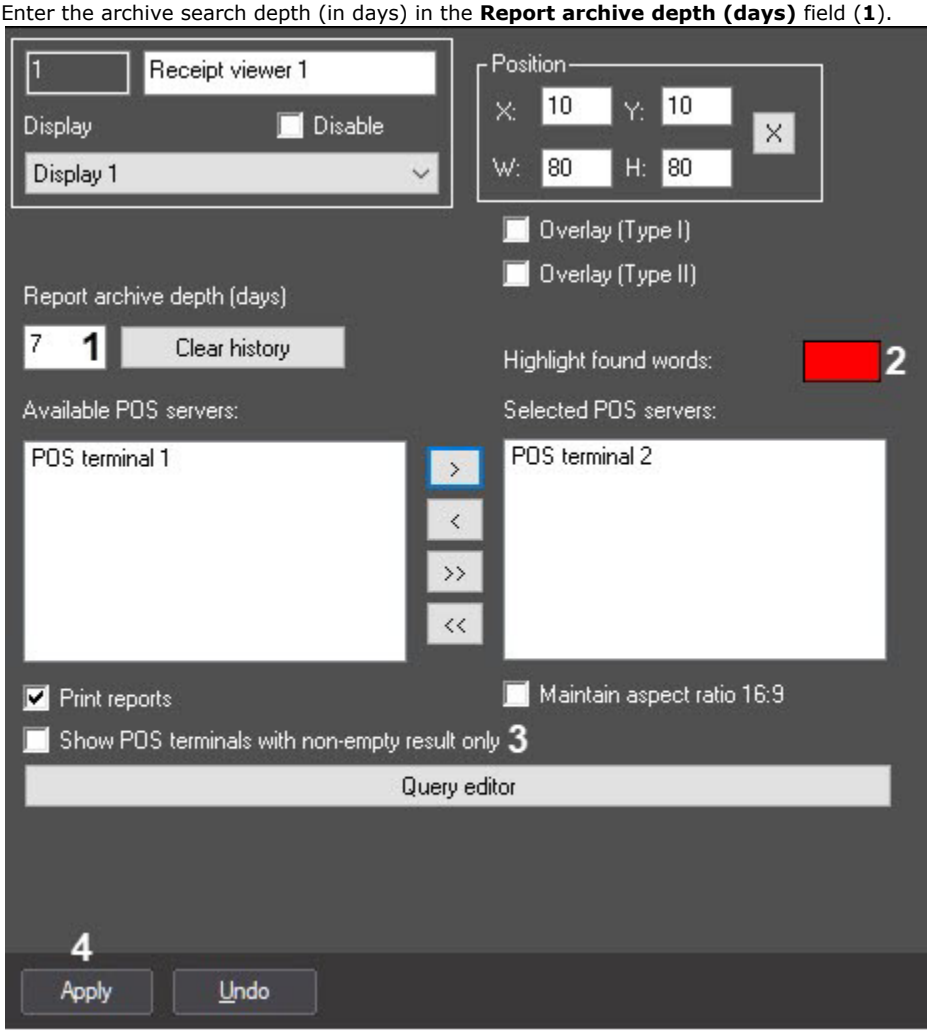
Specifying the search criteria

To set up the receipts database search, the following parameters should be specified:

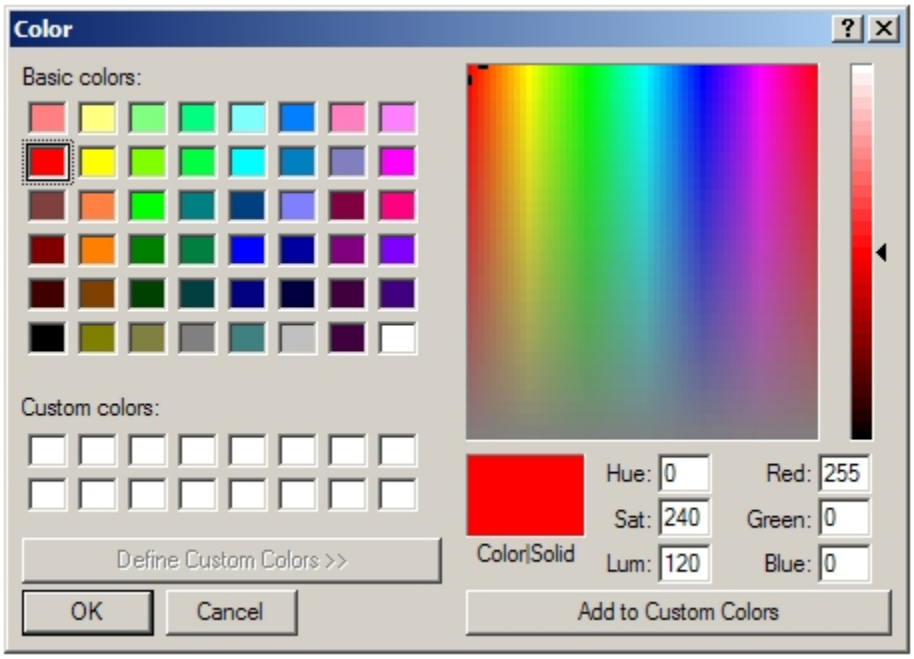
1. Search depth—the receipts database search depth.
2. Highlighting of found words—the option for highlighting the found words in the search results.
3. Showing the POS terminals with positive search results—displaying only the POS servers whose data contain the required words.

To specify the receipts database search criteria, do the following:

1. Enter the archive search depth (in days) in the **Report archive depth (days)** field (**1**).



2. To enable highlighting of found words, double-click the **Highlight found words** color box and select the color in the standard Windows color selection box that opens (**2**).



3. When only the POS terminals with non-empty search results should be displayed, set the **Show POS terminals with non-empty search results only** checkbox (**3**).
4. Click the **Apply** button (**4**).

The receipts database search criteria are now set.

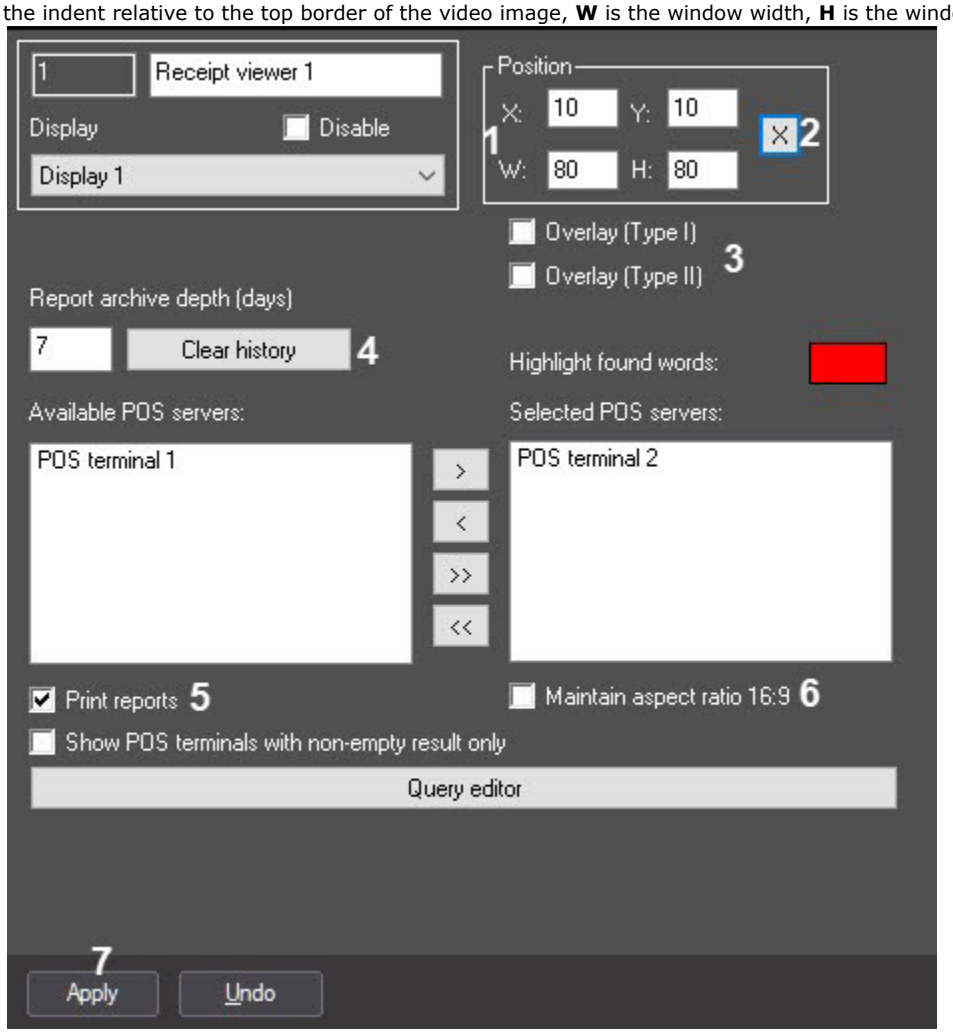
Setting up the Receipt viewer window display

To set up the **Receipt viewer** window, the following parameters should be specified:

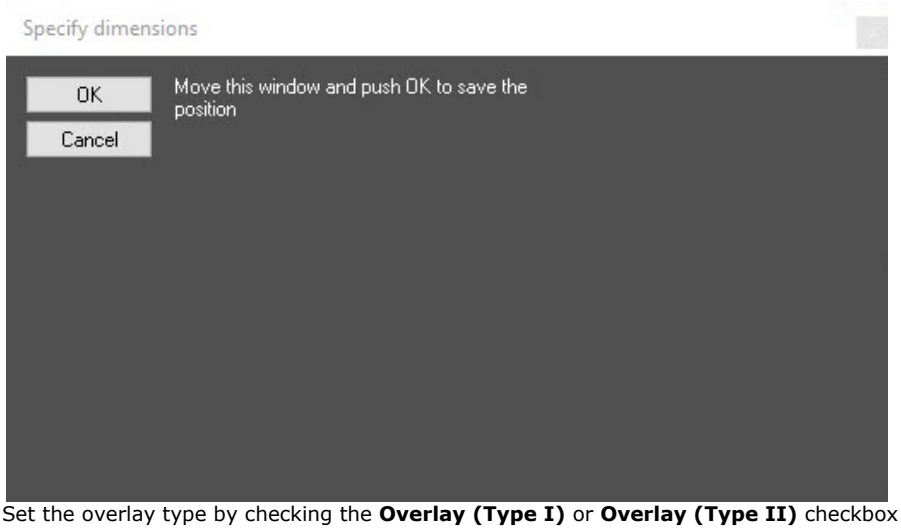
1. Coordinates – the position and size of the window.
2. Overlay type – the type of the overlay of the synchronous display of video image and search results.
3. Print reports – the operator can print the search results.

To set up the **Receipt viewer** window, do the following:

1. Specify the position and size of the **Receipt viewer** window: **X** is the indent relative to the left border of the video image, **Y** is the indent relative to the top border of the video image, **W** is the window width, **H** is the window height (**1**).



2. The coordinates can be set up using the visual method. Click the  button (**2**) and use the mouse to set the location and size of the sample window, then click **OK**. The coordinates of the sample window will be filled in the X, Y, W and H fields automatically.



3. Set the overlay type by checking the **Overlay (Type I)** or **Overlay (Type II)** checkbox (**3**).
4. To clear the history of user queries in the Receipt viewer window, click the **Clear history** button (**4**).
5. To allow the operator to print the search results, check the **Print reports** checkbox (**5**).
6. Set the **Maintain aspect ration of 16:9** to display the archive in 16:9 format (**6**).
7. Click **Apply** to save the changes (**7**).

The **Receipt viewer** window is now set.

Editing the receipts database queries (optional)

The user can create and edit queries in the receipts database. This is an optional function in addition to system setup.

Warning! The user query in the **Receipt viewer** window will be created and processed, only if the receipts parser has been set up (see the Setting up the parser (optional) section).

Query editor provides the following functions:

1. Creating and editing the list of queries. The parameters can be imported from a text file (POS query file) or using the built-in functions.
2. Search for a query in the list
3. Export query parameters into a file or other **Receipt viewer** objects.

Creating and editing the list of queries

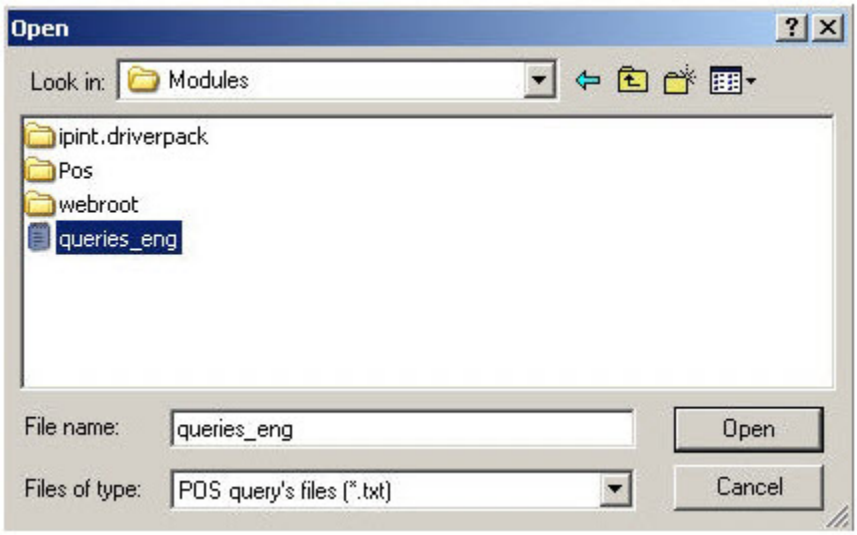
Opening the Query editor

To open the query editor, click the **Query editor** button. The **Query editor** window opens.

Importing a query from a text file

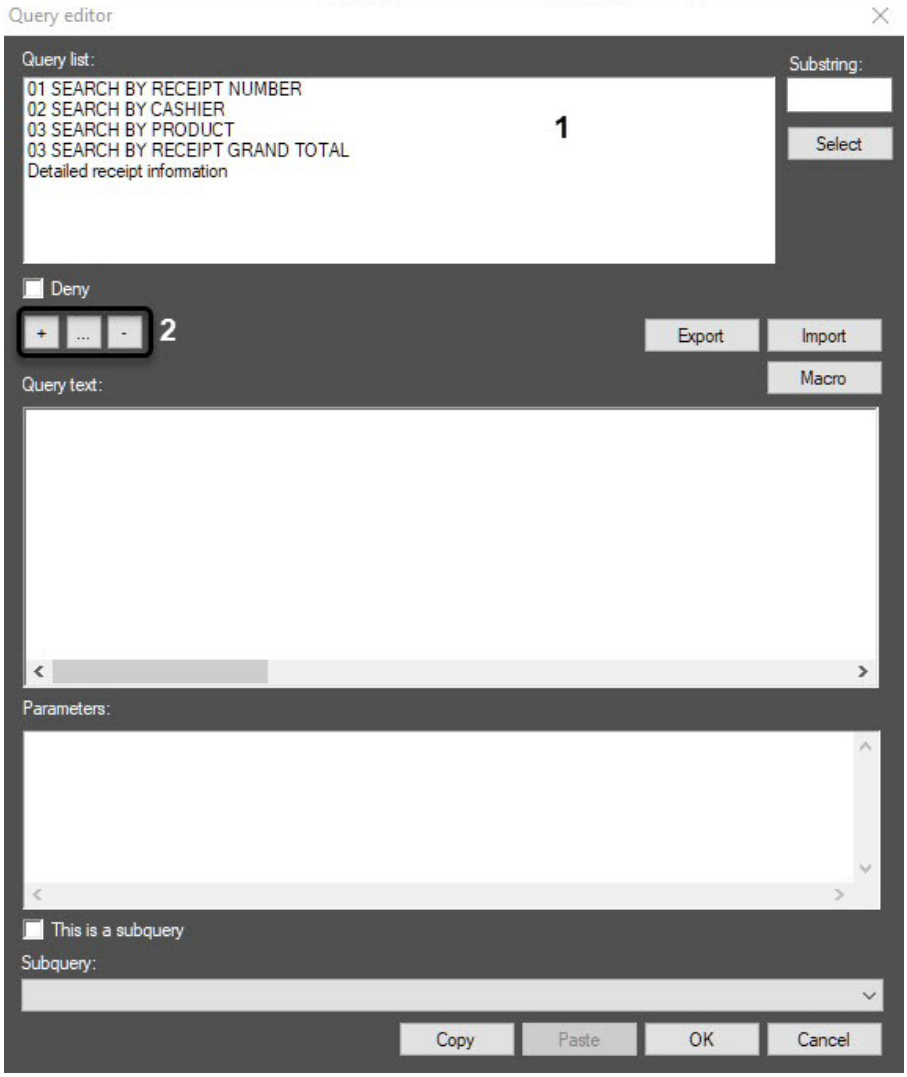
To import a query from a text file, do the following:

1. Click the **Import** button.
2. Open a query file in the standard Windows file open dialog box.



> **Note**
>
> We recommend importing the list of queries from the <*Axxon PSIM* program folder>\Modules\queries_eng.txt file included in the *Axxon PSIM* installation kit.

3. If the file loads successfully, the list of available queries will be displayed in the **Query list** area (**1**).



The query file import is complete.

Adding a query to the Query list

To edit queries, use the editing buttons (**2**).

To add a query to the **Query list**, do the following:

1. Click the "**+**" button (**1**).

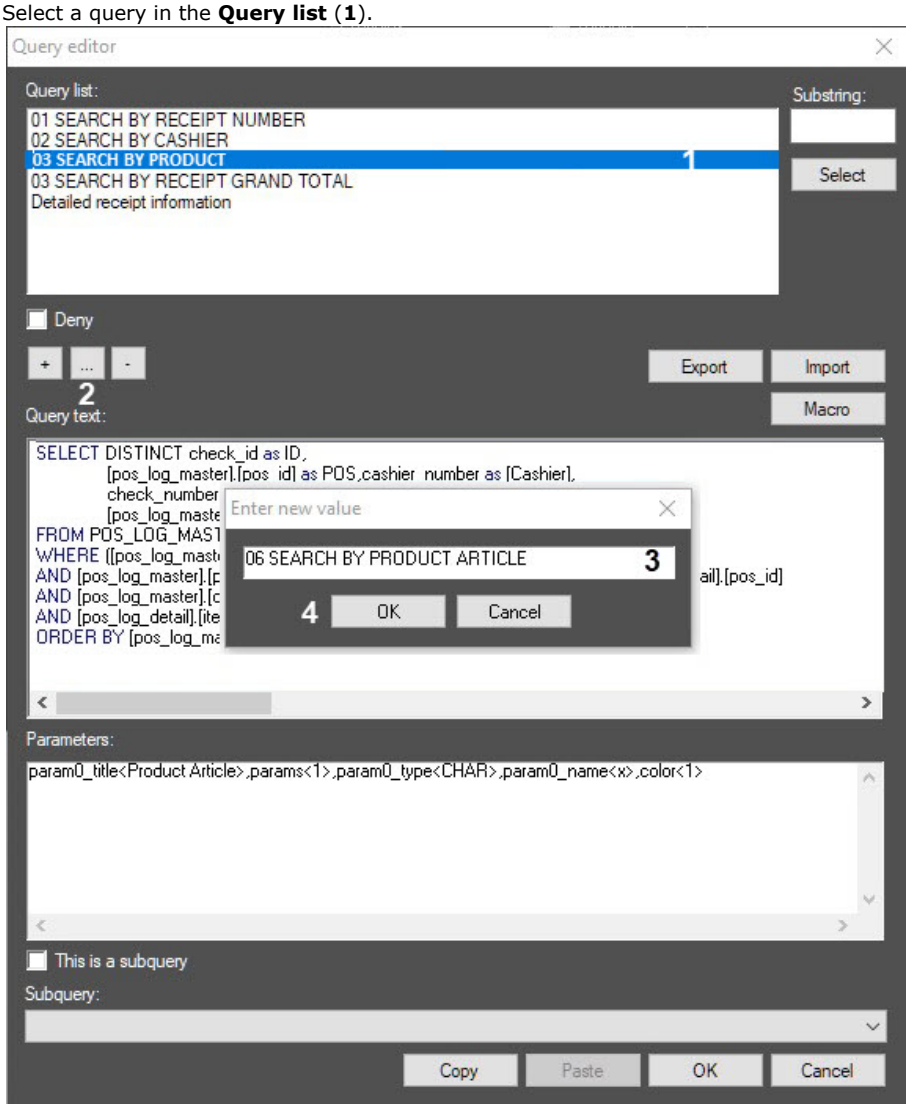
2. Enter a name for the query in the dialog box that opens (**2**).
3. Click **OK** (**3**).

The name of the new query will be added to the list.

Editing a query name in the Query list

To edit a query name in the **Query list**, do the following:

1. Select a query in the **Query list** (**1**).



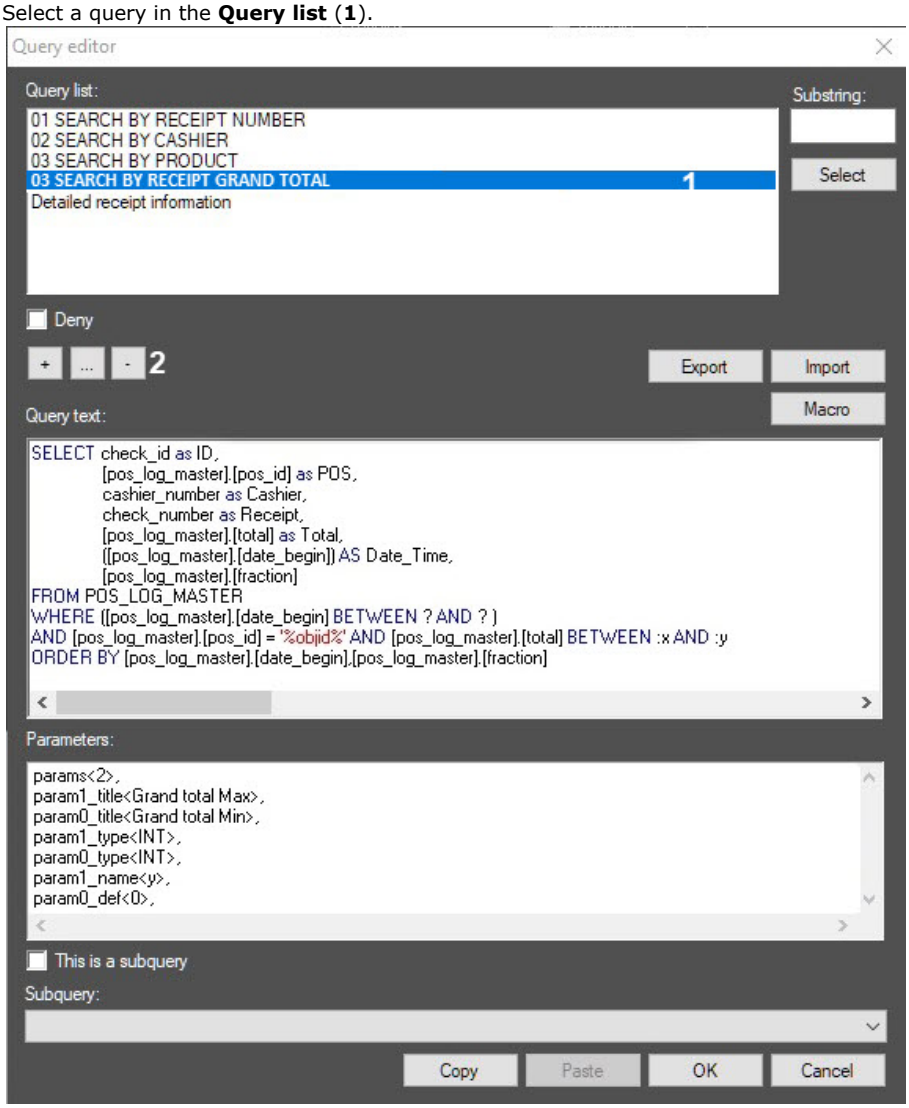
2. Click the **"..."** button (**2**) or double-click the query name (**1**).
3. Enter a new name for the query in the dialog box that opens (**3**).
4. Click **OK** (**4**).

