

PBX

Call Tarifficator Pro

User manual

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CONTENTS

Getting started	2
System requirements	2
Installation	2
Troubleshooting	3
License agreement	4

LOGGER MODULE

Logger module menu	5
Terminal window	6
Logger module settings	7
Settings / Info page	7
Settings / Connection page	8
Settings / Logging page	9
Settings / Lines page	10
Settings / Digits page	11
Settings / Administration page	12
Settings / License page	13

CALLS BROWSER

Working with call database files	16
Processing call records	16
Accuracy of the call cost calculations	17
Context menu	18
Find dialed number	19
Export / Import	20
Network installation	22
Multi-language support	23
Command line interface	24
Filtering call records	26
Filter - Type and dialing	27
Filter - Date, time, cost	28
Filter - Lines	29
Filter - Save / Load	30
Creating reports	31
Report Viewer	32
Report Generator	33
Calls Browser Settings	34
Settings / Codes and Rates	34
Settings / Carriers	39
Settings / Directory	41
Settings / Trunks list	42
Settings / Contacts list	43
Settings / Holidays list	44
Settings / Currency	45
Settings / Security	46
Settings / Projects	48
Preferences / View	49
Preferences / Columns	50
Preferences / Colors and call types	51
Preferences / Reports customization	52

GETTING STARTED

Welcome to **PBX Call Tarifficator Pro™** - a call accounting and billing system, which helps you to manage all telephone traffic to and from your office switching system. It can log information for all local, long distance, international and incoming calls, calculate call costs, create, print and export detailed cost reports, and statistics charts.

PBX Call Tarifficator Pro™ consists of two modules:

Logger module

Calls Browser

SYSTEM REQUIREMENTS

- 16 Mb available RAM
- 10 Mb free HDD space
- available serial port (RS-232)
- Windows 98/ME/NT/2K/XP
- Internet Explorer 4.0 or later.

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INSTALLATION

Connection

Connect PBX system with available serial port of your PC. Consult PBX installation manual or qualified installer for connection cable pinout.

If your copy of the software includes hardware protection key, it must be plugged into the serial port of the PC running **Logger** module. The PBX system cable should be connected to the protection key. Hardware protection key provides transparent data flow and doesn't interfere with other software operation. You can use standard "9 to 25 pin" adapter(s) if needed.

Installation

Insert installation CD into CD-ROM drive. Welcome screen automatically appears. Select **Install PBX Call Tarifficator Pro** menu option. If autorun function is disabled, double click on **My Computer** icon on the desktop, choose your CD-ROM drive and double click on **TariffPro** icon in the **Setup** folder.

Follow installer prompts. After successful installation **PBX Call Tarifficator Pro** menu group will appear in **Start / Programs**.

Run **Logger** module from **PBX Call Tarifficator Pro** menu group. **Logger** module icon (yellow phone handset) should appear in the traybar next to system clock. **Logger** module is set to automatically run on Windows startup.

Logger module setup

Click on **Logger** icon in the traybar, choose "**Settings**" from the menu and select "**Connection**" page.

If your PBX system can output SMDR information in different formats, please select correct format from the "**PBX model**" list. Some systems also output date information in different formats (usually **MM/DD/YY** or **DD/MM/YY**). In this case make sure you have selected correct date format from "**Timestamp format**" list, otherwise call information would not be logged!

Select serial port that is connected to PBX system. Set serial port parameters that correspond to SMDR port parameters of your PBX system. Click *OK* to apply settings.

Make some outside calls through the PBX system and hover the mouse pointer over **Logger** icon in the traybar. You should see the following message: "**Logging calls [N]**", where **N** is the number of calls. Click on **Logger** icon and select "**Calls browser**" to see your calls. If calls aren't logged, please follow "**Troubleshooting**" section below.

Software localization

To configure the software for your location run "**Calls browser**" module, select "**Options / Settings**" from the main menu, go to "**Carriers**" page and select first carrier. Add two prefixes:

- § Prefix for international dialing (for example: "00"). Leave "**International code**" field blank.
- § Prefix for long-distance dialing (for example: "0"). Enter your country code (for example: "373" for Moldova) in the "**International code**" field.

Network installation

Install the software on server PC. Select "**Full Install**" type when prompted. Use Windows network sharing utilities to allow read/write access to "**C:\Program Files\TariffPro**" folder from network.

Install the software on workstations. Select "**Network Install**" type when prompted. Run "**Calls browser**" module, select "**Options / Database location**" from the main menu and specify path to shared "**C:\Program Files\TariffPro**" folder on server. Open call database files from shared folder on server.