The query name will be changed.

Removing a query from the Query list

To delete a query from the **Query list**, do the following:

1. Select a query in the **Query list** (**1**).

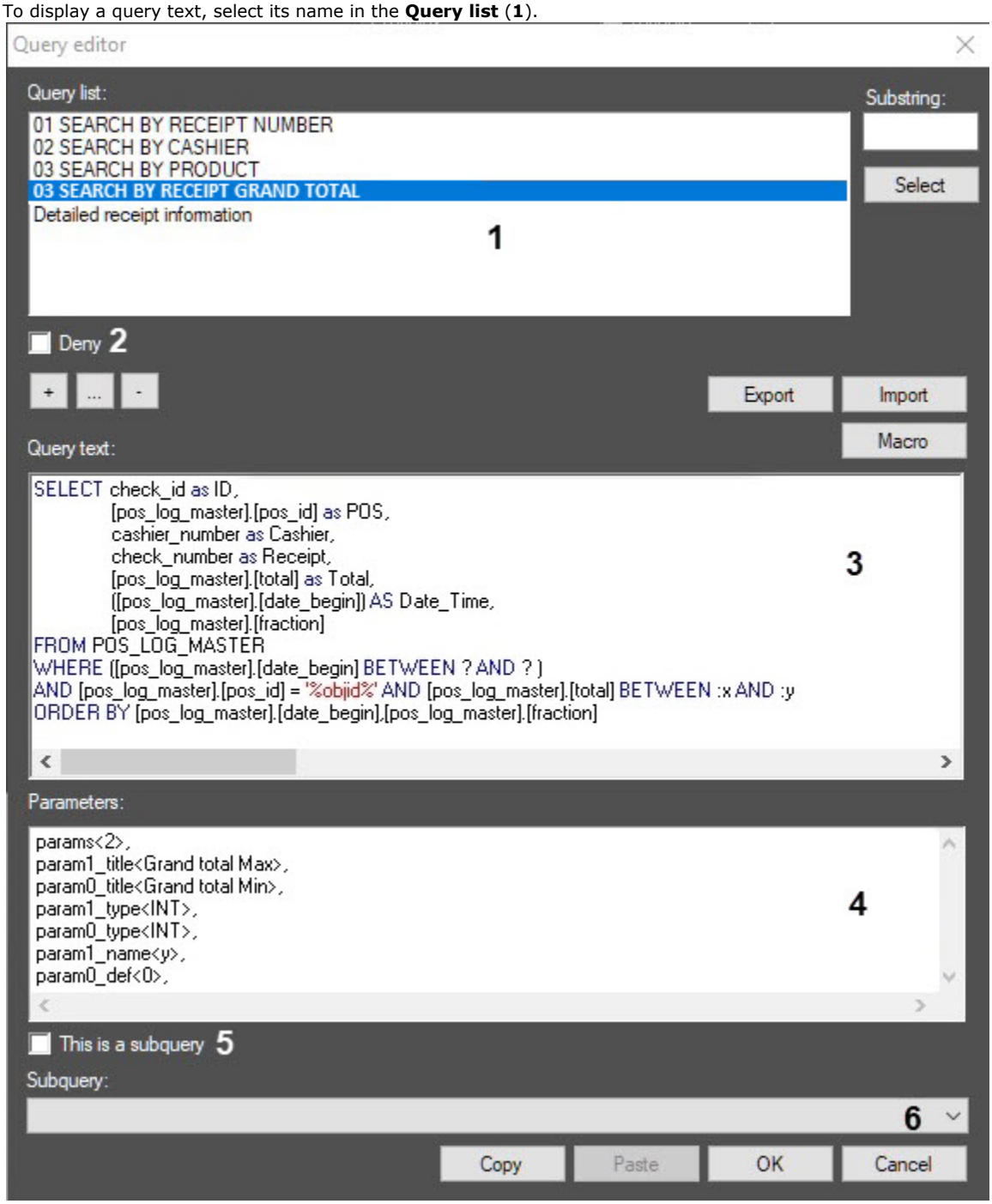


2. Click the "-" button (**2**) or right-click the query name (**1**) to open the drop-down menu and select the **Delete** option.

The query will be deleted from the list.

Displaying a query text

To display a query text, select its name in the **Query list** (**1**).



The query contents are shown in the **Query text** area (**3**).

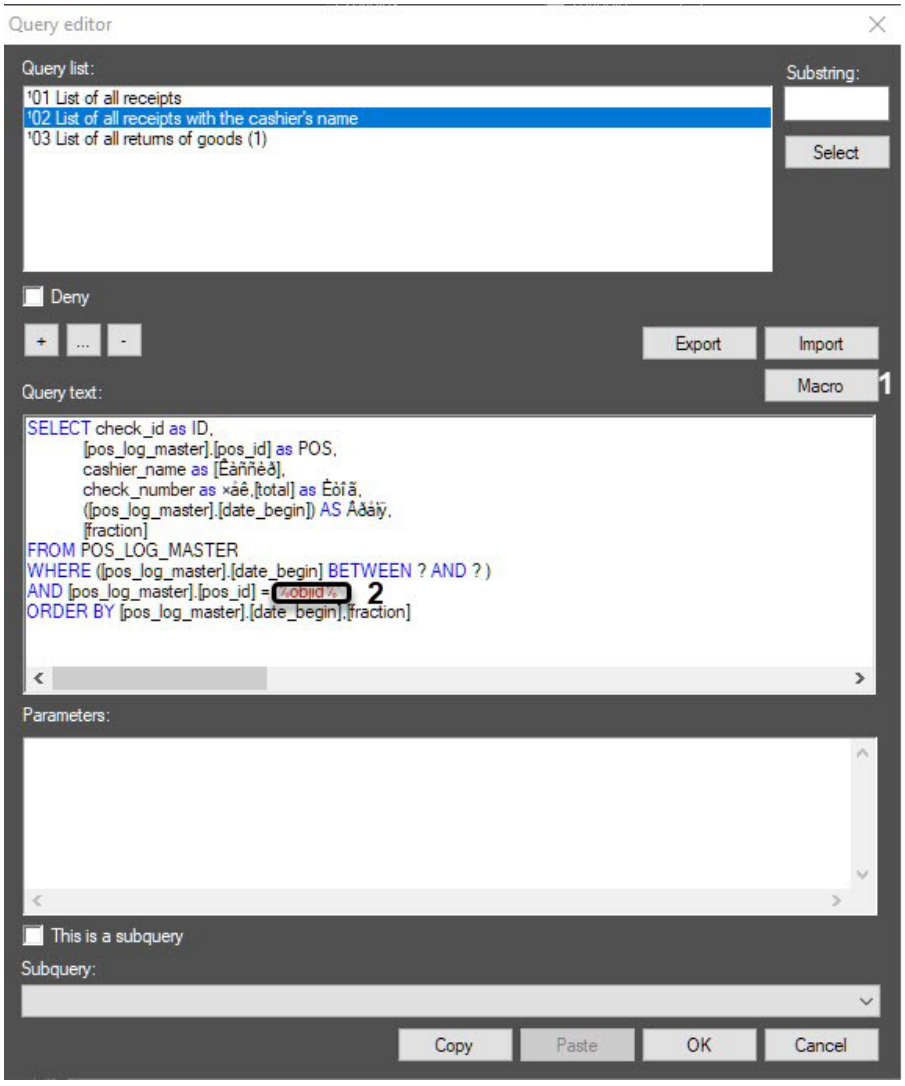
Interface of the Query editor window

The table shows the interface elements of the **Query editor** window.

No	Element name	Element type	Description	Data type	Default value	Value range
1	Query list	List, items imported or edited using the editing buttons	List of queries	Names of existing queries	-	Depends on the number of existing queries
2	Deny	Checkbox	Hides the query in the **Receipt viewer** window	Boolean	No	Yes — the query is not displayed in the **Receipt viewer** window. No — the query is displayed

3	Query text	Text field	The text of the query	SQL language	-	-
4	Parameters	Text field	Query parameters	SQL language	-	-
5	This is a subquery	Checkbox	Makes the query a slave	Boolean	-	Yes — the query is a slave. No — the query is not a slave
6	Subquery	Drop-down list	The query which is a slave relative to this query	Names of existing slave queries	-	Depends on the number of existing slave queries

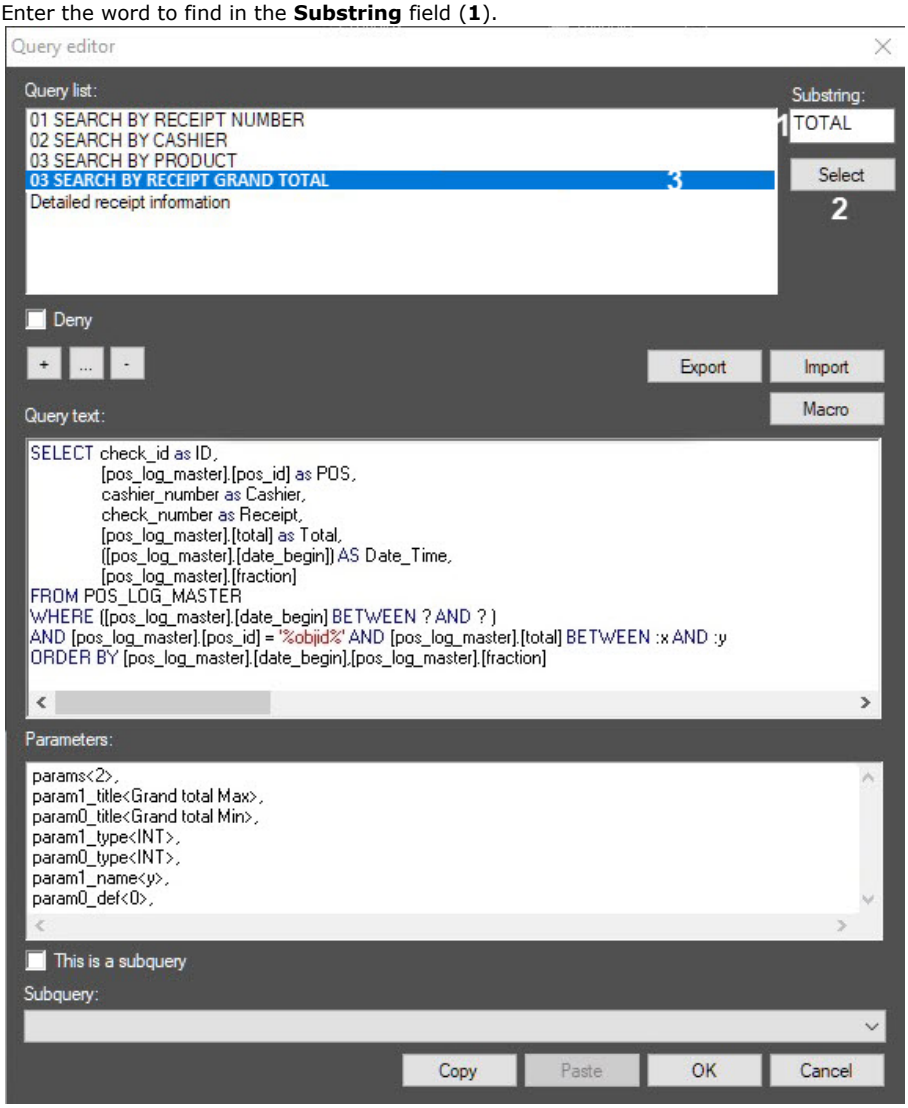
Use SQL templates while editing the text of the query. Click the **Macro** button (**1**) and select an item from the list that opens (**2**).



Searching for queries in the Query list

To search for queries in the **Query list**, do the following:

1. Enter the word to find in the **Substring** field (**1**).



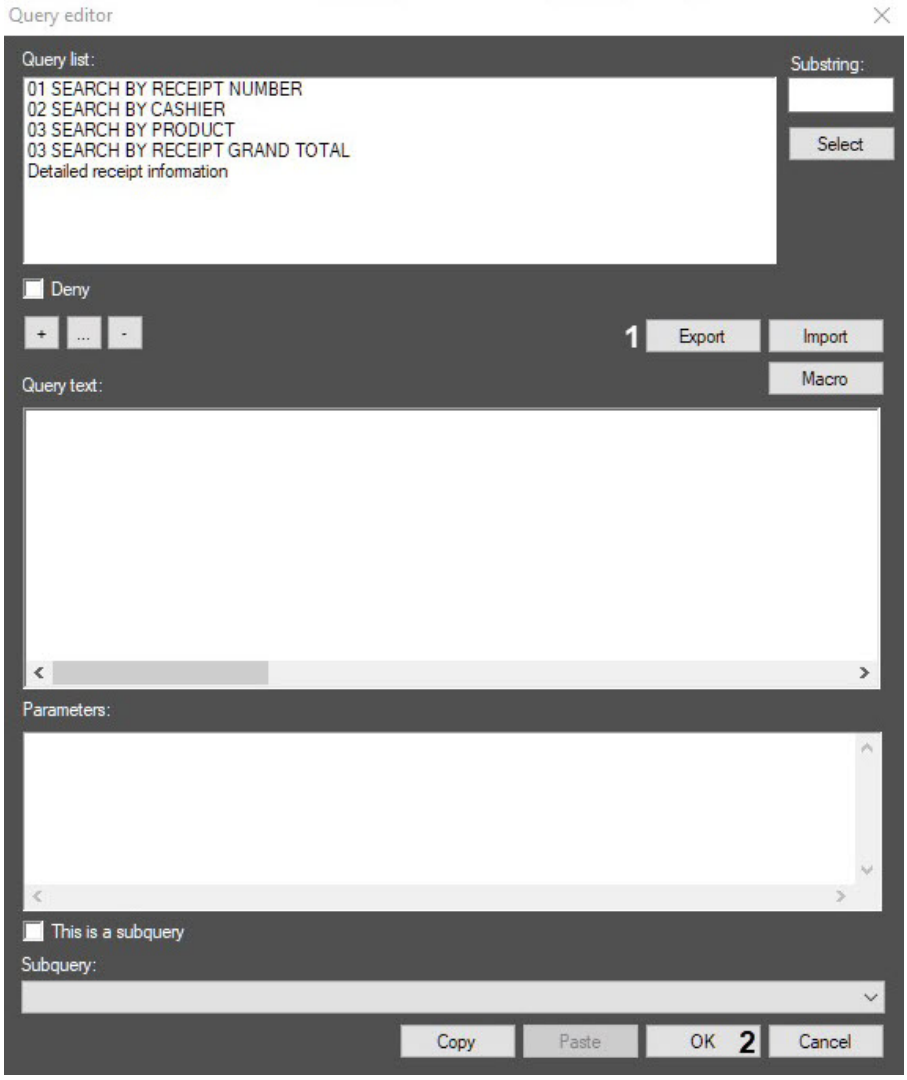
2. Click the **Select** button (**2**).
3. The query names containing the word will be highlighted in the **Query list** (**3**).

The search for queries in the **Query list** is complete.

Export the query parameters into a file or other Receipt viewer objects

To export the query list into a file, do the following:

1. Click the **Export** button (**1**).



2. Save the query file in the standard Windows file save dialog box.

3. To save changes and close the **Query editor** window, click **OK** (**2**). The user queries will be saved in the file. Query export is complete.

Note

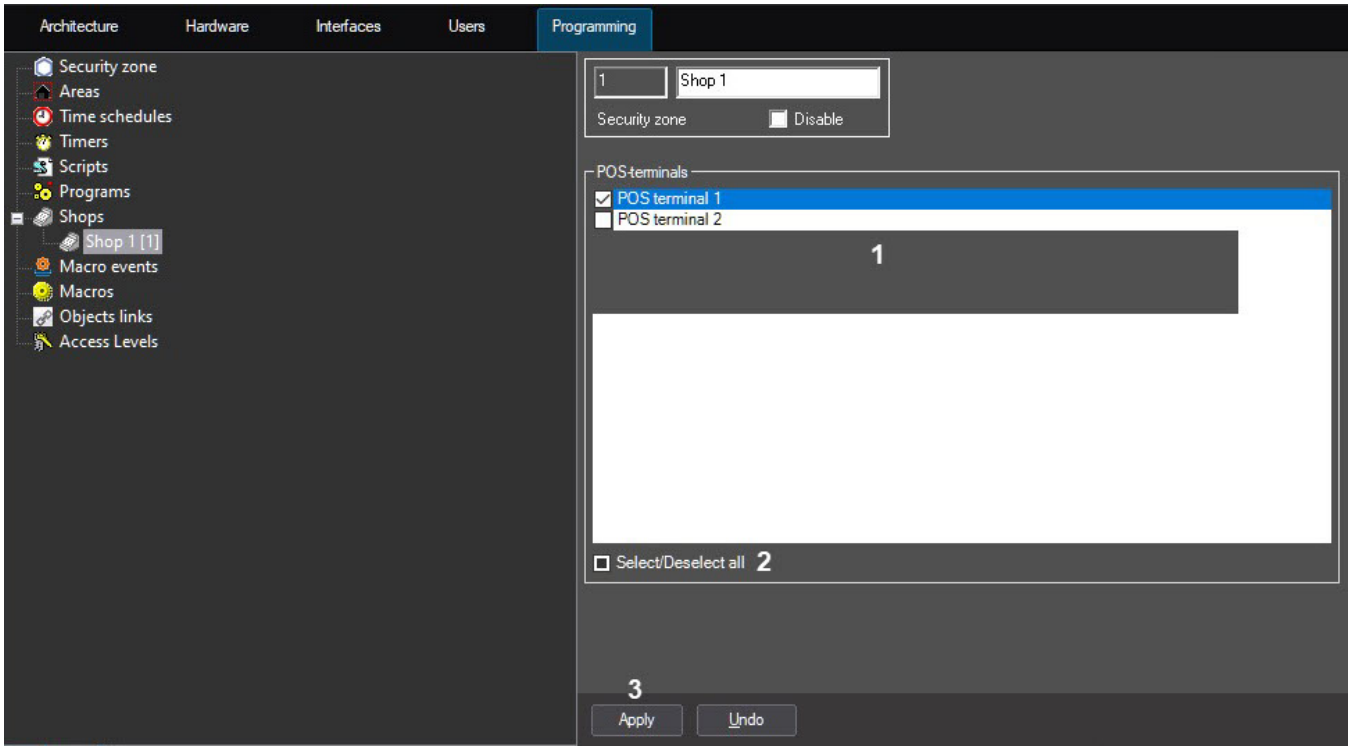
Use the **Copy** and **Paste** buttons to copy the query list to other **Receipt viewer** windows.

The query editing in the **Receipt viewer** window is complete.

Setting up the Shop system object

The **Shop** system object is for integration of POS terminals that are physically installed in one shop.

Creation and setup of the **Shop** system object is carried out on **Programming** tab of **System setting** dialog box.



Setting parameters of the **Shop** system object is carried out on setting panel of the **Shop** object.

To set up the **Shop** system object, do the following:

1. Go to the **Shop** object setting panel.
2. In **POS terminals** field set the checkbox next to the necessary POS terminal that is installed in the shop (**1**).
3. Set the **Select/Deselect all** checkbox to select all POS terminals in the list (**2**).

> **Note.**
>
> If it's necessary to remove the selection of all POS terminals remove **Select/Deselect all** checkbox by clicking it once again.

4. Click **Apply** to save the changes (**3**).

Setting parameters of the **Shop** object is completed.

Configuring the POS Replicator system object

General information about replicating the POS databases

Replicating of POS databases allows using of data from a local Server and from remote Servers while the building of reports (see the *WEB Report System PSIM.* User Guide document).

The **POS Replicator** system object is used for replicating the databases of remote Servers to the main Server. The main Server is a server on which the **POS Replicator** object is configuring. Only POS databases can be replicated using this module.

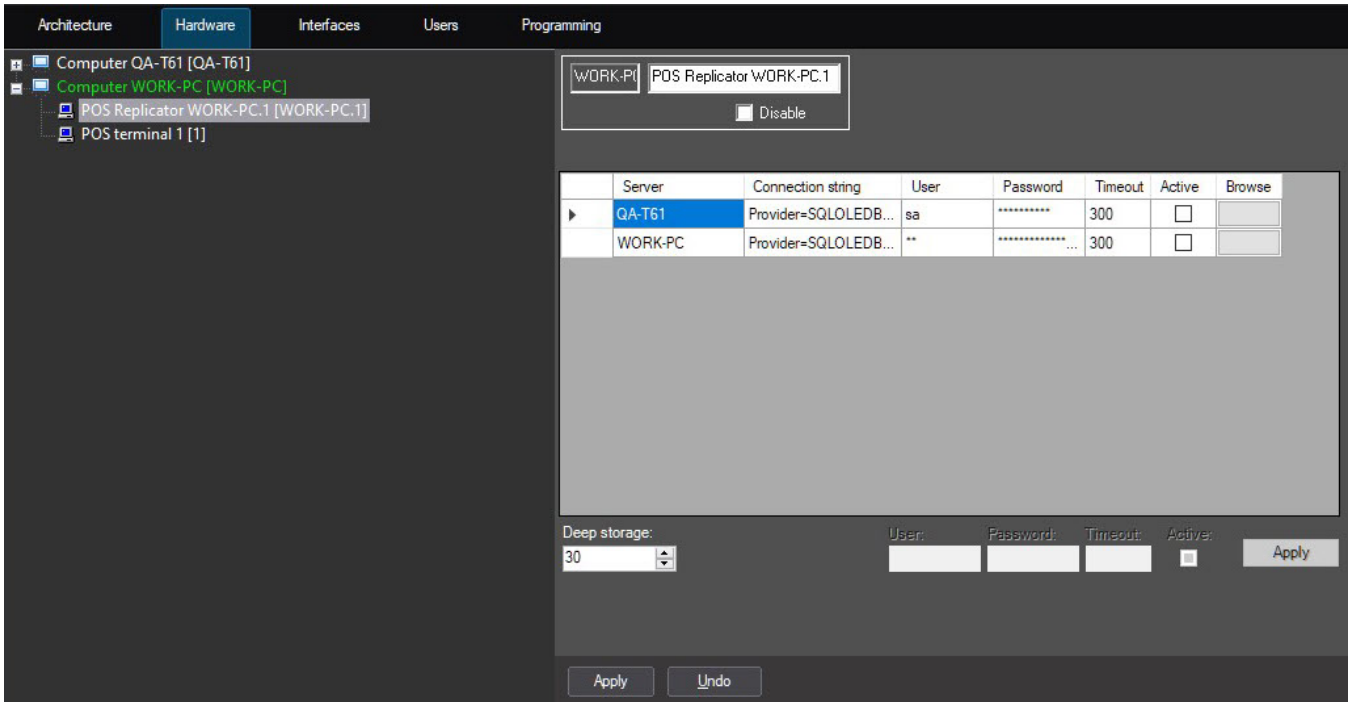
Attention! Replication is performed only for receipts in XML format, i.e. the XML protocol type is to be selected for the corresponding **POS terminal** object.

Other *POS PSIM* modules which use POS databases (e.g. *Receipts*) work with POS databases located on those Servers where the **POS terminal** objects are created, on operation with which they are configured. So the data duplication is eliminated.

> ⚠ **Attention!**
>
> If the *POS PSIM* module is being updated on the Server where the *POS PSIM* module has already been installed, then it is necessary to delete the POS database before update or create a new database while updating. New databases are to be created both on remote Servers and on the main Server.

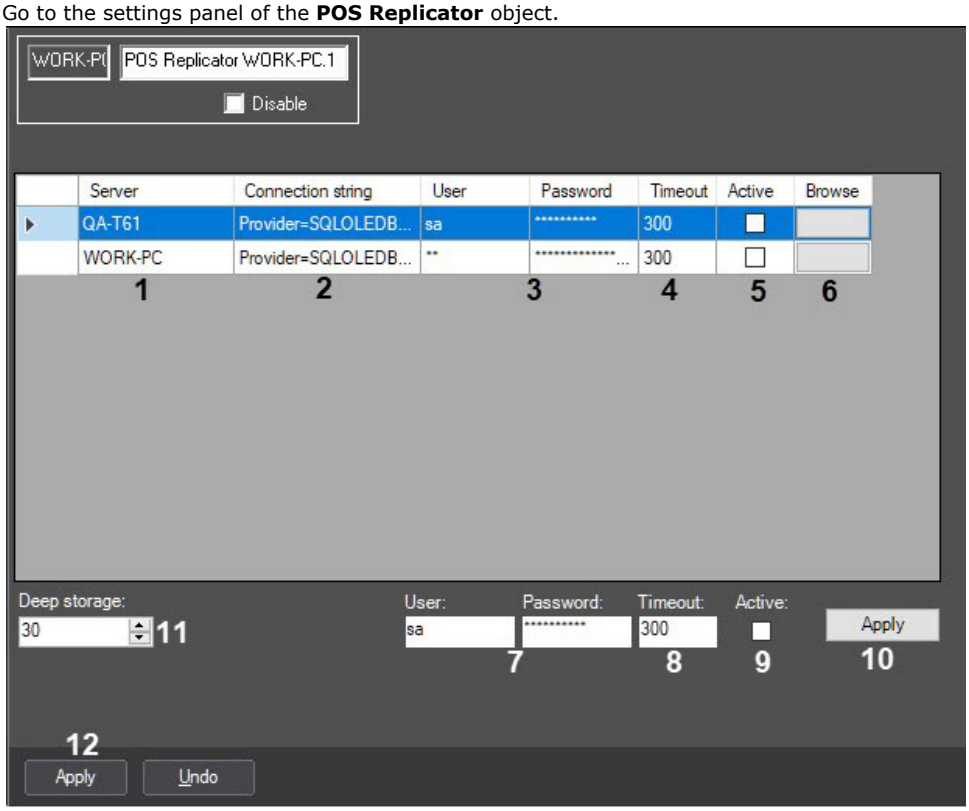
Configuring the replication of POS databases

The **POS Replicator** system object is created on the basis of the **Computer** object on the **Hardware** tab of the **System settings** dialog box. Only one **POS Replicator** object can be created on the Server.



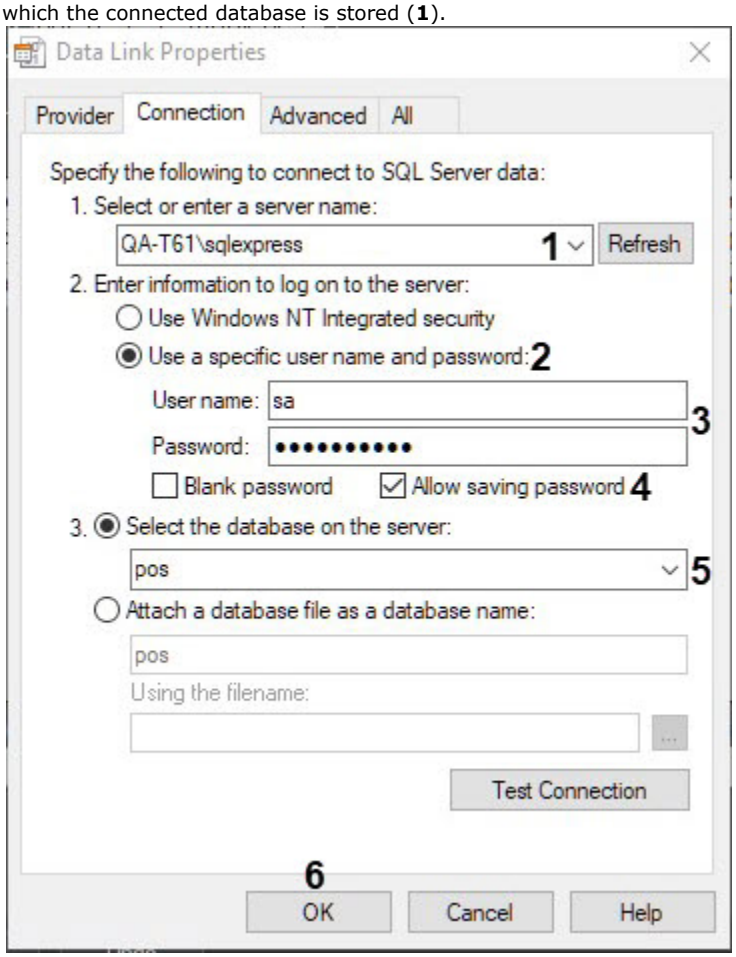
To configure the **POS Replicator** system object, do the following:

1. Go to the settings panel of the **POS Replicator** object.



2. The **Server** column (**1**) displays the names of servers in *POS PSIM* on which the Servers of databases are run. The list of servers is generated automatically and can't be edited manually. The server is included in the list only if one or more **POS terminal** objects are created on it.

3. The **Connection string** column (**2**) displays the string of connection to remote database server. The string is generated automatically. The name of the SQL server is made from the Server name to which \sqlexpress is added. The default name of database is POS. If it is necessary to change the connection strings, do the following:
    a. Click the button in the **Browse** column (**6**). The **Data Link Properties** window will open in order to configure the database connection.
    b. In the **Select or enter a server name** field, select from the list or enter manually the name of MS SQL Server on which the connected database is stored (**1**).



    c. Set the switch into the **Use a specific user name and password** position (**2**).
    d. In the **User name** field, enter the user name (login) to connect to the MS SQL server, in the **Password** field, enter the password to access the database (**3**).
    e. Set the **Allow saving password** checkbox (**4**).
    f. Select the name of the connected *POS* database from the **Select the database on the server** list (**5**).
    g. Click the **OK** button (**6**) to save changes and return to the settings panel of the **POS Replicator** object.
4. Specify the replication parameters using one of the following way:
    a. For each server:
        i. User name and password specified on the step of connection to the database will be automatically entered in the **User name** and **Password** fields (**3**).
        ii. In the **Timeout** field, enter the data replication period in seconds (**4**).
        iii. Set the **Active** checkbox in case replication should be performed from the specified server to the main server (**5**).
        iv. Repeat steps 4.a.i–4.a.iii for each server in the list.
    b. If you want to use the same parameters for all servers:
        i. From the list, select the servers which replication parameters should be changed.
        ii. Enter the user name and password which are used to connect to all databases in the list (**7**).
        iii. In the **Timeout** field, enter the data replication period in seconds (**8**).
        iv. Set the **Active** checkbox if it is necessary to use all connections (**9**).
        v. Click the **Apply** button (**10**).

> **Note**
>
> It is possible to specify following parameters for several Servers such way: user name and password of connection to the POS database, timeout and state of replication.

5. In the **Deep storage** field, enter the number of days during which data will be saved in the database (**11**).

6. Click the **Apply** button (**12**).

Replication starts automatically when all these actions are completed. Databases with replication time rating are added to the replication queue. Databases with the lowest replication period have the highest priority. Several replication processes can be performed simultaneously depending on the number of cores in the main Server processor.

The replication process can be detected through the terminal window of *Pos Aggregator* module which is activated by double-clicking the module icon in the tray.

Configuration of the **POS Replicator** system object is completed.

Configuring the POS Process system object

General information about POS process system object

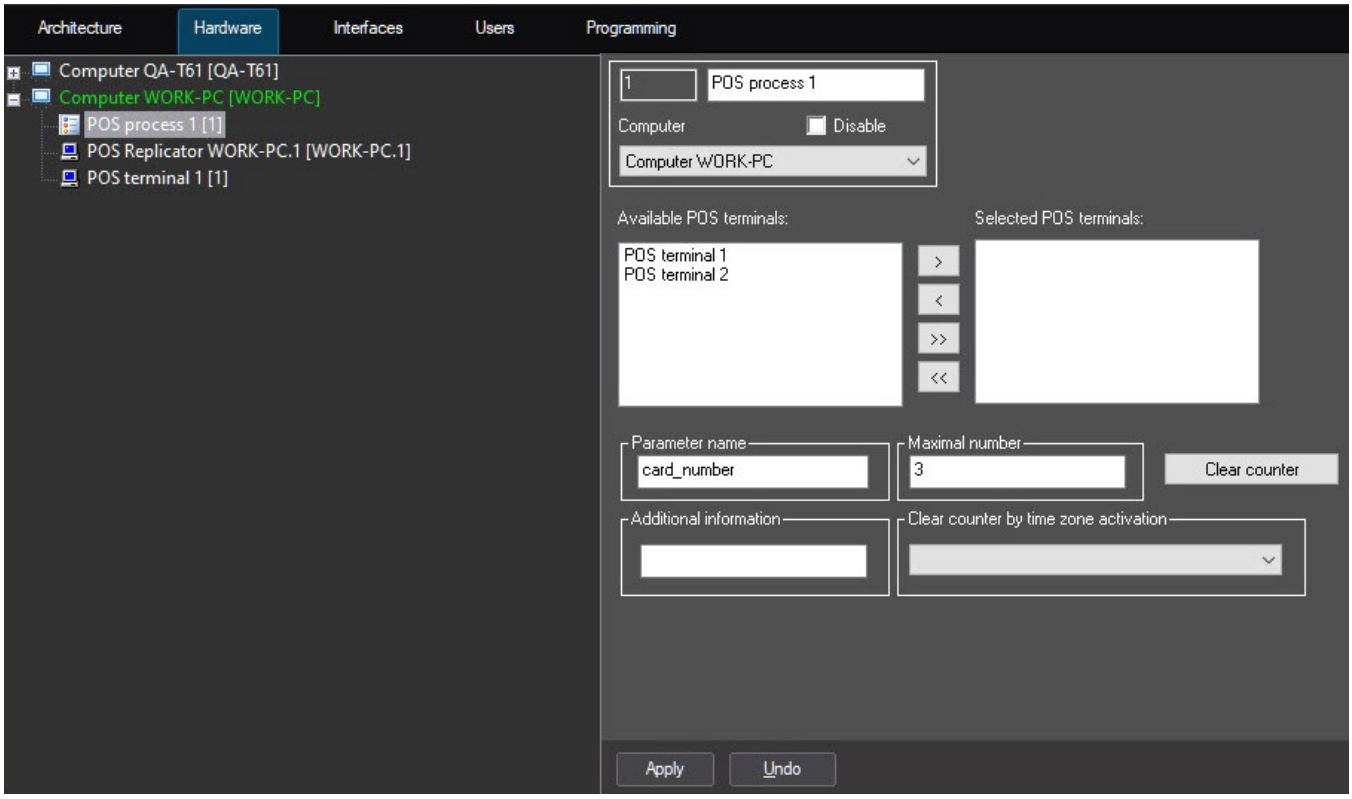
The **POS process** system object enables configuring the generation of informational messages from *POS process* module in case of the number of events from POS terminal with equal values of specified parameter exceeds some specified number. For example, if the informational message is to be generated in case of the card number is repeated more than specified number of times.

Attention!

To generate the event, configure the parser for sending events (set the **Send event** checkbox) even if the xml-parser is in use (see the Editing the .prl parser section).

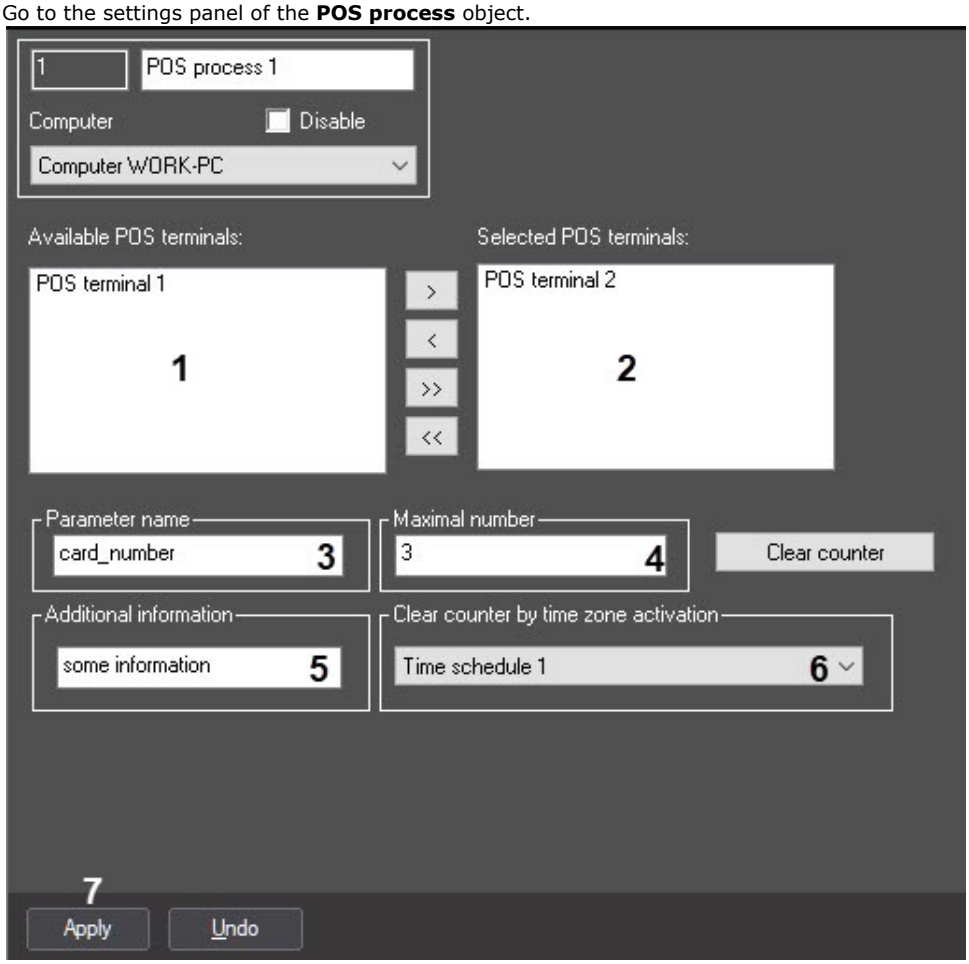
Configuring the POS process object

The **POS process** system object is created on the basis of the **Computer** object on the **Hardware** tab of the **System setting** dialog box.



To configure the **POS process** system object, do the following:

1. Go to the settings panel of the **POS process** object.



2. The **POS terminal** objects created in the objects tree are listed in the **Available POS terminals** list (**1**).
3. Move the required terminals to the **Selected POS terminals** (**2**) using the > and >> buttons. The information from selected terminals will be used to count the occurrence of the specified parameter.

> **Note**
>
> To move the **POS terminals** from the **Selected POS terminals** list to the **Available POS terminals** list, use the < and << buttons.

4. In the **Parameter name** field, enter the name of the parameter, the number of the same values of which should be monitored (**3**). The parameter name depends on the characteristics of the protocol used by the terminal.
5. In the **Maximal number** field, enter the maximum number of occurrence of the same values of the parameter (**4**).
6. In the **Additional information** field, enter the events description which will be included in the event description next to the card number and number of repetitions (**5**).

> **Note**
>
> In the example displayed in the figure, the description of alarm messages will be presented as «Some information 3x123», where 123 is a card number, 3 is a number of times when the parameter occurred.

7. From the **Clear counter by time zone activation** drop-down list, select the **Time schedule** object corresponding to the time period, the start of which indicates the necessity to reset the counter of parameter occurrence (**6**).

> **Note**
>
> The **Time schedule** objects are created and configured on the **Programming** tab of the **System setting** dialog box. For more information about creating and configuring the time zone, see Administrator's Guide.

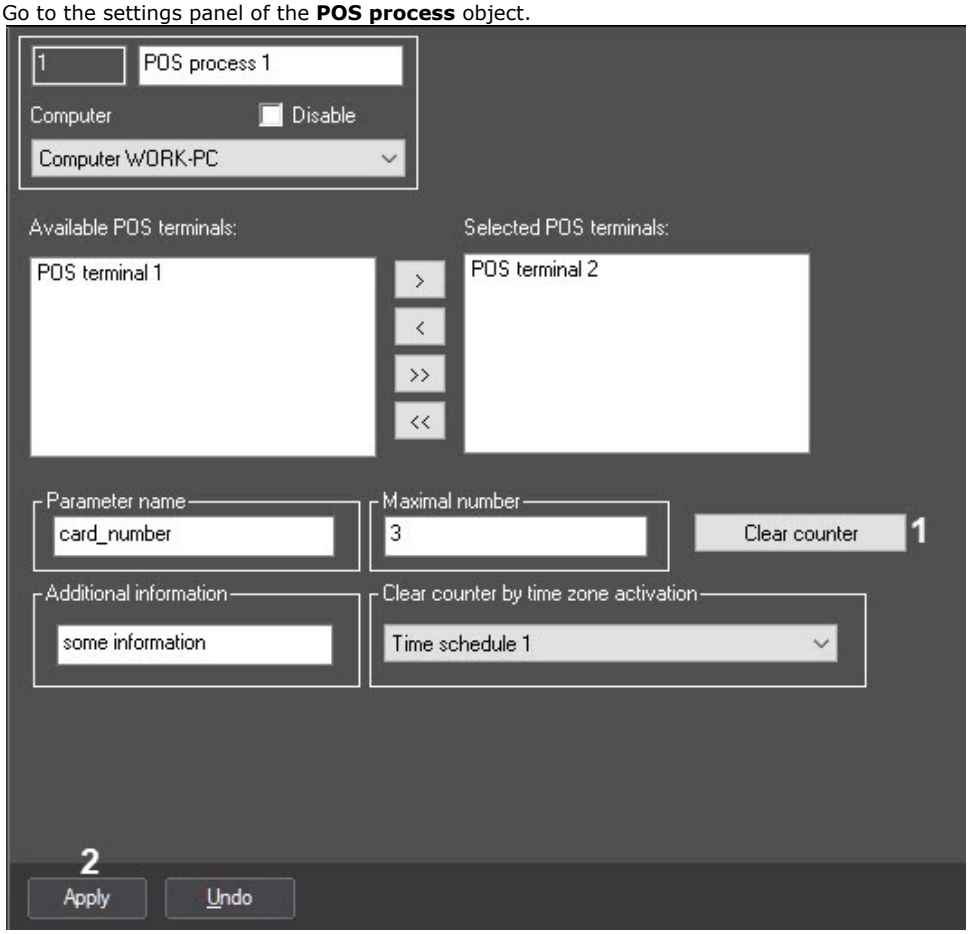
8. Click the **Apply** button (**7**).

Configuration of the **POS process** system object is completed.

Clearing the counter

To clear the counter of parameter appearances, do the following:

1. Go to the settings panel of the **POS process** object.



2. Click the **Clear counter** button (**1**).
3. Click the **Apply** button to save changes (**2**).

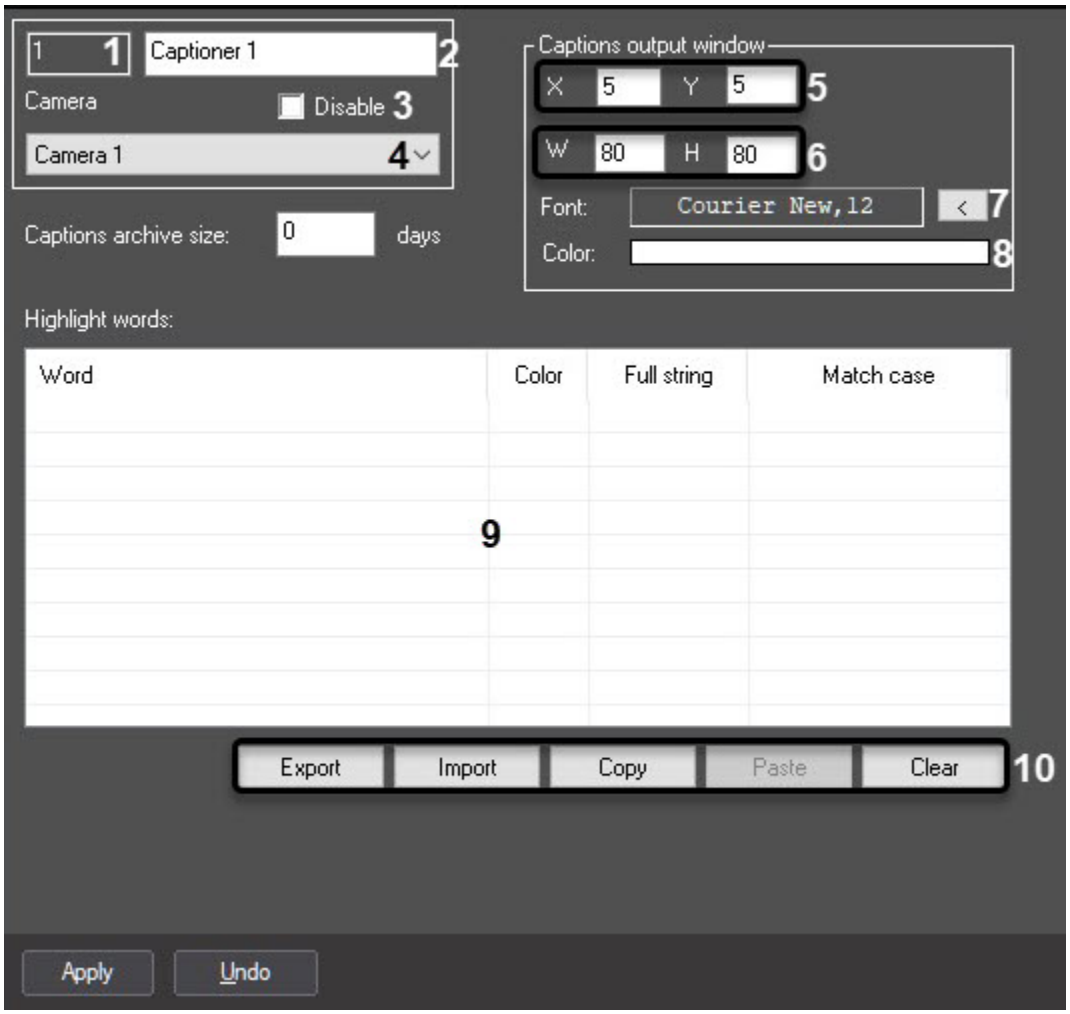
Clearing the counter is completed.