TROUBLESHOOTING

If Logger module doesn't log any calls:

Please click on the **Logger** icon in the traybar and select "**Terminal**" from the menu. Check if call information appears in clear text after the call is completed.

Q1 Call information doesn't appear or isn't readable:

A1.1 Check serial port settings in **Logger** module. These settings should be exactly the same as SMDR port settings in the PBX system configuration.

A1.2 Check if SMDR information output is enabled in your PBX system configuration. Consult your PBX installation manual on how to enable it.

A1.3 Check connection cable and PC serial port.

Q2 Call information appears in clear text:

A2.1 Make sure that you have "**Outgoing**" and/or "**Incoming**" fields checked on the "**Logging**" page in "**Settings**".

A2.2 Make sure that there are no call processing rules listed on the "**Lines**" and "**Digits**" pages.

A2.3 If your PBX system can output SMDR information in different formats, please make sure that you have selected correct "**PBX model**" type and "**Timestamp format**" on the "**Connection**" page.

LICENSE AGREEMENT

'PBX Call Tarifficator' - billing software for office switching systems

1. This license agreement describes the relationships between you, the end user and **'DCS Laboratory Ltd'**. By installing **'PBX Call Tarifficator'** on your computer you agree to comply with all conditions of this license agreement. This license agreement applies to all existing versions of the software: **'PBX Call Tarifficator'**, **'PBX Call Tarifficator Pro'** and **'PBX Call Tarifficator Lite'**, referred later as **'PBX Call Tarifficator'**.

2. This license agreement guarantees mutual understanding between you, the end user and **'DCS Laboratory Ltd'** and can be modified only by written agreement signed by both sides. No reseller, distributor, dealer or any other party has rights to modify this license agreement or give any warranties not granted here.

3. **'DCS Laboratory Ltd'** shall not be held responsible for any losses, damages, costs, or expenses of any kind resulting from using or misusing the **'PBX Call Tarifficator'** software.

4. You may not sell, rent, lease, modify, decompile, disassemble, otherwise reverse engineer, or create derivatives of **'PBX Call Tarifficator'** Any such unauthorized use shall result in immediate and automatic termination of this license and may result in criminal or civil prosecution.

5. After registration, you are entitled to receive technical support for the period of one year (if other period is not specified explicitly). The technical support time period starts at the day of purchase.

6. All rights for **'PBX Call Tarifficator'** are exclusively reserved by author - **'DCS Laboratory Ltd'** and are protected by certificate N 0034 from 10/25/1998, granted by 'The National Register of Computer Programs - Republic of Moldova'.

8. All rights not expressly granted here are reserved by **'DCS Laboratory Ltd'**.

9. **'DCS Laboratory Ltd'** reserves the right to alter any of these conditions or software design at any time.

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LOGGER MODULE

Logger module continuously receives SMDR information from the PBX system. Valid SMDR records are converted from text to database format and stored on disk. Once setup, *Logger* module requires no operator interaction.

When *Logger* module is running, yellow phone handset icon is displayed in the traybar next to system clock. In case of critical errors the crossed red circle is shown over this icon. If you hover the mouse pointer over *Logger* icon, status information is displayed in a small pop-up window. It shows connection state, number of calls logged since program started or error message.



Logger module menu

You can access *Logger* module pop-up menu by clicking on icon in the traybar. If security lock option is enabled, you'll be prompted to enter password first. Menu items are:

- **Help contents** - bring up on-line help window. You can also click Help button where available or press F1 key to get context sensitive help.
- **Settings...** - bring up configuration window.
- **Terminal...** - open Terminal window. Embedded terminal emulator supports TTY protocol and could be used to troubleshoot serial link related problems and configure your PBX system. Terminal operation doesn't interfere with call logging.
- **Calls Browser...** - open current calls database in *Calls Browser*. This option is grayed out if no calls were logged since *Logger* module started.
- **Pause** - temporarily suspend call logging, disconnect from the PBX system and release serial port. Use this option if you need to connect to your PBX system with other software (configuration utility, etc.).
- **Exit** - shutdown *Logger* module. You don't really need to do this, because valuable SMDR information can be lost if *Logger* is inactive!