Appendices

Appendix 1. Description of interface windows

The Captioner object settings panel

The figure shows the **Captioner** object settings panel.



The table describes the elements in the **Captioner** settings panel

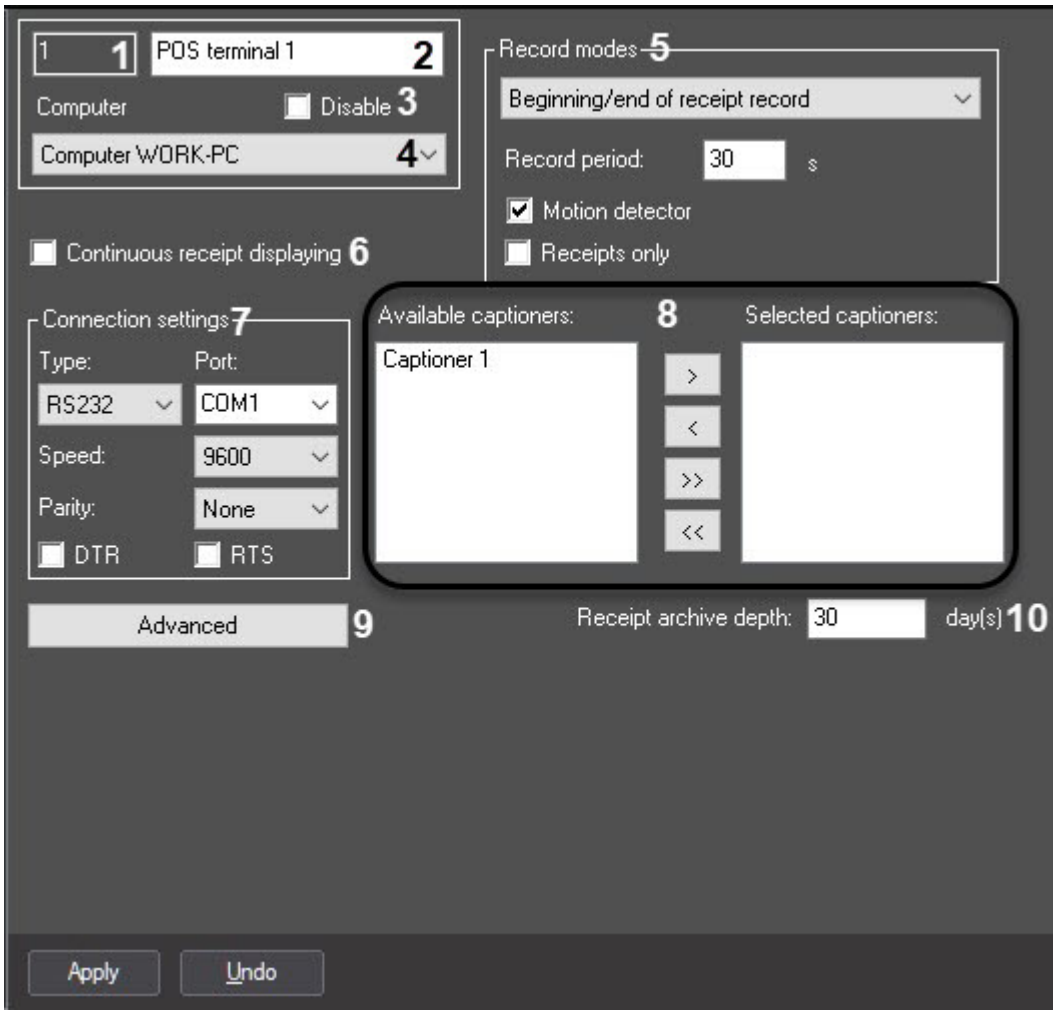
No	Element name	Element type	Description	Data type	Default value	Value range
1	Number *	Auto	Identification number of the object in the system	Whole positive numbers	-	Depends on the number of objects
2	Name *	Text field	Object name	Latin, Cyrillic and special symbols	Titles database	Case-insensitive string of any symbols. No more than 60 symbols
3	**Disable**	Checkbox	Object status	Boolean	No	Yes – the object is disabled (not used). No – the object is enabled
4	**Camera**	Drop-down list	Parent **Camera** object	Names of existing **Camera** objects	Parent camera name	Depends on the number of existing **Camera** objects
The **Captions output window** group						
5	**X**	Text field	X-coordinate of the upper left corner (left indent)	% of video image width	5	0 to 100
	Y	Text field	Y-coordinate of the upper left corner (top indent)	% of video image height	5	0 to 100
6	**W**	Text field	Titles display area width	% of video image width	80	0 to 100

	H	Text field	Titles display area height	% of video image height	80	0 to 100
7	**Font**	Auto	Titles font sample	Text line	Courier,12	Depends on the installed fonts
		Button	Selecting the titles font (standard Windows font selection box opens)	-	–	-
8	**Color**	Auto	The titles text color	Color palette	White	Depends on the system color palette
		Double-click	Selecting the titles text color (standard Windows color selection dialog box)	-	-	-
The **Highlight words** table						
9	Word	Text field	The word to highlight	Text line	–	String of any symbols
	Color	Double-click	Highlighting color	Color palette	Turquoise	Depends on the system color palette
	Full string	Checkbox	Highlights the whole line	Boolean	No	Yes – the whole line is highlighted. No – the word only is highlighted
	Match case	Checkbox	Match case	Boolean	No	Yes – case-sensitive search. No – case-insensitive search
10	**Export**	Button	Exporting the table into a file	–	–	–
	Import	Button	Importing the table from a file	–	–	–
	Copy	Button	Copy the table contents to the clipboard	–	–	–
	Paste	Button	Paste the clipboard into the table	–	–	–
	Clear	Button	Clear the table	–	–	–

* The element's name is not displayed in the settings panel.

The POS terminal object settings panel

The figure shows the **POS terminal** object settings panel.



The table describes the elements in the **POS terminal** settings panel.

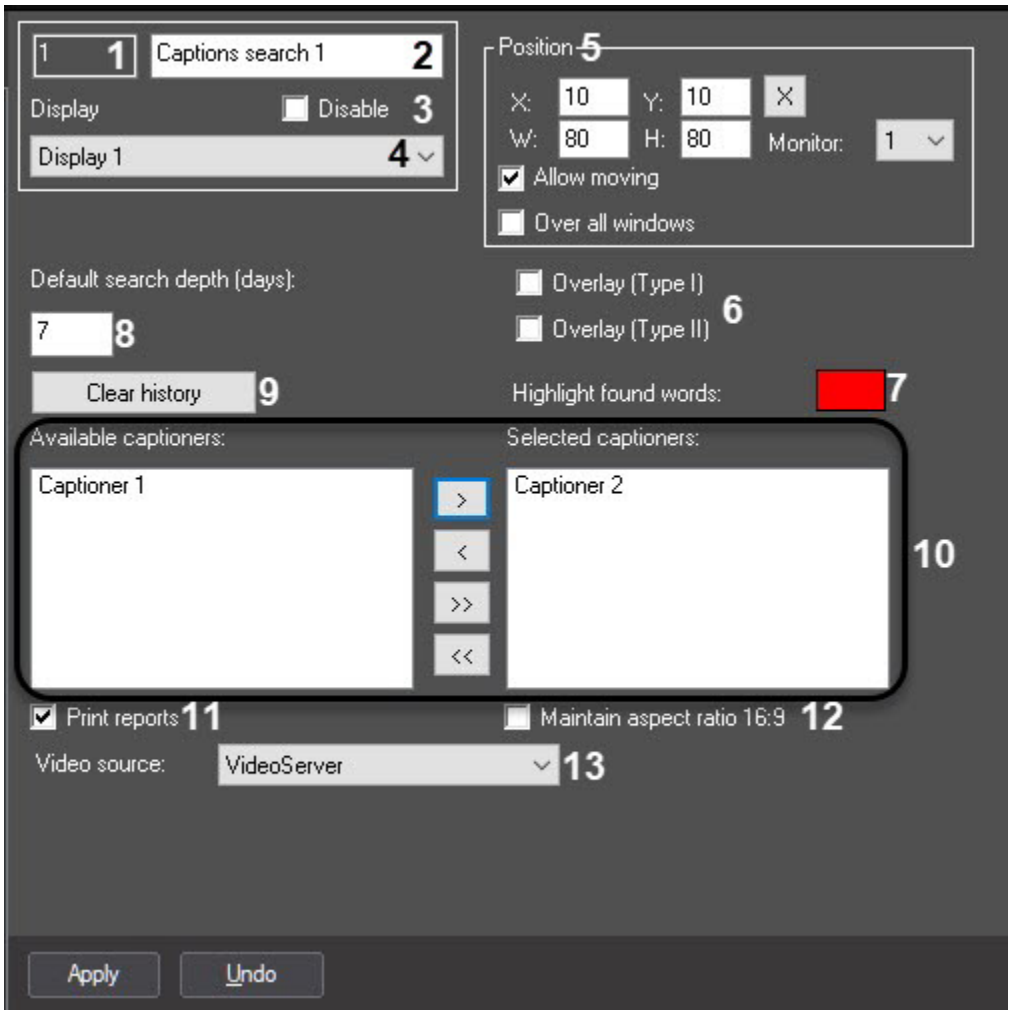
No	Element name	Element type	Description	Data type	Default value	Value range
1	Number *	Auto	Identification number of the object in the system	Whole positive numbers	-	Depends on the number of existing **POS terminal** objects
2	Name *	Text field	Object name	Latin, Cyrillic and special symbols	POS terminal	Case-insensitive string of any symbols. No more than 60 symbols
3	**Disable**	Check box	Object status	Boolean	No	Yes – the object is disabled (not used). No – the object is enabled
4	**Computer**	Drop-down list	Parent **Computer** object	Names of existing **Computer** objects	Parent computer name	Depends on the number of existing **Computer** objects
The **Recording modes** group						
5	**Recording modes**	Drop-down list	The recording mode	Existing recording modes	Record on receipt beginning/end	Record on receipt beginning/end. Continuous recording. Save one frame per receipt
	Record period __s	Text field	The recording time interval	Seconds	30	

	Motion detector	Check box	Record on motion detector activation	Boolean	Yes	Yes – use motion detector. No – do not use motion detector
	Receipts only	Check box	Receipt display option	Boolean	No	Yes – only data of the receipts between the beginning and end of the receipts are displayed on the screen and included in the Captioner. No – all the data of the processed receipts are displayed on the screen and included in the Captioner
6	**Continuous receipt displaying**	Check box	Continuous receipt displaying option	Boolean	No	Yes – there is a space between the receipts so that they do not overlap on the screen. No – the previous receipt becomes hidden when a new receipt is displayed
The **Connection settings** group						
7	**Type**	Drop-down list	Connection type	Supported protocols	RS232	Depends on the number of supported protocols
	Port	Drop-down list	Port number	Available ports	COM1	Number of available ports
	Speed	Drop-down list	Connection rate in accordance with RS232 protocol	Supported rates	9600	Depends on the number of supported rates in accordance with RS232 protocol
	Parity	Drop-down list	Parity mode for RS232 protocol	Supported parity modes	None	Depends on the number of supported parity modes in the RS232 protocol
	DTR	Check box	DTR option for RS232 protocol	Boolean	No	Yes – use DTR control signal in the RS232 protocol. No – do not use DTR control signal in the RS232 protocol
	RTS	Check box	RTS option for RS232 protocol	Boolean	No	Yes – use RTS control signal in the RS232 protocol. No – do not use RTS control signal in the RS232 protocol
The Captioners * group						
8	**Available captioners**	Auto	The list of available captioners	–	–	–
	Selected captioners	Auto	The list of selected captioners	–	–	–
		Button	Selecting the captioners	–	–	–
9	**Advanced**	Button	Opening additional **POS terminal** object settings	–	–	–
10	**Receipt archive depth__ day(s)**	Text field	The size of the receipts archive	Days	30	

* The element's name is not displayed in the settings panel.

The Captions search object settings panel

The figure shows the **Captions search** object settings panel.



The table describes the elements in the **Captions search** settings panel

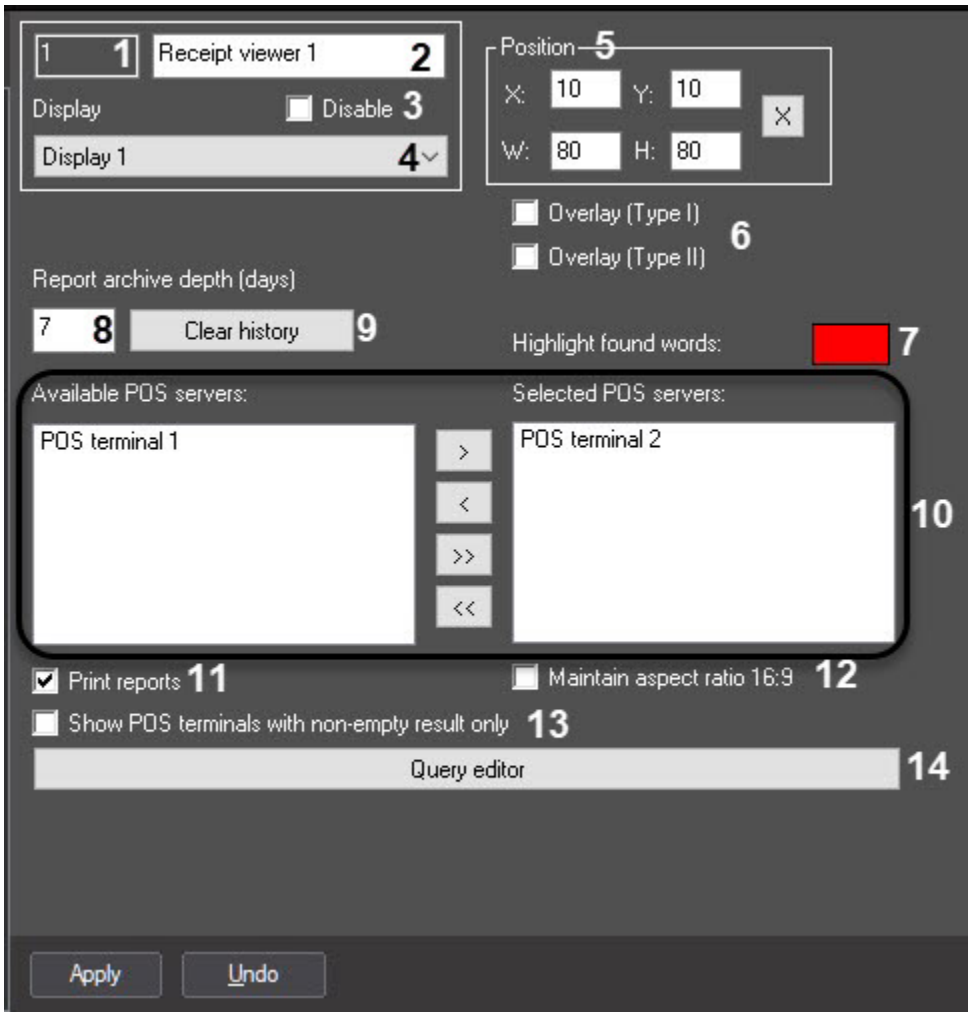
No	Element name	Element type	Description	Data type	Default value	Value range
1	Number *	Auto	Identification number of the object in the system	Whole positive numbers	-	Depends on the number of existing **Captions search** objects
2	Name *	Text field	Object name	Latin, Cyrillic and special symbols	**Captions search**	Case-insensitive string of any symbols. No more than 60 symbols
3	**Disable**	Checkbox	Object status	Boolean	No	Yes – the object is disabled (not used). No – the object is enabled
4	**Display**	Drop-down list	Parent **Display** object	Names of existing **Display** objects	Parent **Display** name	Depends on the number of **Display** objects
The **Position** group						
5	**X**	Text field	**X** coordinate of the upper left corner	% of screen width	10	0 to M*100, where M is the number of installed monitors

	Y	Text field	**Y** coordinate of the upper left corner	% of screen height	10	0 to M*100, where M is the number of installed monitors
	W	Text field	Window width	% of screen width	80	0 to M*100, where M is the number of installed monitors
	H	Text field	Window height	% of screen height	80	0 to M*100, where M is the number of installed monitors
		Button	Open the size and position sample window	-	-	-
	Allow moving	Checkbox	Enables moving the **Captions search** window	Boolean	Yes	Yes — moving is enabled. No — moving is disabled
	Over all windows	Checkbox	Enables displaying the **Captions search** window over all windows	Boolean	No	Yes — displaying over all windows is enabled. No — displaying over all windows is disabled
The **Overlay** group						
6	**Overlay (Type I)**	Checkbox	Overlay I video display mode	Boolean	No	Yes – use Overlay I. No – do not use Overlay I
	Overlay (Type II)	Checkbox	Overlay II video display mode	Boolean	No	Yes – use Overlay II. No – do not use Overlay II
The **Highlight found words** group						
7	Color *	Auto	Word highlighting color	Color palette	Red	Depends on the system color palette
	Color *	Double-click	Word highlighting color selection (opening the standard Windows color selection dialog box)	-	-	-
8	**Default search depth (days)**	Text field	Captioner search depth	Days	7	
9	**Clear history**	Button	Clears the history of user queries	–	–	–
The Captioner * group						
10	**Available captioners**	Auto	The list of available captioners	–	–	–
	Selected captioners	Auto	The list of selected captioners	–	–	–
		Button	Selecting the captioners	–	–	–
11	**Print reports**	Checkbox	Print reports	Boolean	Yes	Yes – operator can print query results. No – operator cannot print query results
12	**Maintain aspect ratio of 16:9**	Checkbox	Maintain aspect ratio of 16:9	Boolean	No	Yes – dispalys archive in 16:9 format. No – displays archive in 4:3 format
13	**Video source**	Drop-down list	Select the available video source	Names of existing **Video source** objects	**VideoServer**	Depends on the number of **Video source** objects

* The element's name is not displayed in the settings panel.

The Receipt viewer object settings panel

The figure shows the **Receipt viewer** object settings panel.



The table describes the elements in the **Receipt viewer** settings panel

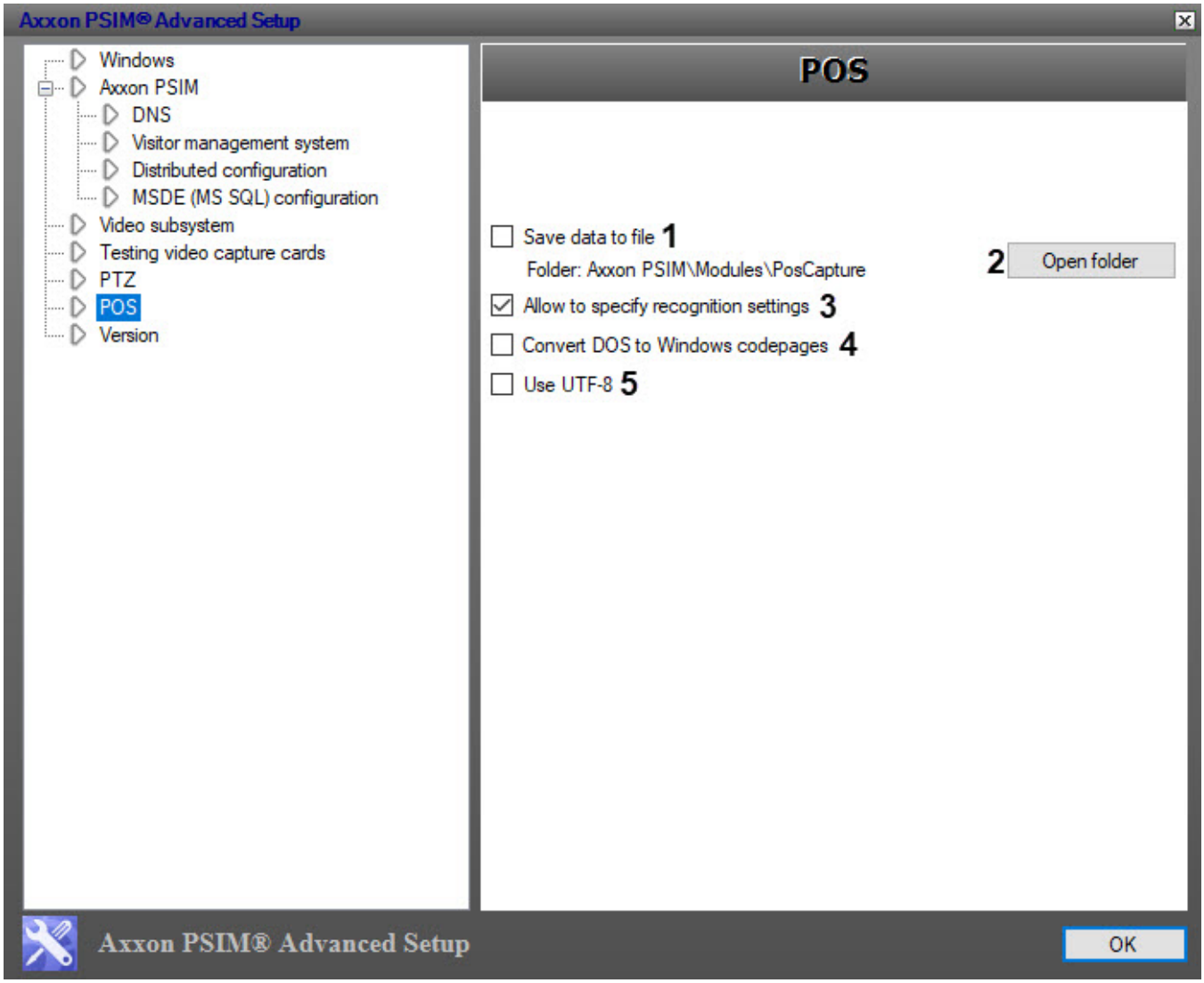
No	Element name	Element type	Description	Data type	Default value	Value range
1	Number *	Auto	Identification number of the object in the system	Whole positive numbers	-	Depends on the number of **Receipt viewer** objects
2	Name *	Text field	Object name	Latin, Cyrillic and special symbols	Receipt viewer	Case-insensitive string of any symbols. No more than 60 symbols
3	**Disable**	Checkbox	Object status	Boolean	No	Yes – the object is disabled (not used). No – the object is enabled
4	**Display**	Drop-down list	Parent **Display** object	Names of existing **Display** objects	Parent **Display** objects name	Depends on the number of **Display** objects
The **Position** group						
5	**X**	Text field	**X** coordinate of the upper left corner of the window	% of screen width	10	0 to M*100, where M – number of installed monitors

	Y	Text field	**Y** coordinate of the upper left corner of the window	% of screen height	10	0 to M*100, where M – number of installed monitors
	W	Text field	Window width	% of screen width	80	0 to M*100, where M – number of installed monitors
	H	Text field	Window height	% of screen height	80	0 to M*100, where M – number of installed monitors
		Button	Open sample window for visual setting ot position and size	-	-	-
The Overlay * group						
6	**Overlay (Type I)**	Checkbox	Overlay I video display mode	Boolean	No	Yes – use Overlay I. No – do not use Overlay I
	Overlay (Type II)	Checkbox	Overlay II video display mode	Boolean	No	Yes – use Overlay II. No – do not use Overlay II
The **Highlight found words** group						
7	Color *	Auto	Word highlighting color	Color palette	Red	Depends on the system color palette
	Color *	Double-click	Word highlighting color selection (open standard Windows color selection dialog box)	-	-	-
8	**Report archive depth (days)**	Text field	Receipts database search depth	Days	7	
9	**Clear history**	Button	Clears the history of user queries	–	–	–
The POS servers * group						
10	**Available POS servers**	Auto	The list of available POS terminals	–	–	–
	Selected POS servers	Auto	The list of selected POS terminals	–	–	–
		Button	Selecting the POS terminals	–	–	–
11	**Print reports**	Checkbox	Printing the reports	Boolean	Yes	Yes – operator can print query results. No – operator cannot print query results
12	**Maintain aspect ratio of 16:9**	Checkbox	Maintain aspect ratio of 16:9	Boolean	No	Yes – dispalys archive in 16:9 format. No – displays archive in 4:3 format
13	**Show POS terminals with non-empty result only**	Checkbox	Show POS terminals with non-empty search results only	Boolean	No	Yes – show POS terminals with non-empty results only. No – show all POS terminals
14	**Query editor**	Button	Open the user query editor	–	–	–

* The element's name is not displayed in the settings panel.

The settings panel for the POS sections using the tweaki.exe utility

The external view of settings panel for the **POS** sections is shown in the following figure.



Description of parameters for settings the **POS** section is presented in the table.

№	Parameter	Method for setting the parameter value	Parameter description	Symbol used	Default value	Value range
1	**Save data to file**	Is identified by the check mark	Enabling and disabling function of creating lof-files of POS terminals	Boolean type	No	Yes – data received from POS-terminals save to log files No – log fille is not created
2	**Open folder**	Press the button	Button is designed for going to the folder where log-files of POS terminates are stored	-	-	-
3	**Allow to specify recognition settings**	Is identified by the check mark	Enabling or disabling the possibility to edit the parcer templates	Boolean type	No	Yes – it is possible to edit parcer templates No – it is not possible to edit parcer templates

4	**Convert DOS to Windows codepages**	Is identified by the check mark	The checkbox is set if the POS terminal sends data in DOS code	Boolean type	No	Yes – data sends in DOS code and converts to the Windows codepages No – data sends in correct code and converting is not required
5	**Use UTF-8**	Is identified by the check mark	Enabling or disabling the possibility to use UTF-8	Boolean type	No	Yes – it is possible to use UTF-8 No – it is not possible to use UTF-8

Appendix 2. Connecting the POS-server to the POS terminal

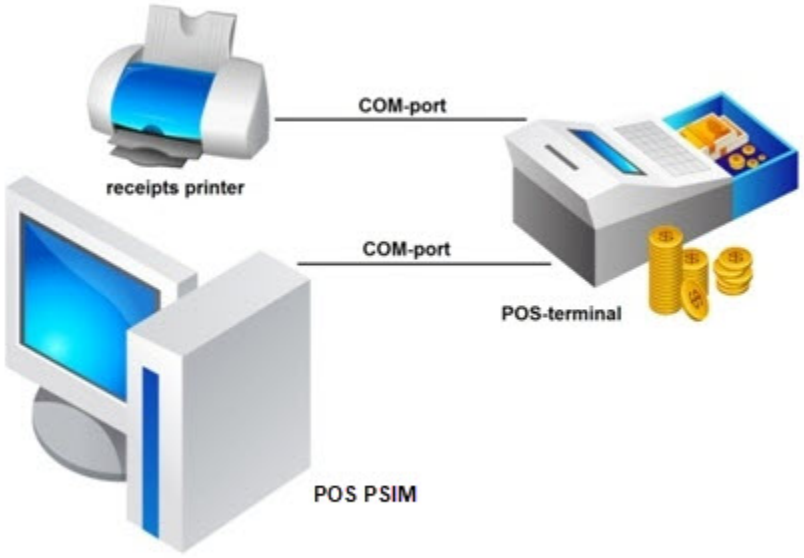
Depending on the POS terminal hardware and software, it can be connected to the POS-server with installed *POS PSIM* software using one of the following ways:

1. POS terminal COM-port;
2. POS terminal receipts printer port;
3. LAN.

> **Note.**
>
> Consult the dealer who installed your POS terminals about available connection options.

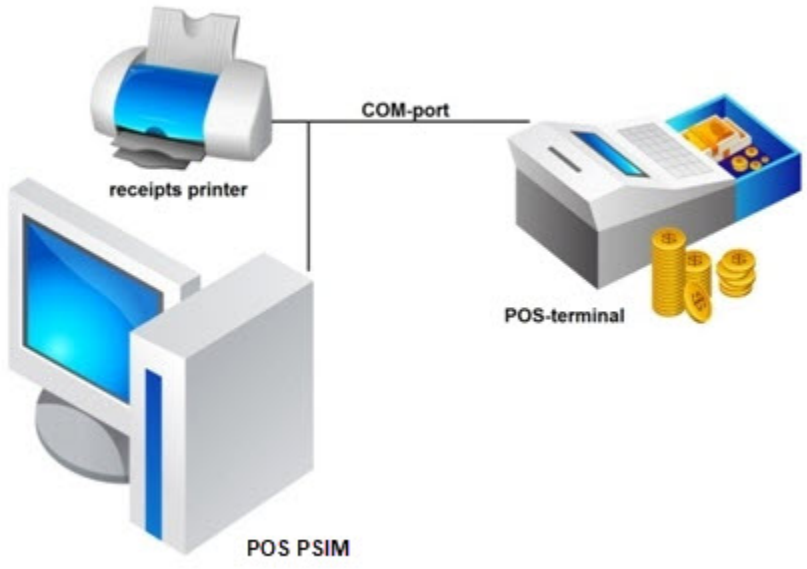
Connecting the POS-server to the COM-port of the POS-terminal

The POS-server can be connected to the POS-terminal COM-port, if the POS-terminal allows duplication of POS-operations data to a free COM-port. Connect the free COM-port of the POS-terminal to the POS-server's COM-port.



Connecting the POS-server to the POS-terminal receipts printer port

If the POS-server cannot be connected to a free COM-port of the POST-terminal, connect it to the POS-terminal's receipts printer port.



To use this connection option, make sure that:

1. The receipts printer supports the RS-232 standard.
2. The POS-terminal sends data to the printer in text format.

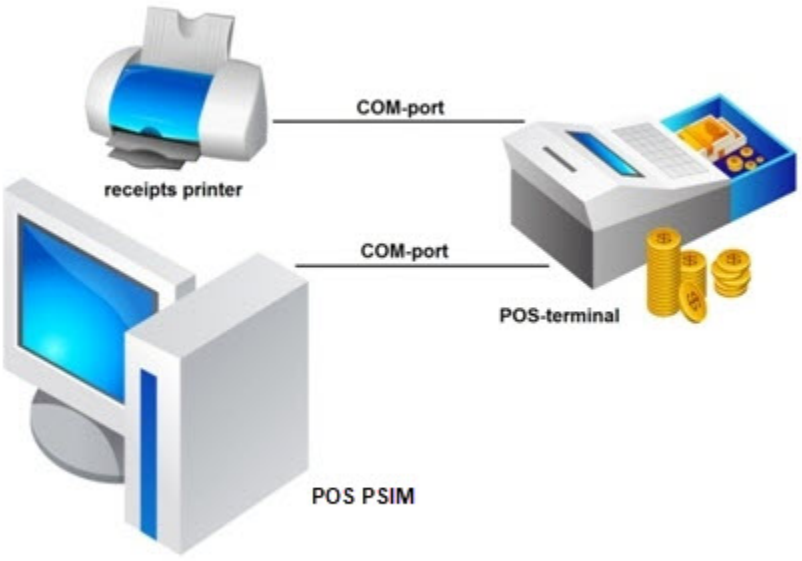
Use Y-cable to connect the POS-server to the receipts printer.

Attention!

Unplug all devices from the mains prior to connecting the POS-server to the POS-terminal serial ports. Failing to do so may cause severe damage to the hardware.

Connecting POS-terminals via LAN

The POS-terminal can be connected to the POS-server via the local area network, if the POS-terminal supports TCP/IP or UDP data transfer protocols.

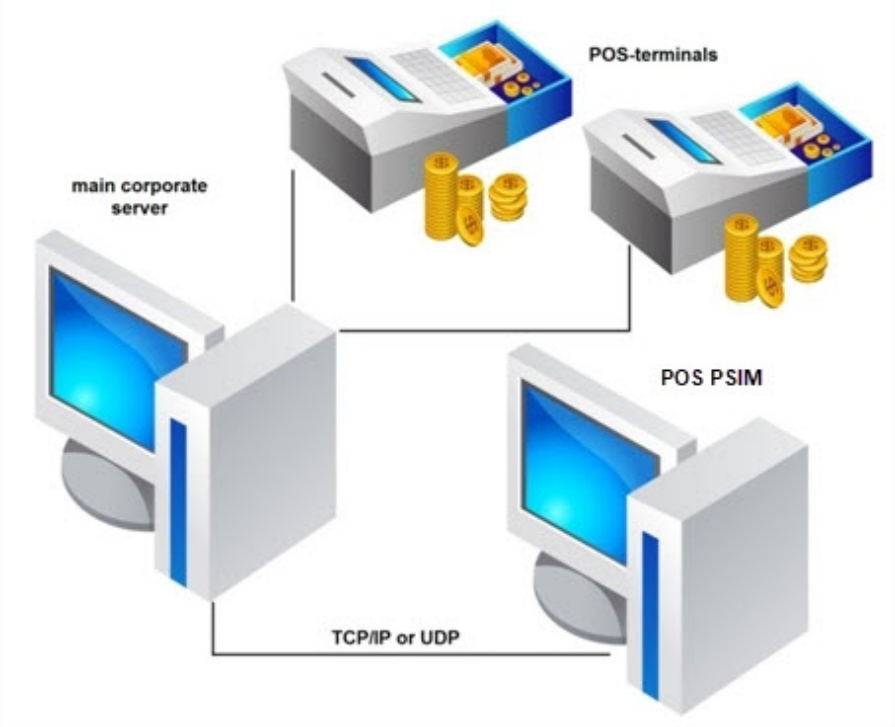


To use this connection option, make sure that:

1. the POS-terminal is connected to the LAN router;
2. the POS-terminal is set up for sending POS-operations data to LAN;
3. the LAN router is connected to the POS-server

Note.

The main corporate server connected to the POS-server via LAN can be used to route the data from the POS-terminals.



Auxiliary communication devices

On the page:

RS-232 extensions

If the RS-232 interface is used, the distance between POS-terminals and the POS-server may be longer than the maximum cable length. The following RS-232 extenders can be used in this case:

1. RS-232 repeaters;
2. RS-232 to RS-422/485 converters;
3. RS-232 to Ethernet converters.

Note.

If the RS-232 to Ethernet converter is used, the POS-terminals should be connected to the POS-server via LAN.

Devices installed on the POS-server

The number of POS-terminals to be connected to POS-server COM-ports may exceed the number of available COM-ports. The following communication devices can be installed on the POS-server in this case:

1. multiport RS-232/422/485 serial cards;
2. multiport converters from RS-232/422/485 to USB (Serial-USB);
3. multiport converters from RS-232/422/485 to Ethernet (Serial-Ethernet).

Note.

The communication device selection depends on the type of connection between POS-terminals and the POS-server.

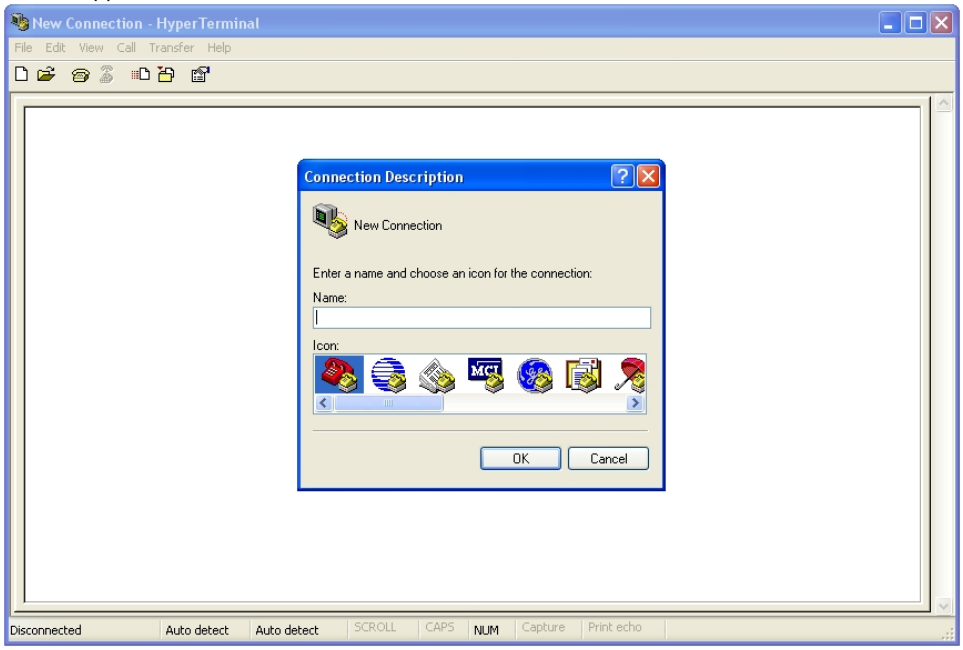
Testing the connection between the POS-server and the POS-terminal

To test the connection of the POS-server to POS-terminals, use the HyperTerminal utility. This program is free and not included in Windows OS.

> **Note.**
>
> See the official HyperTerminal documentations for its usage details.

To test the POS-terminal connection, do the following:

1. Launch **HyperTerminal** on the POS-server. The utility interface window will open, and the **Connection Description** dialog box will appear.

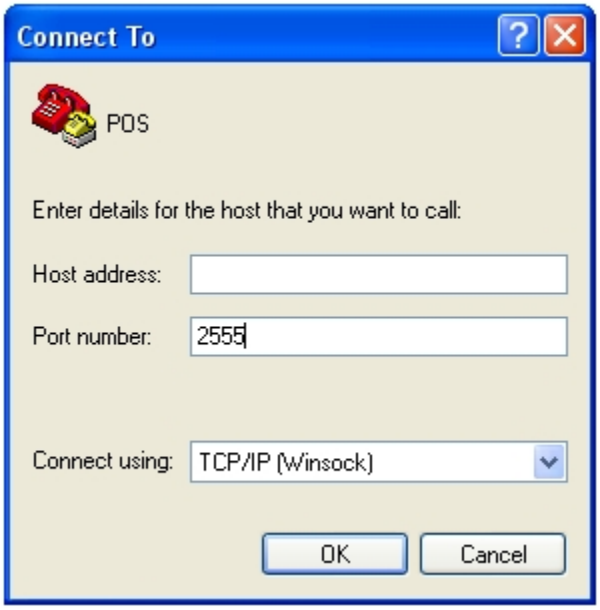


2. In the **Name** field, enter a meaningful name for the connection, then click **OK**.

3. The **Connection** window opens. Select a network type in the **Connect using** drop-down list.

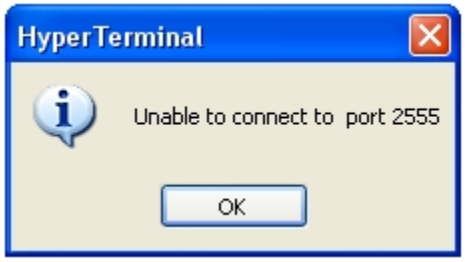
> **Note.**
>
> Select the connection type according to the POS-server to POS-terminal connection.

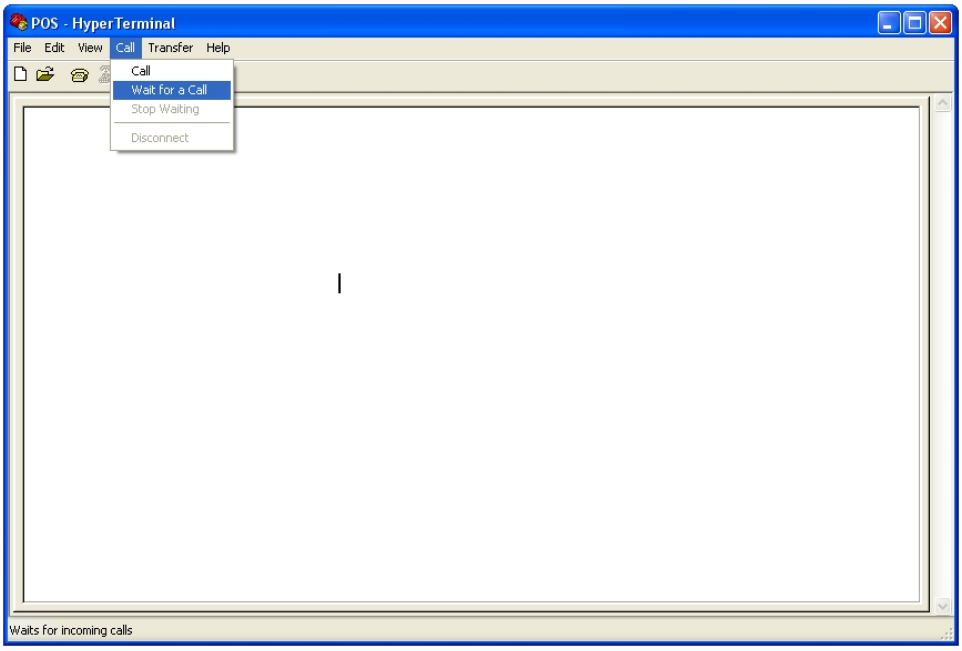
4. If **TCP/IP (Winsock)** interface type is selected, then select the local port number in the **Port** field and click **OK**.



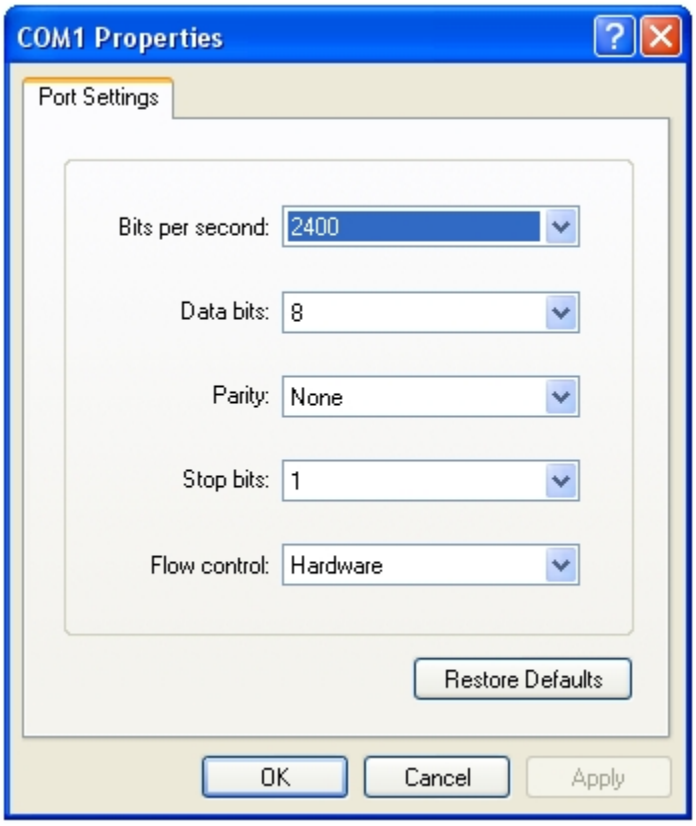
Note.

An information box will appear with the following message: Unable to connect to port 2555. Click **OK** to close this box, then click **Wait for a Call** in the **Call** menu.



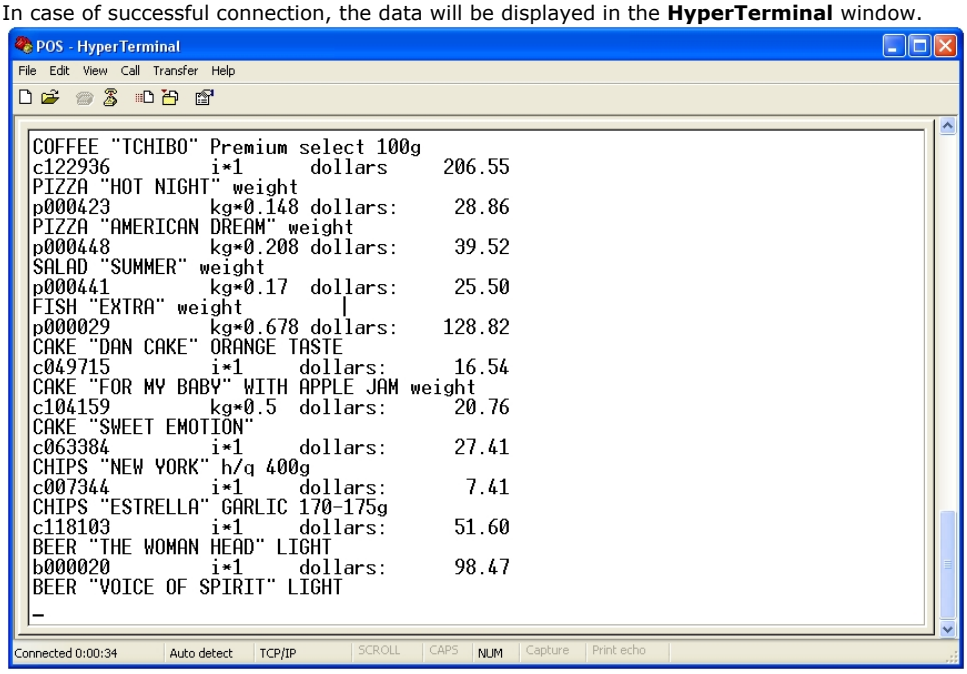


5. If the COM interface type is selected, click **OK**. In the **COM Properties** window that opens enter the required parameters and click **OK**.



> **Note.**
>
> The COM connection settings should meet the POS-terminal data transfer settings.

6. Start sending data from the POS-terminal to the POS-server
7. In case of successful connection, the data will be displayed in the **HyperTerminal** window.



8. In the main menu, select **Call**, then **Disconnect** to disconnect from the POS-terminal
9. To test the connection to all POS-terminals, select **New connection** in the **File** menu and repeat steps 2 to 8.
10. Close the HyperTerminal utility.