Logger module

Terminal window

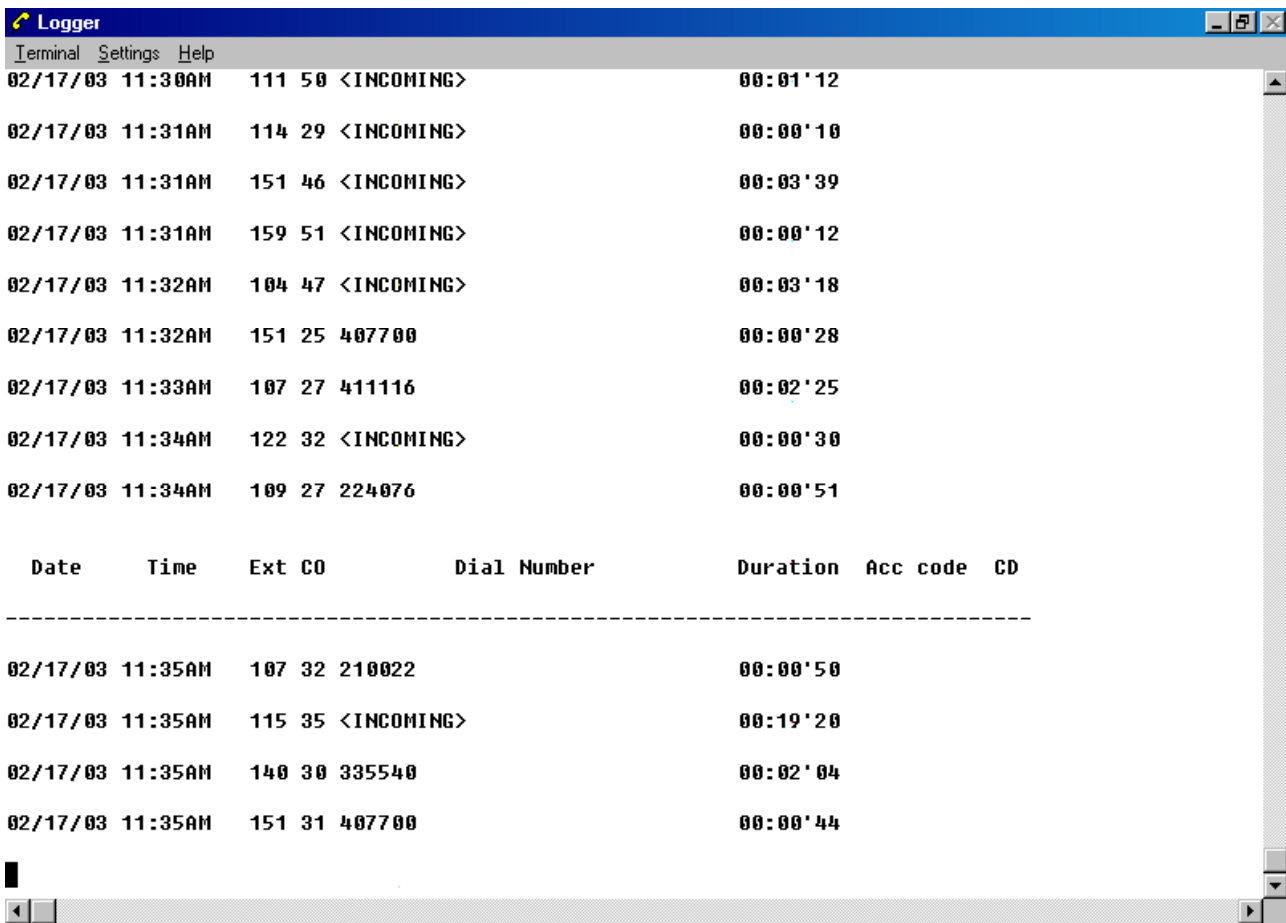
Embedded terminal emulator supports full duplex TTY protocol and could be used to troubleshoot serial link related problems and configure your PBX system. Terminal operation doesn't interfere with call logging.

Terminal commands:

- **Clear screen** - clear all text in the Terminal window.
- **Import from file** - import SMDR data from the disk file rather than receiving it from the serial port. Valid SMDR records are converted from text to database format and stored on disk. Use this option with caution, if you import the same file twice, you'll end up with duplicate records in the calls database!
- **Capture** - start capturing all Terminal input and output to text file. Select the command again to end capturing.
- **Set capture file...** - specify other file for capturing. Default is capture.txt.
- **Close Terminal** - hide Terminal window. *Logger* module will continue to operate.

Terminal settings:

- **Incoming CR = CR+LF** – add *line feed* character to every received *carriage return*. Enable this option if incoming SMDR lines are piling onto each other.
- **Outgoing CR = CR+LF** – add *line feed* character to every sent *carriage return* when you press *Enter*.
- **Local echo** – echo all keypresses to the terminal window.