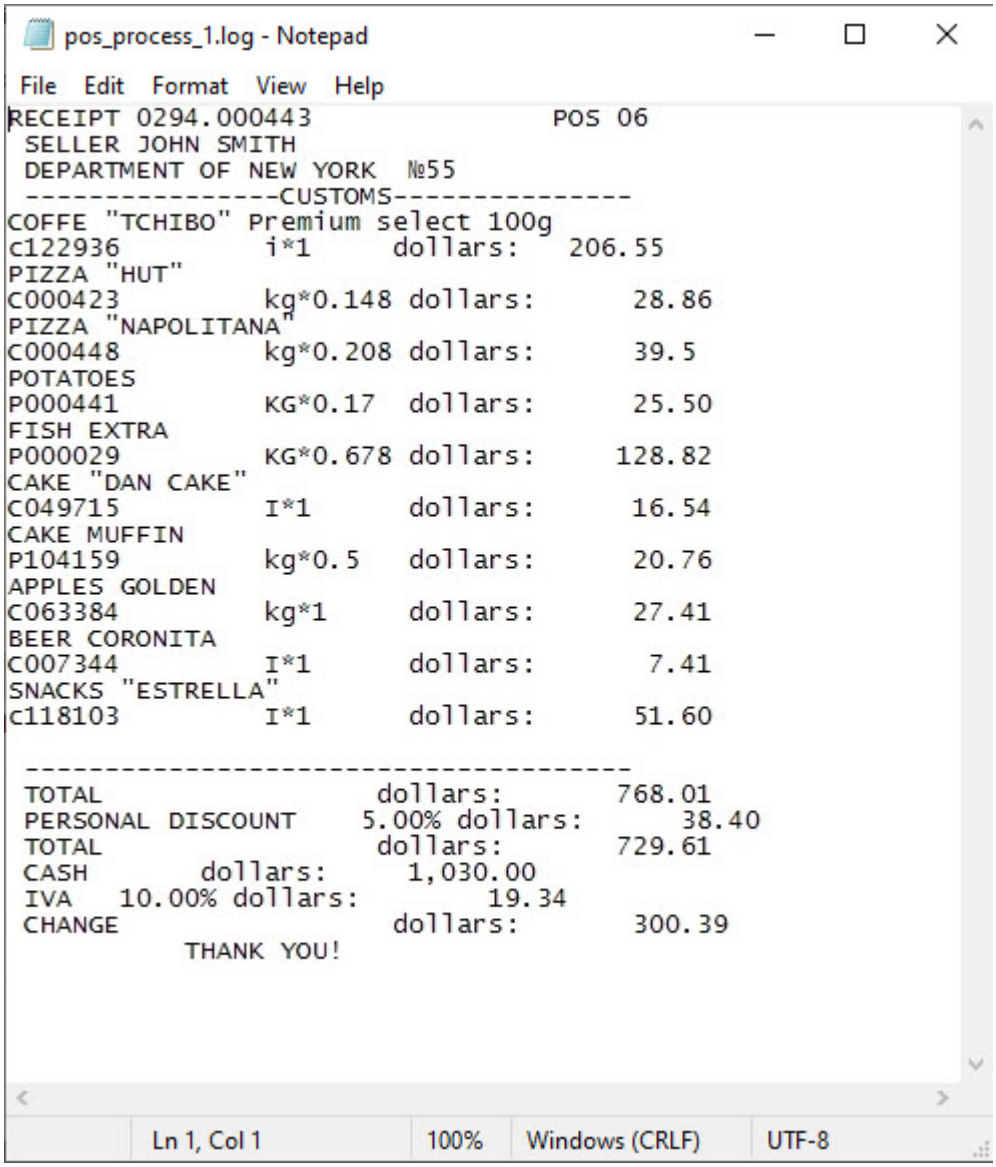
Testing POS-server connection to POS-terminals is complete.

Appendix 3. Log files

Introduction to log files

Log files are text files containing the current data on *POS PSIM* operation.

Figure below shows an example of a log file.

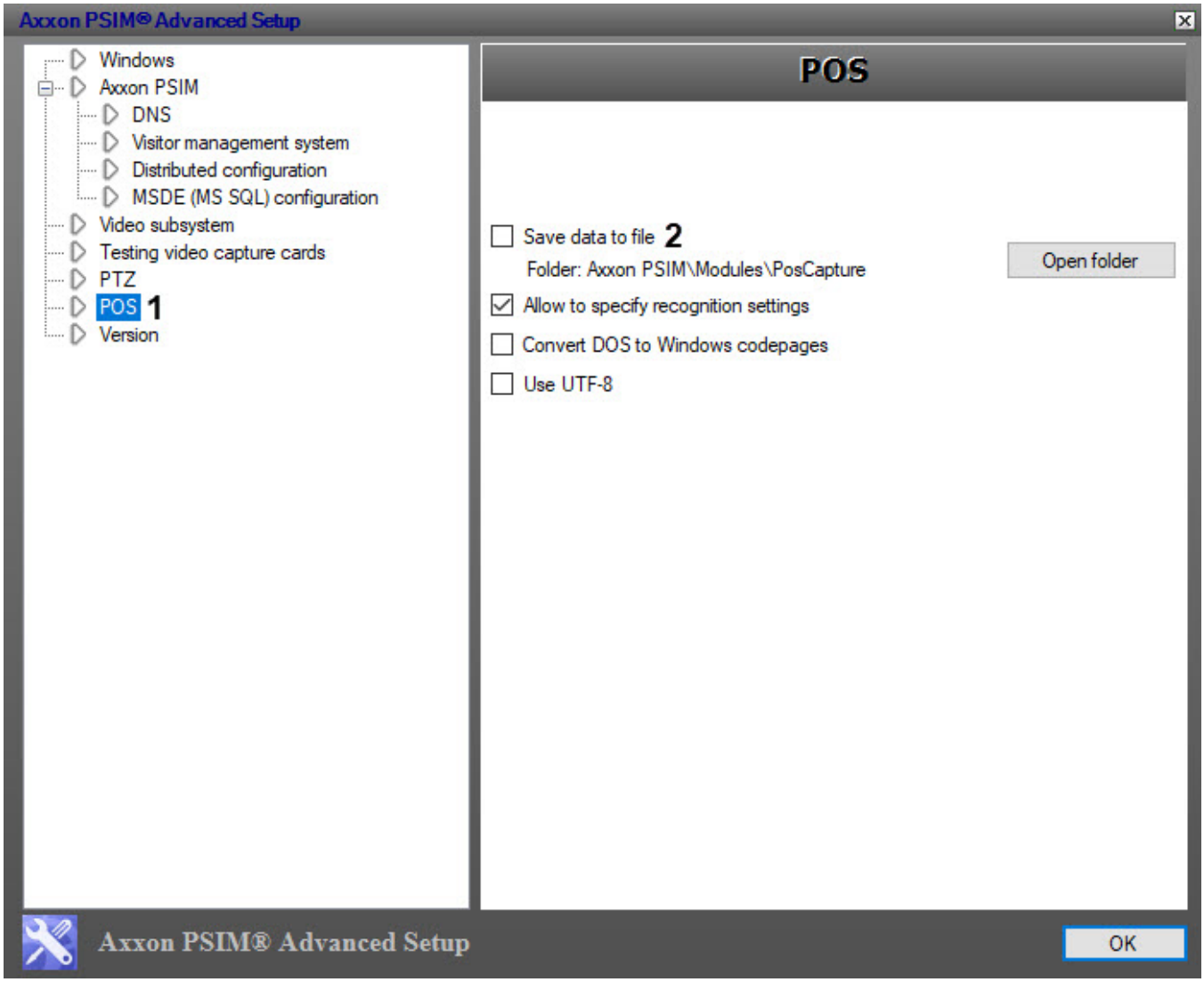


The system creates log files automatically in the <*POS PSIM* program folder>\Modules\PosCapture folder.

Enabling and disabling the logging function

Logging can be enabled or disabled using the tweaki.exe utility.

To enable (disable) logging, set (clear) the **Save data to file** checkbox (**2**) in the **POS** tab (**1**).



Note

Log file size is limited to 1 megabyte.

Viewing log files

To view log files, open the <*POS PSIM* program folder>\Modules\PosCapture folder in Windows, or click the **Open folder** (**2**) button in the tweaki.exe utility window in the **POS** tab (**1**).

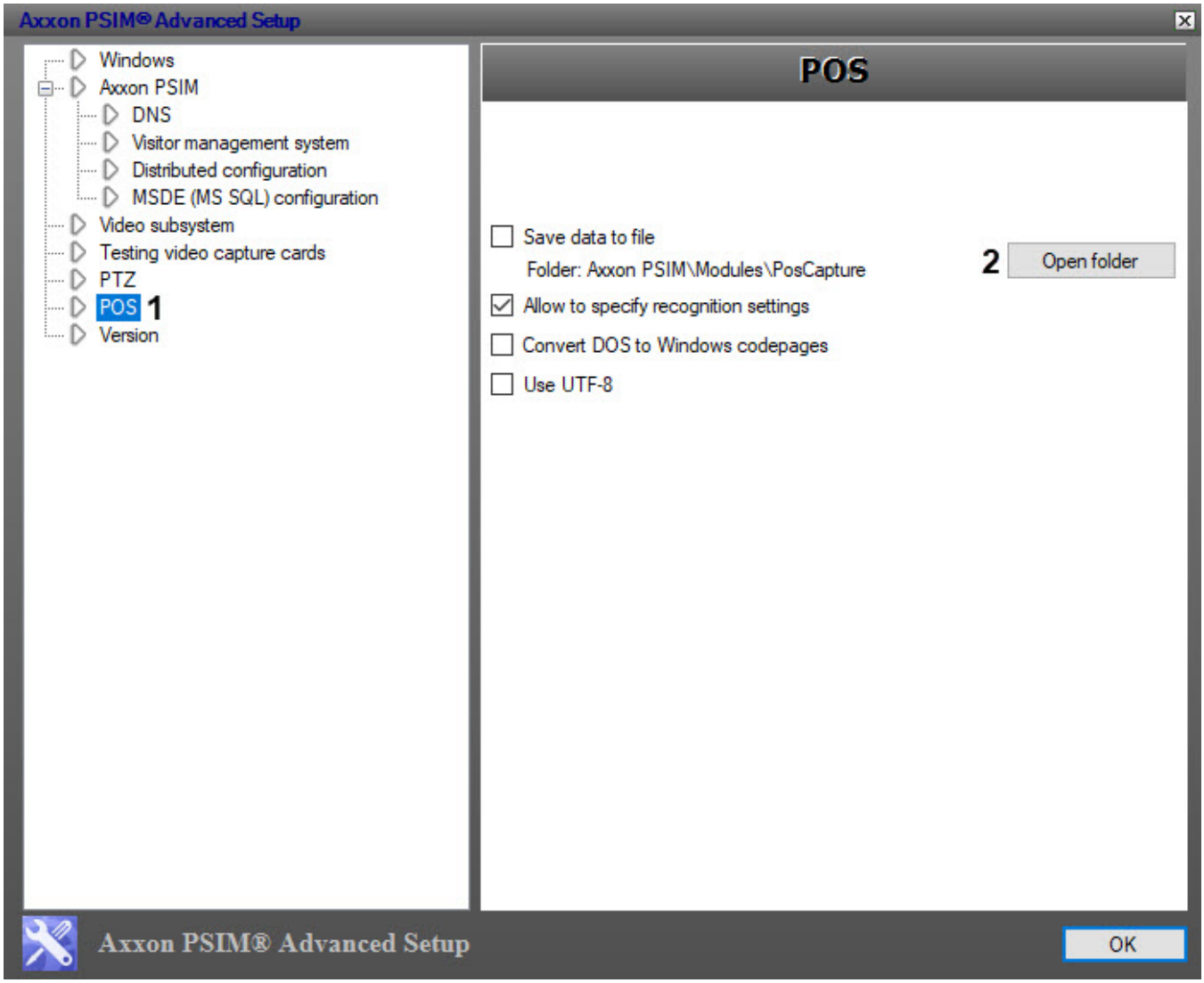
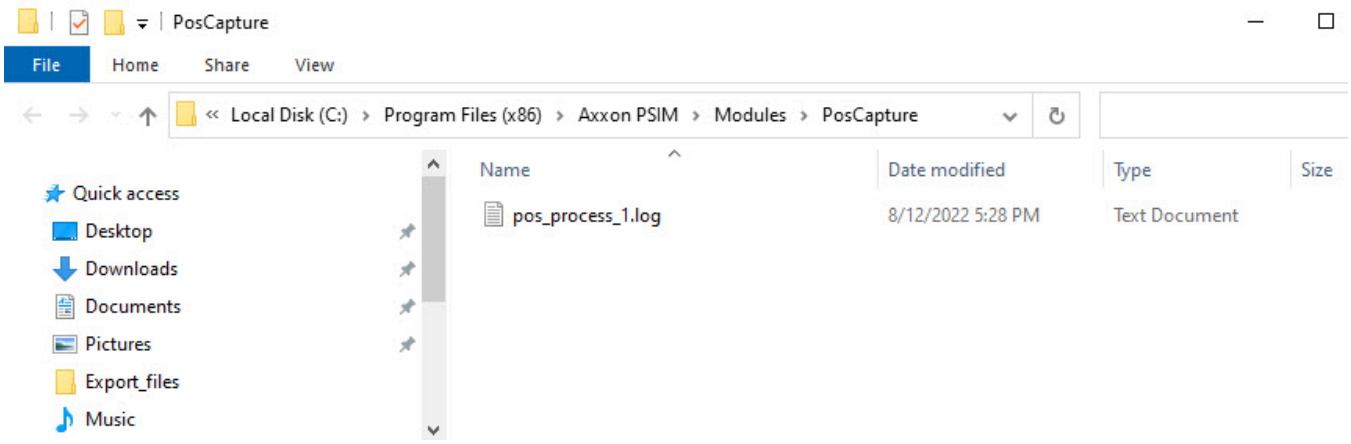
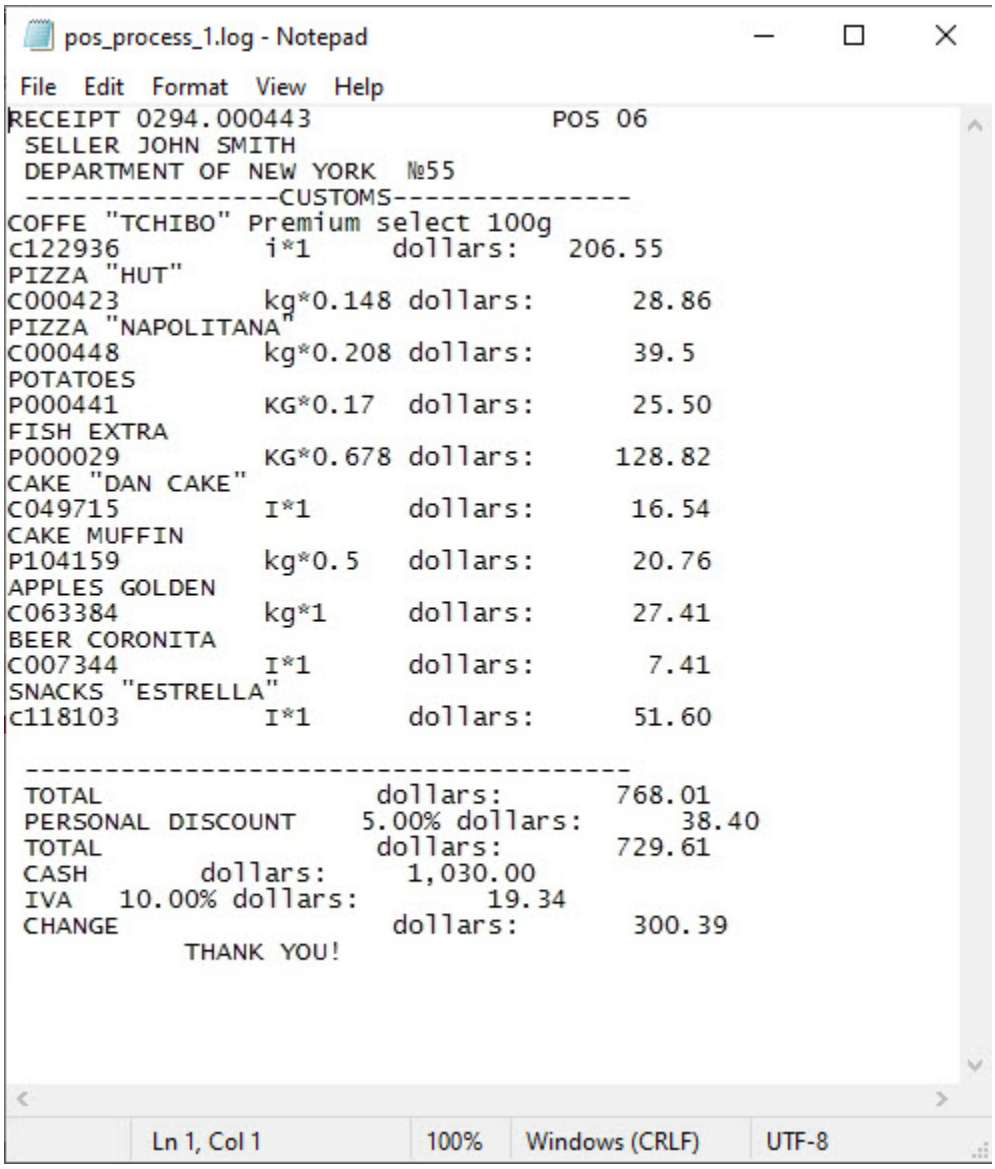


Figure below shows an example of a log files folder.



Any common text editor can be used to view the log files, for example, the Notepad included in Windows.


pos_process_1.log - Notepad
File Edit Format View Help
RECEIPT 0294.000443 POS 06
SELLER JOHN SMITH
DEPARTMENT OF NEW YORK №55
----------CUSTOMS----------
COFFE "TCHIBO" Premium select 100g
c122936 i*1 dollars: 206.55
PIZZA "HUT"
C000423 kg*0.148 dollars: 28.86
PIZZA "NAPOLITANA"
C000448 kg*0.208 dollars: 39.5
POTATOES
P000441 KG*0.17 dollars: 25.50
FISH EXTRA
P000029 KG*0.678 dollars: 128.82
CAKE "DAN CAKE"
C049715 I*1 dollars: 16.54
CAKE MUFFIN
P104159 kg*0.5 dollars: 20.76
APPLES GOLDEN
C063384 kg*1 dollars: 27.41
BEER CORONITA
C007344 I*1 dollars: 7.41
SNACKS "ESTRELLA"
c118103 I*1 dollars: 51.60
TOTAL dollars: 768.01
PERSONAL DISCOUNT 5.00% dollars: 38.40
TOTAL dollars: 729.61
CASH dollars: 1,030.00
IVA 10.00% dollars: 19.34
CHANGE dollars: 300.39
THANK YOU!
Ln 1, Col 1
100%
Windows (CRLF)
UTF-8

Appendix 4. The ReaderSrv utility

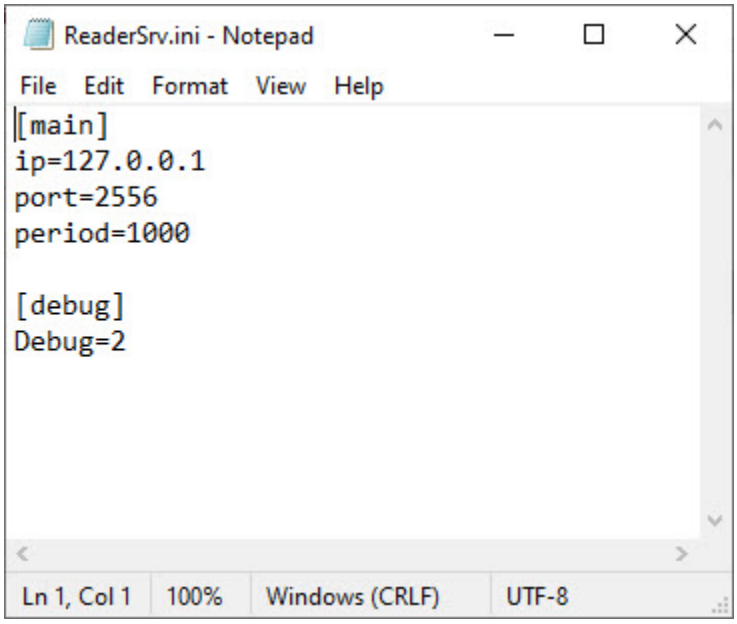
General information on the ReaderSrv utility

The ReaderSrv utility reads the symbols from the keyboard (or other input devices, such as the bar code reader) and sends them over the network to the address specified in the configuration file and to the port by clicking the Enter key or by the timeout specified in the ReaderSrv.ini configuration file.

The ReaderSrv utility is located in the <*POS PSIM* installation directory>\Modules\Pos\Scanners\Metrologic MS9500 Voyager folder.

Setting up and using the The ReaderSrv utility

The ReaderSrv utility settings are stored in the ReaderSrv.ini utility configuration file, which is located in the *<POS PSIM* installation directory>\Modules\Pos\Scanners\Metrologic MS9500 Voyager folder.



- The **Ip** and **port** parameters are mandatory and are necessary for the utility to transfer data over the network to the specified ip-address and port number.
- The **Period** parameter sets the time in milliseconds after which the specified characters will be automatically transferred.

> **Note**
>
> If the **0** value is set, then the specified characters will be transferred only by pressing the Enter key.

- The **debug** parameter is optional. If it is not set, its value is automatically set to 0. If the **debug** parameter is zero, the utility window is not displayed.

To start ReaderSrv, run the ReaderSrv.exe file. The utility is launched in hidden mode. To display the **Reader Server** window double click  icon in the Windows notification area.

The **Reader Server** window is divided into the following parts:

1. In the upper left section of the window error messages and other information on program functioning will be displayed. The **de bug** parameter value must not be less than 1.
2. In the upper right section of the window the XML formed for sending is displayed. The **debug** parameter value must not be less than 2.
3. In the bottom right section of the window the readed bar codes and all information received from the keyboard or other reader, simulating the keyboard, are displayed. The **debug** parameter value must not be less than 3.

To hide the window, click  in its upper right corner. To display the window again, double click  icon in the Windows notification area (system tray).

Appendix 5. The cash_forward utility

General information on the cash_forward utility

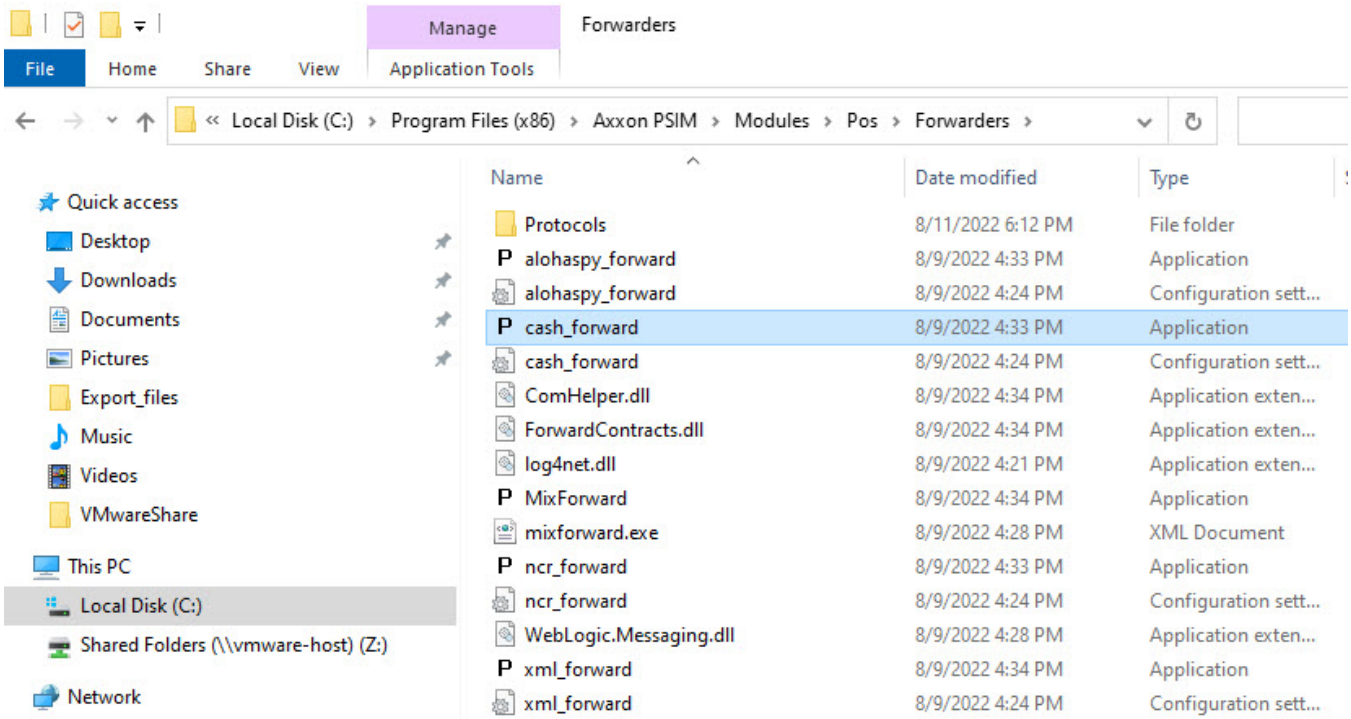
The cash_forward utility routes the text data packages from POS-terminals to the server IP-address and port specified in the configuration file.

Text packages are received using the Cash Control POS-operations control system integration protocol via Ethernet networks using TCP /IP or UDP protocols. The received packages are sent to the POS-server using the TCP/IP protocol.

The utility can do the following conversions on the fly:

1. Convert DOS to Windows codepage.
2. Convert text to XML.

The cash_forward utility operates as a regular executable file and is located in the <*POS PSIM* program folder>\Modules\Pos\Forwarders\ folder.

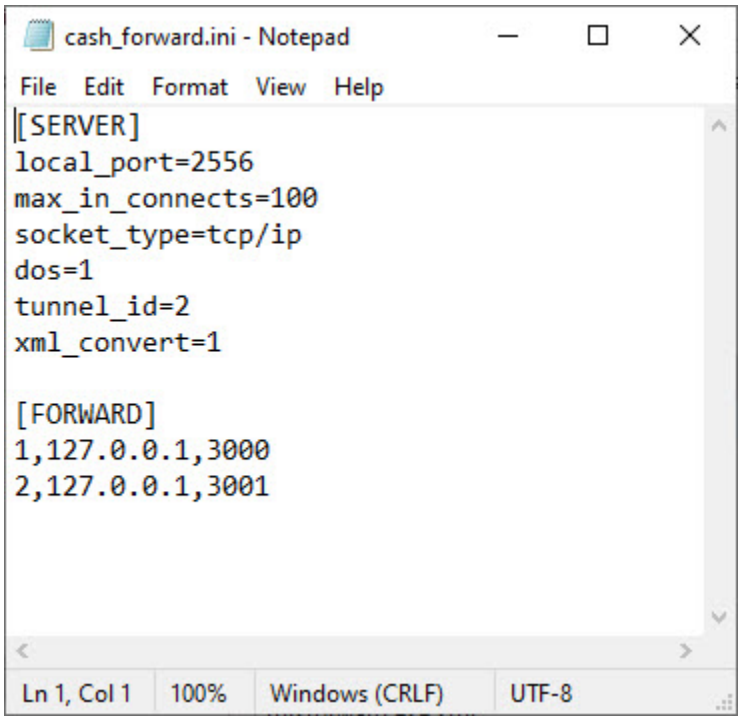


cash_forward setup

Each package received from a POS-terminal describes single registered event and starts from the **#CREP** protocol identifier. The package can also contain the routing label by which the utility determines the IP-address and port of the POS-server according to the cash_forward.ini configuration file.

Note. Routing identifier corresponds to the identification number of the POS-terminal.

The cash_forward.ini file should be located in the same folder as the cash_forward.exe file for utility's correct operation.



The table describes sections and parameters of the configuration file.

Section	Parameter	Description	Data type	Default value	Value range
[SERVER]	local_port	Local port to be processed by the utility	Whole positive numbers	-	0 to 65535
	max_in_connects	Maximum number of incoming connections to be processed simultaneously	Whole positive numbers	-	Depends on the number of POS-terminals
	socket_type	Network protocol for POS-terminal data transfer	-	tcp/ip (if the value is not set or is invalid)	tcp/ip – data transfer using TCP/IP, udp – data transfer using UDP
	dos	Text conversion from DOS to Windows codepage	Boolean	-	0 – data is not converted, 1 – data is converted
	tunnel_id	Forwarding all incoming packages to the selected POS-server irrespective of package routing labels	Routing label in the [FORWARD] section corresponding to the selected POS-server	Data is redirected according to the package routing label	Depends on the number of identifiers listed in the [FORWARD] section
	xml_convert	Text conversion from G2 to XML format	Boolean	-	0 – data is not converted, 1 – data is converted
[FORWARD]	Identification string	Sets the correspondence between the routing label and POS-server IP-address /port	Routing label, IP-address, port number	-	-

Note.

The local_port number corresponds to the settings of the network connection of POS-terminals to the Cash Control POS-operations control system.

Attention!

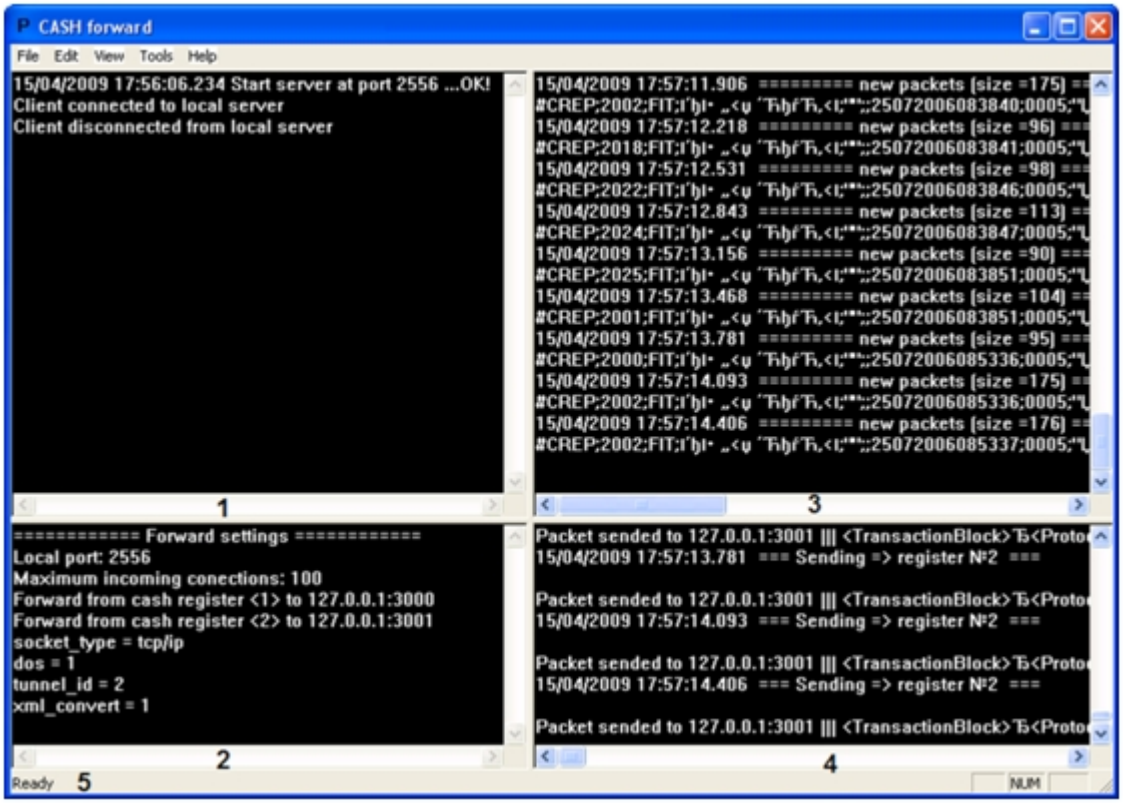
If the routing label of a package has no match in the utility configuration file, and tunnel_id is not set, the package is deleted.

Using the cash_forward utility

Automatic operation

When the **cash_forward.exe** file runs, the **CASH forward** icon appears in the system tray. In case of correct configuration settings in the **cash_forward.ini** file, the data packages sent to the local port from POS-terminals are routed automatically to POS-servers.

To view the incoming and forwarded data in the utility window, double-click its icon in the system tray.



The table describes the elements in the **CASH forward** window.

No.	Description
1	Information about the connection to the fiscal register of the local port specified in the **cash_forward.ini** configuration file
2	Routing settings specified in the **cash_forward.ini** file
3	Data packages received from POS-terminals
4	Information about data package forwarding to POS-servers
5	Utility status bar (enable/disable in the **View > Status Bar** menu)

Testing the connections

The user can send a test signal to POS-servers whose IP-address and port are specified in the **cash_forward.ini** file.

To send the test signal, in the **Tools** menu of the utility, select **Send "test"**. The following information will be displayed in tile 4 of the utility window: the executable file name (cash_forward.exe), the local port number processed by the utility, and the TEST SIGNAL text message.

To close the **cash_forward** utility and stop routing of data packages, select **Exit** in the **File** menu.

Note.

Clicking the  button in the upper right corner of the window closes the window, but the routing process continues.

Appendix 6. The MixForward utility

General information on the MixForward utility

The MixForward utility routes the data packages received from POS-terminals to the IP address and port of the POS server in accordance with the settings specified in the configuration file. In addition, the utility allows you to establish a connection between a POS Server and a remote Server providing data.

The utility can receive the data packages from POS-terminals via the following network interfaces:

1. RS-232.
2. UDP.
3. TCP/IP.

The received packages are forwarded to the IP address and port of the POS server via the TCP/IP interface.

Note

- The IP-address and port number of the POS-server are determined using the routing id specified in the data package from the POS-terminal.
- The MixForward utility also allows routing of data packages received from metal detectors.
- The MixForward utility works with *Axxon PSIM* and *Axxon One*.

The MixForward utility is launched using the **MixForward.exe** executable file located in the <*POS PSIM* installation directory>\Modules\Pos\Forwarders\ folder.

The utility converts data from POS-terminals to XML protocol using the dynamic library plug-ins. These plug-ins are located in the <*POS PSIM* installation directory>\Modules\Pos\Forwarders\Protocols\ folder.

Note

The protocol in use is set by the **ProtocolName** parameter in the **mixforward.exe.xml** file (see Setting up the MixForward utility).

Plug-in settings files are located in the <*POS PSIM* installation directory>\Modules\Pos\Forwarders\Protocols\Settings\ folder.

Transformation files are located in the <*POS PSIM* installation directory>\Modules\Pos\Forwarders\Protocols\Transformations\ folder.

If logging is enabled, the log files will be located in the <*POS PSIM* installation directory>\Modules\Pos\Forwarders\Protocols\Logs\ folder.

Temporary files created by some plug-ins will be located in the <*POS PSIM* installation directory>\Modules\Pos\Forwarders\Protocols\Temp\ folder.

Setting up the MixForward utility

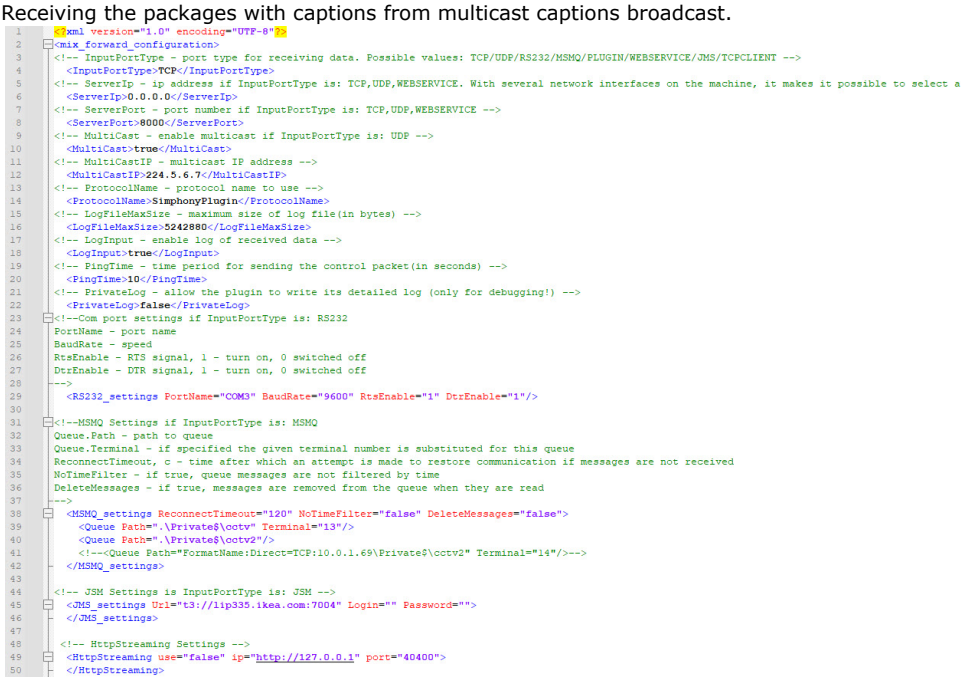
General settings of the MixForward utility

The MixForward utility is configured using the **mixforward.exe.xml** configuration file. The configuration file is located in the same directory with the **MixForward.exe** executable file. You can edit the configuration file using any text editor.

> **Attention!**
>
> When you update *POS PSIM*, the **mixforward.exe.xml** configuration file is overwritten and all settings are returned to default values.

The configuration file allows you to set up the following processes:

1. Connection to a POS terminal or third-party software.
2. Processing of the data transfer protocol from a POS terminal.
3. Maintaining routing LOG files.
4. Forwarding data to the IP address and port of POS server.
5. Receiving the packages with captions from multicast captions broadcast.



```
<?xml version="1.0" encoding="UTF-8"?>
<mix_forward_configuration>
<!-- InputPortType - port type for receiving data. Possible values: TCP/UDP/RS232/MSMQ/PLUGIN/WEBSERVICE/JMS/TCPCLIENT -->
  <InputPortType>TCP</InputPortType>
<!-- ServerIp - ip address if InputPortType is: TCP,UDP,WEBSERVICE. With several network interfaces on the machine, it makes it possible to select a
  <ServerIp>0.0.0.0</ServerIp>
<!-- ServerPort - port number if InputPortType is: TCP,UDP,WEBSERVICE -->
  <ServerPort>8000</ServerPort>
<!-- MultiCast - enable multicast if InputPortType is: UDP -->
  <MultiCast>true</MultiCast>
<!-- MultiCastIP - multicast IP address -->
  <MultiCastIP>224.5.6.7</MultiCastIP>
<!-- ProtocolName - protocol name to use -->
  <ProtocolName>SimphonyPlugin</ProtocolName>
<!-- LogFileMaxSize - maximum size of log file(in bytes) -->
  <LogFileMaxSize>5242880</LogFileMaxSize>
<!-- LogInput - enable log of received data -->
  <LogInput>true</LogInput>
<!-- PingTime - time period for sending the control packet(in seconds) -->
  <PingTime>10</PingTime>
<!-- PrivateLog - allow the plugin to write its detailed log (only for debugging!) -->
  <PrivateLog>false</PrivateLog>
<!--Com port settings if InputPortType is: RS232
PortName - port name
BaudRate - speed
RtsEnable - RTS signal, 1 - turn on, 0 switched off
DtrEnable - DTR signal, 1 - turn on, 0 switched off
--->
  <RS232_settings PortName="COM3" BaudRate="9600" RtsEnable="1" DtrEnable="1"/>

<!--MSMQ Settings if InputPortType is: MSMQ
Queue.Path - path to queue
Queue.Terminal - if specified the given terminal number is substituted for this queue
ReconnectTimeout, c - time after which an attempt is made to restore communication if messages are not received
NoTimeFilter - if true, queue messages are not filtered by time
DeleteMessages - if true, messages are removed from the queue when they are read
--->
  <MSMQ_settings ReconnectTimeout="120" NoTimeFilter="false" DeleteMessages="false">
    <Queue Path=".\Private$\octv" Terminal="13"/>
    <Queue Path=".\Private$\octv2"/>
    <!--<Queue Path="FormatName:Direct=TCP:10.0.1.69\Private$\cctv2" Terminal="14"/>-->
  </MSMQ_settings>

<!-- JSM Settings is InputPortType is: JSM -->
  <JMS_settings Url="t3://lip335.ikea.com:7004" Login="" Password="">
  </JMS_settings>

  <!-- HttpStreaming Settings -->
  <HttpStreaming use="false" ip="http://127.0.0.1" port="40400">
  </HttpStreaming>
```

The table describes the configuration elements of MixForward utility.

Element name	Element description	Element attribute	Attribute description	Value range
InputPortType	Used data transfer interface from a POS terminal	NA	NA	RS232 UDP TCP TCPCLIENT MSMQ PLUGIN WEBSERVICE JMS
ServerPort	Number of a local port processed by the utility if UDP interface is selected in InputPortType	NA	NA	From 0 to 65535

MultiCast	Enables the function of receiving multicast messages if UDP interface is selected in InputPortType	NA	NA	true—reception of multicast messages is enabled false—reception of multicast messages is disabled
MultiCastIP	Address to which multicast messages from external POS program are sent if UDP interface is selected in InputPortType	NA	NA	IP address to which multicast messages are sent
ProtocolName	Name of the used data transfer protocol	NA	NA	NA
LogFileMaxSize	Maximum size of LOG files in bytes	NA	NA	NA
LogInput	Enables or disables the log of received data	NA	NA	true—log of received data is enabled false—log of received data is disabled
PingTime	The period of forwarding of a test package in seconds	NA	NA	Up to 60 seconds
PrivateLog	Enables or disables the creation of its own detailed log by the plugin (for debugging only!)	NA	Not available for all plugins	true—the plugin will keep its detailed log false—the plugin won't keep its detailed log
RS232_settings	A group of elements. Specifies the settings of COM port if RS-232 inteface is selected in InputPortType	PortName	Name of an available COM port	Depends on the number of available COM ports
		BaudRate	Supported data transfer rate in bit/s	Depends on the number of supported data transfer rates
		RtsEnable	Enable **RTS** option	0—RTS control signal isn't used 1—RTS control signal is used
		DtrEnable	Enable **DTR** option	0—DTR control signal isn't used 1—DTR control signal is used
MSMQ_settings	A group of elements. Specifies the settings of MSMQ if InputPortType is MSMQ	ReconnectTimeout	The time after which an attempt is made to restore connection, if messages are not received	Up to 60 seconds
		NoTimeFilter	Enables or disables messages filtering by time	true—messages are filtered by time false—messages aren't filtered by time
		DeleteMessages	Enables or disables message deletion after they are read	true—messages are deleted false—messages aren't deleted
		Queue.Path	Path to the queue	NA
		Queue.Terminal	Number of the terminal that is inserted for the specified queue	NA
JMS_settings	A group of elements. Specifies the settings of JMS if InputPortType is JMS	Url	URL address	NA
		Login	Login	NA
		Password	Password	NA
HttpStreamingSettings	A group of elements. Specifies the settings of transferring XML files via HTTP protocol	HttpStreaming use	Enables or disables the mode of transferring XML files via HTTP protocol	true—the mode of transferring XML files via HTTP protocol is enabled false—the mode of transferring XML files via HTTP protocol is disabled
		ip	IP address of the POS server	Depends on the network settings of the POS server
		port	Port of the POS server	Depends on the settings of the **POS-terminal** object
TcpClients_Settings	A group of elements. Specifies the settings of TCPCLIENT if InputPortType is TCPCLIENT	IpAddress	Connection address	NA
		Port	Connection port	NA

		Message	Command to send (optional)	NA
		Interval	Interval of sending the **Message** command in ms (optional)	NA
		IdTerminal	Terminal id for the node, to be specified in the forwards section (optional)	NA
forwards	A group of elements. Sets the correspondence between the routing id and POS server IP address/port	ip	IP address of POS server	Depends on the network settings of POS server
		port	Port of POS server	Depends on the settings of the **POS-terminal** object
		id	Routing id	Depends on the routing id value in the data package. If id=”*”, then data from all POS terminals is redirected to the POS server
PluginSettings	A group of elements. Specifies the settings of the Liko, SecurOS and LogisticsSystemPlugin plugins if InputPortType is PLUGIN For details, see Configuring data reception from plug-ins	NA	NA	NA

Note

If several POS terminals send data, the number of established connections is equal to the number of recipient addresses and for each POS terminal it is required to determine whether the routing ID matches the IP address and port of the POS server.

Example of several POS terminals sending events:

```
<InputPortType>TCP</InputPortType>
  <ServerPort>8000</ServerPort>
<ProtocolName>PcPlugin</ProtocolName>
  <forwards>
        <forward ip="127.0.0.1" port="2555" id="8" />
        <forward ip="127.0.0.1" port="2556" id="13" />
        <forward ip="127.0.0.1" port="2557" id="22" />
        <forward ip="127.0.0.1" port="2558" id="14" />
  </forwards>
```

Attention!

If the routing id of a package has no match in the utility configuration file, and the id=”*” isn't specified, the package is deleted.

Configuring data reception from plug-ins

On the page:

General configuration of plug-ins

Some plug-ins have their own settings, the files of which are located in the *<POS PSIM installation directory>\Modules\Pos\Forwarders\Protocols\Settings* folder. Depending on the plug-in that you use (the **ProtocolName** parameter in the **mixforward.exe.xml** configuration file), you must also configure them. For details, refer to the respective settings files.

Configuring the DataManPlugin plug-in

You can use the DataManPlugin plug-in to work with the DataMan barcode reader. You can configre the reception of data from the Data ManPlugin plug-in in the DataManPlugin.xml configuration file located at *<POS PSIM installation directory>\Modules\Pos\Forwarders\Protocols\Settings*.

Element name	Element description	Element attribute	Attribute description
Settings	Specifies the settings of the DataManPlugin plug-in if InputPortType = PLUGIN and ProtocolName = DataManPlugin	UseAutoSearchDevice	Enables auto search for devices in a local network
		SaveImagePathOnBadResults	A place to save an image if a barcode is read incorrectly, due to incorrect positioning of a product on the conveyor
		Devices	List of devices to which you must connect to read data

Configuring the Liko, SecurOS, LogisticsSystemPlugin, JAMMPlugin and OFDPlatform plug-ins

You can configre the reception of data from the Liko, SecurOS, LogisticsSystemPlugin, JAMMPlugin and OFDPlatform plug-ins in the **PluginSettings** group of elements of the **mixforward.exe.xml** configuration file. Description of the elements of the **PluginSettings** group is given in the table.

Element name	Element description	Element attribute	Attribute description
OFDSettings	Specifies the settings of the OFDPlatform plug-in if InputPortType = PLUGIN and ProtocolName = OFDPlatform	BaseURL	API base address
		Token	Token
		RequestInterval	Interval of update of event information in ms
JAMMPlugin Settings	Specifies the settings of the JAMMPlugin plug-in if InputPortType = PLUGIN and ProtocolName = JAMMPlugin	BaseURL	API base address
		Token	Token
		RequestInterval	Interval of update of event information in ms
		UseTimeInReciept	Use the receipt time. If UseTimeInReciept=true, then use the receipt time. If UseTimeInReciept=false, then use the time when the MixForward utility received the receipt

LogisticsSystemSettings	Specifies the settings of the LogisticsSystemPlugin plug-in if InputPortType = PLUGIN and ProtocolName = LogisticsSystemPlugin	FileUrl	Path to the folder containing the parsing files in CSV format. After parsing, these files are removed from the folder specified in <FileUrl>
		TimeStart	The start time of the parsing process in the following format—hours:minutes, for example, 23:30
LikoSettings	Specifies the settings of the Liko plug-in if InputPortType = PLUGIN and ProtocolName = Liko	BaseURL	API base address
		Login	Account login
		Password	Account password
		RequestInterval	Interval of update of event information in ms
SecurOSSettings	Specifies the settings of the SecurOS plug-in if InputPortType = PLUGIN and ProtocolName = SecurOS. *Note. If the plug-in creates its own detailed log (PrivateLog=true), then the log of the SecurOS plug-in will be located at <POS PSIM installation directory>\Modules\Pos\Forwarders\MixForward\Protocols\SecurOSLogs*	BaseApiURL	API base address
		Login	Account login
		Password	Account password
		CallbackUrl	Address of HTTP server for receiving events from SecurOS
		ObjectInfo	Information about the object about which you want to receive events. Type—object type id—object id in the system idTerminal—terminal id to which the information about the POS events will be sent
		SubscribeEvent	Name of the received event

Configuring getting data from third-party remote Server

Specify the following parameters in the **mixforward.exe.xml** configuration file in order to get data from third-party software that is not client to *POS PSIM* by connection type:

- Connection type;

```
<InputPortType>TCPCLIENT</InputPortType>
```

- Plugin;

```
<ProtocolName>SimplePlugin</ProtocolName>
```

- Third-party Server address;

```
<TcpClients_Settings>
  <Address IpAdress="127.0.0.1" Port="23"/>
  <Address IpAdress="127.0.0.1" Port="24"/>
</TcpClients_Settings>
```

- *POS PSIM* Server address.

```
<forwards>
    <forward ip="127.0.0.1" port="2555" id="127.0.0.1:23" />
    <forward ip="127.0.0.1" port="2556" id="127.0.0.1:24" />
  </forwards>
```

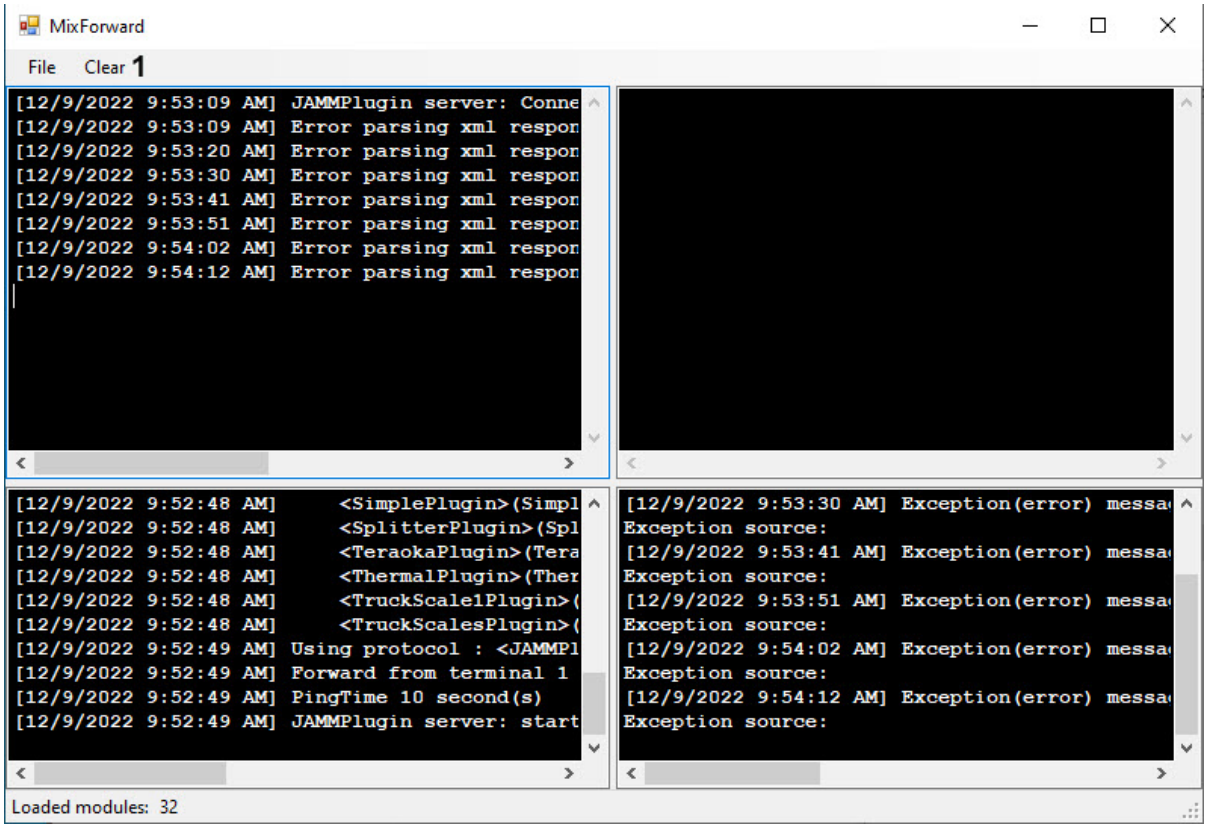
Using the MixForward utility

Automatic operation of the MixForward utility

When the MixForward.exe file runs, the MixForward icon 

appears in the system tray. In case of correct configuration settings in the mixforward.exe.xml file, the data packages sent to the local port from POS-terminals, are routed automatically to POS-servers.

To view the data reception and redirection information, double-click the MixForward icon in the system tray.



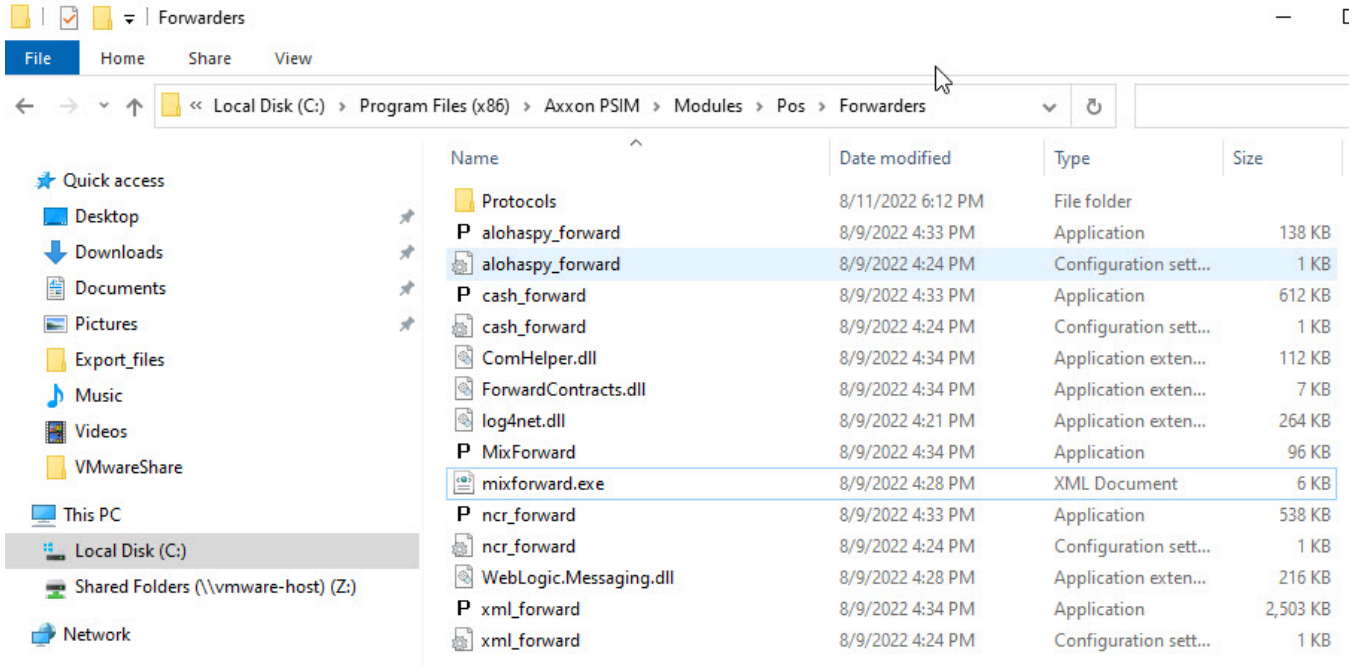
The table describes the elements in the **MixForward** window.

№	Element description
1	Information about the connection to the Pos-terminal through a local port specified in the mixforward.exe.xml file
2	Routing settings specified in the mixforward.exe.xml file, the list of supported protocols (plug-ins) and the name of the currently used protocol
3	Data packages received from the POS-terminals
4	Information about the connection to the POS-servers specified in the mixforward.exe.xml file. Information about an error if the data package can not be redirected

The **Clear** menu item (**1**) empties tiles 1, 3 and 4 in the window.

Logging the routing process

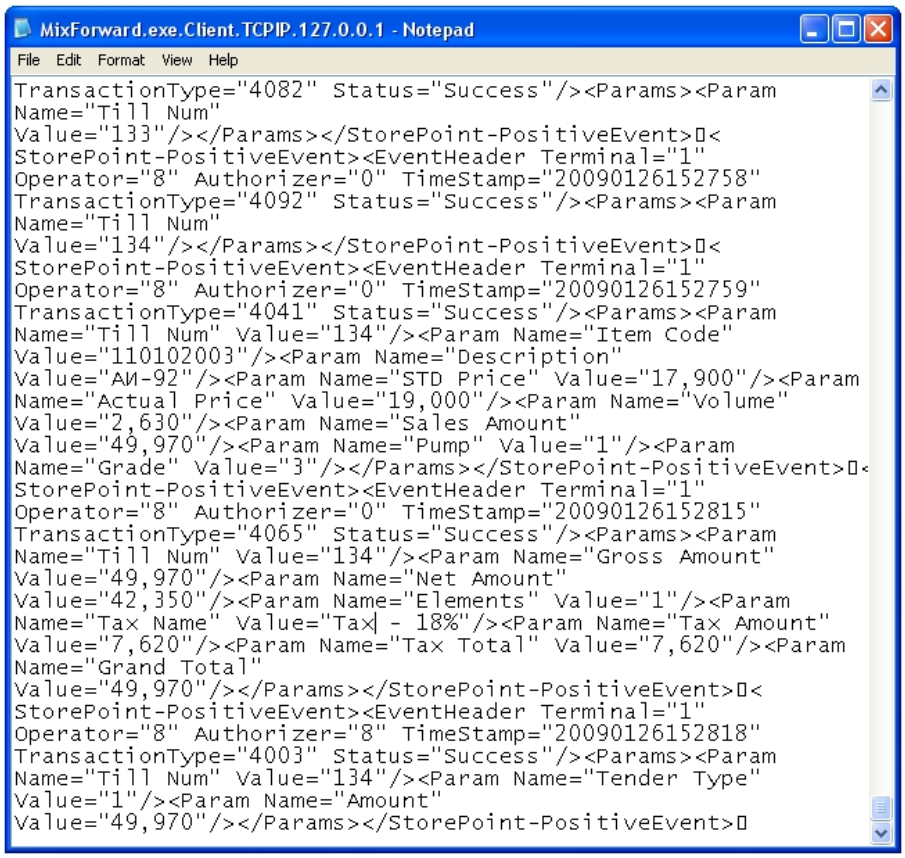
The routing of the data packages to POS-servers is logged to file.



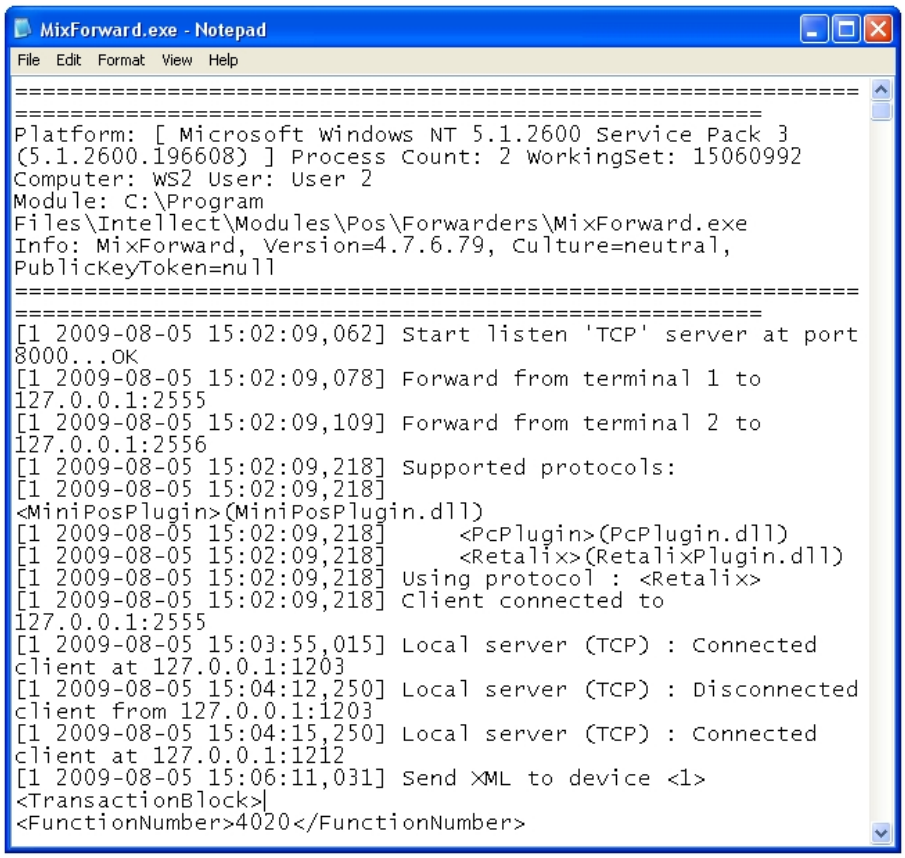
The table describes the **MixForward** log files.

Log file name	Main logged data	Additional log information
MixForward.exe.Client.<Terminal>.LOG, where <Terminal> denotes the connection to the POS-terminal	Unprocessed data packages from POS-terminals	-
MixForward.exe.LOG	Data packages processed by the plug-in	Information about the routing settings, supported protocol list, current protocol name

Figures below show the examples of log-files.



Example log file: MixForward.exe.Client.<Terminal>.LOG



Example log file: MixForward.exe.LOG

When the log file size reaches the maximum specified in the **mixforward.exe.xml** file (see the Setting up the MixForward utility section), it is automatically renamed. Then new log file is created to continue logging.

Re-connecting POS-server to the MixForward utility

In case the POS-server abnormally disconnects from the MixForward utility, is can be re-connected.

To restore the correct connection, make sure the POS-terminal object is set up in the following way (see the Selecting the type of POS terminal and setting the connection parameters section):

1. XML-data receipt via TCP protocol is expected (**1**).
2. The **Keep connection** checkbox is set checked (**2**).

If the **Keep connection** option is enabled, the POS-server registers the connection of the utility and determines the time interval since the last data transfer. If the data has not been received for more than 30 seconds, the POS-server breaks the connection and re-establishes it again.

Note

If no data has been received from POS-terminals, the utility sends the control packages containing the FunctionNumber 77777 element to the POS-server at 5 second intervals.

Important!

If there is connection loss or errors when sending data from MixForward utility in *POS PSIM*, then the **Keep connection** checkbox is to be set unchecked.

To close the MixForward utility and stop the data package routing process, select **Close** in the **File** menu.

Note

Clicking the  button in the upper right corner of the window closes the window, but does not stop the routing process.

Appendix 7. How to integrate a new POS terminal into POS PSIM

On the page:

If a new POS terminal is to be integrated into *POS PSIM*, then provide AxxonSoft with essential information on this POS terminal in one of the following ways:

1. Using *POS PSIM*: see Collecting POS terminal logs using POS PSIM.
2. Using a special utility (without *POS PSIM* installation): see Collecting POS terminal logs using a special utility.

Before start, check if a POS terminal supports data transmission over Ethernet or via the COM port. This information can be found on the official website of POS terminal manufacturer or in the documentation.

Collecting POS terminal logs using POS PSIM

Follow these steps to gather required information about POS terminal using *POS PSIM*:

1. If the POS terminal supports data transmission over Ethernet or via the COM port, then install *Axxon PSIM* on the computer and then install *POS PSIM* (if it is not already installed).
2. Connect the POS terminal to this computer.
3. Run *POS PSIM.*
4. Create a **POS terminal** object and set up the connection between POS terminal and *POS PSIM* – see Selecting the type of POS terminal and setting the connection parameters.

   > **Note.**
   >
   > The type of POS terminal is to be **By default**.

5. Shut down *POS PSIM*.
6. Enable logging – see Enabling and disabling the logging function.
7. Run *POS PSIM*.
8. Start using the POS terminal, i.e. issuing receipts. It is highly recommended to do all the operations including Cancel, Return, etc.

After doing all the operations on the POS terminal, send the log file with copies of receipts to AxxonSoft.

> **Note.**
>
> Location of log file can be found when enabling logging (see step 7 above as well as Viewing log files section).

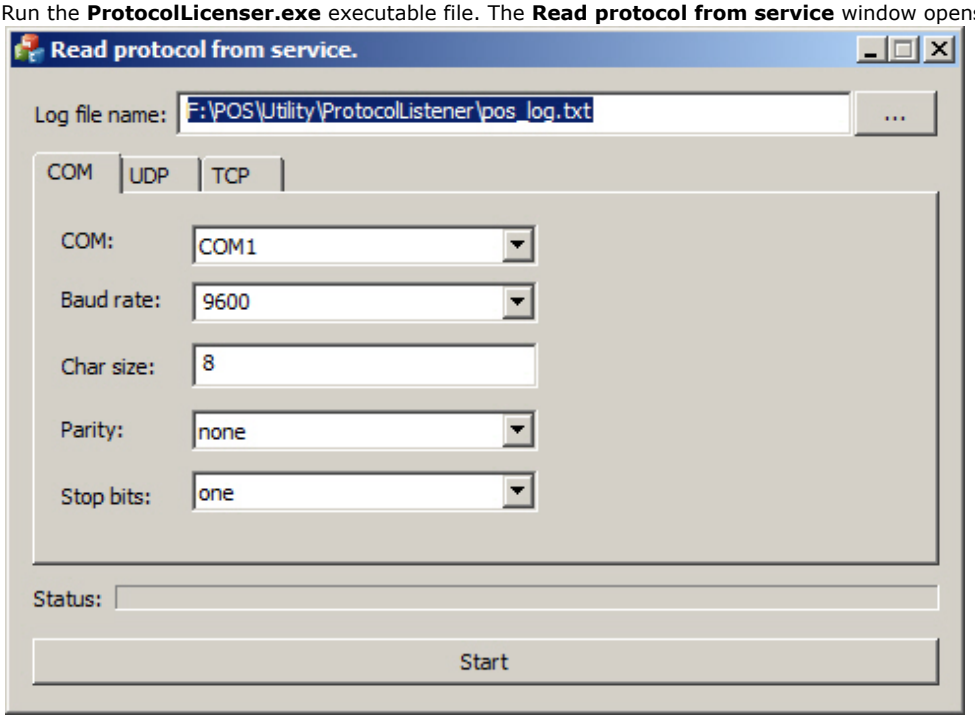
> **Important!**
>
> If the log file of POS terminal is to be processed in software, then provide AxxonSoft with protocol description. POS terminal manufacturer can give this information.

Collecting POS terminal logs using a special utility

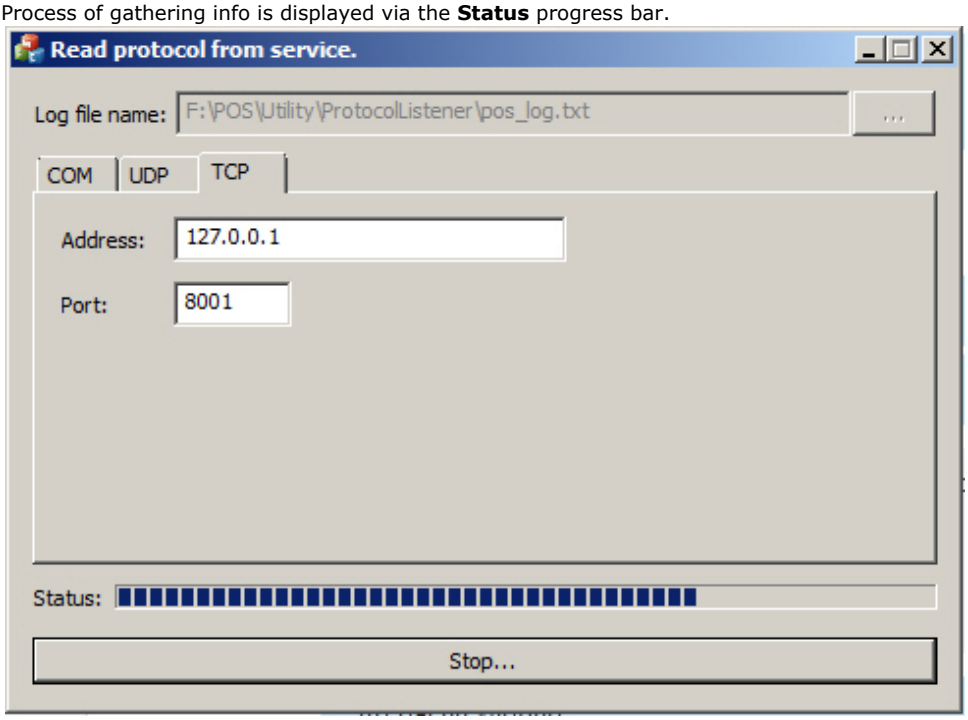
Follow these steps to gather required information about POS terminal using a special utility:

1. If the POS terminal supports data transmission over Ethernet or via the COM port, download the POS Terminal Data Collection Utility at the AxxonSoft web-site.
2. Extract downloaded archive into any folder.
3. Connect the POS terminal to the computer.

4. Run the **ProtocolLicenser.exe** executable file. The **Read protocol from service** window opens.



5. In the **Log file name** field specify a full path to the folder where the file with gathered info is to be saved. By default, the file is stored in the folder to which the archive with the utility is unpacked.
6. If the POS terminal is connected to the computer via COM-port, specify connection parameters in the **COM** tab.
7. If the POS terminal is connected to the computer via Ethernet, specify connection parameters for TCP or UDP protocol in the corresponding tab.
8. Click **Start** to run log collection.
9. Start using the POS terminal, i.e. issuing receipts. It is highly recommended to do all the operations including Cancel, Return, etc.
   Process of gathering info is displayed via the **Status** progress bar.



   To finish log collection click **Stop**.

After doing all the operations on the POS terminal, send the log file with copies of receipts to AxxonSoft.

Important!

If the log file of POS terminal is to be processed in software, then provide AxxonSoft with protocol description. POS terminal manufacturer can give this information.

Appendix 8. Adding information to the receipt body using script

It is possible to add information on the *Axxon PSIM* embedded programming language or on the JScript language to the receipt body using script.

> **Note**
>
> More information about operation with scripts, see in the *Axxon PSIM software package. Programmer's Guide (JScript)* document. Current version of this document is available in the AxxonSoft documentation repository.

To add information to the receipt body use the ADD_TAG reaction of the POS object. Information which is to be added is sending in the tag<> parameter of this reaction. At executing of this command the specified string is written to the receipt before the receipt end. If command is executed during pause between receipts, the specified string will be written to the next receipt.

Example of command to add information to the receipt body using macro 1 on the JScript language is follows:

```
if (Event.SourceType=="MACRO" && Event.SourceId=="1" && Event.Action=="RUN"") {
    DoReactStr("POS","1","ADD_TAG","tag<info to be added>");
}
```