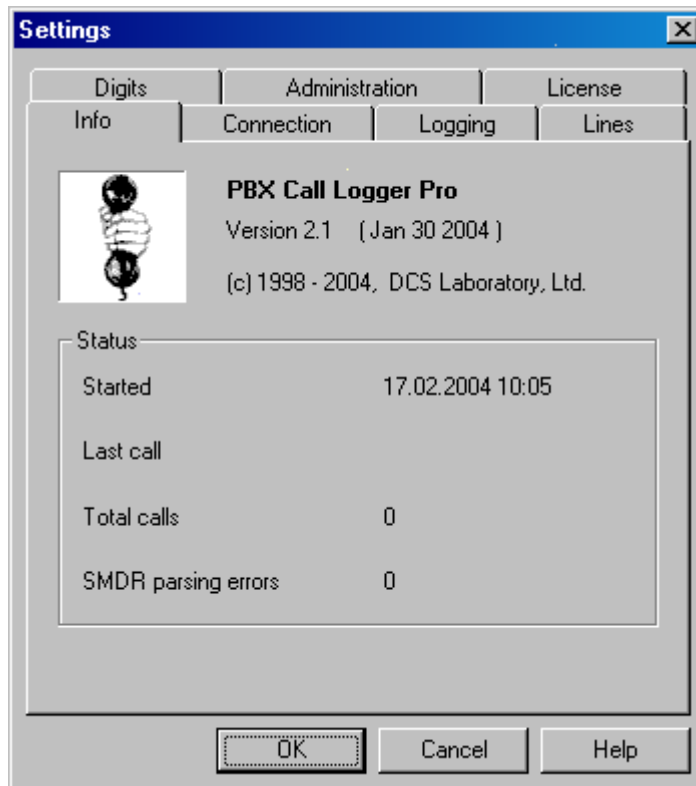


LOGGER MODULE SETTINGS

Selecting **Settings...** menu item brings up configuration window. *Logger* module operation is suspended while you change the settings and resumed after closing this window. All settings are logically grouped into following pages:

Settings / Info page

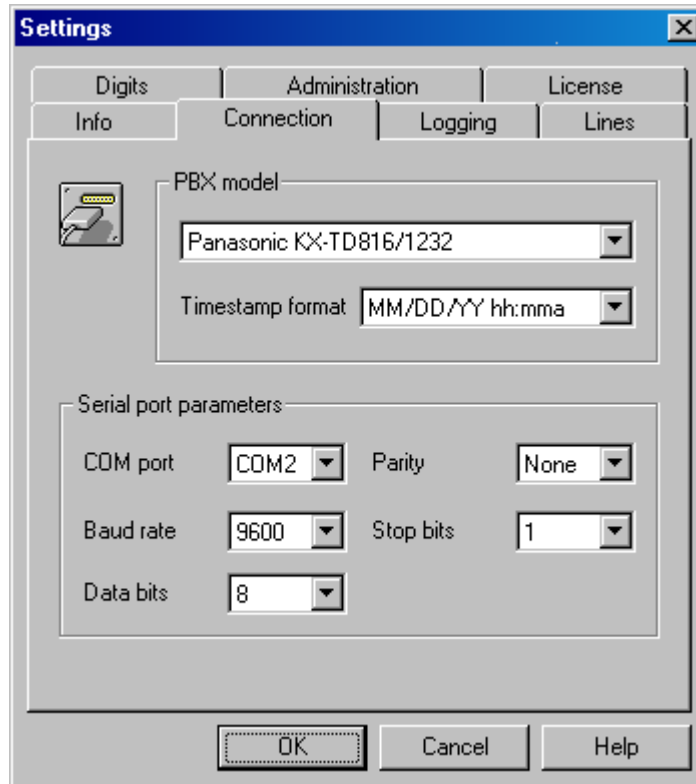
This page displays version information and build date of the *Logger* module. It also provides some useful status information:



- **Started** - date and time when *Logger* module started.
- **Last call** - date and time when last call record was registered. Blank if no calls were logged yet.
- **Total calls** - number of logged calls since program start.
- **SMDR parsing errors** - number of invalid SMDR records encountered. This field shows zero if everything is working ok. SMDR parsing errors can happen if:
 - § Wrong timestamp format or PBX model is selected on the Connection page.
 - § The date and time in the PBX system configuration are not set correctly.
 - § SMDR information is received with errors. Serial cable length is too long or port speed is set too high.

Settings / Connection page

This page allows you to configure connection settings.

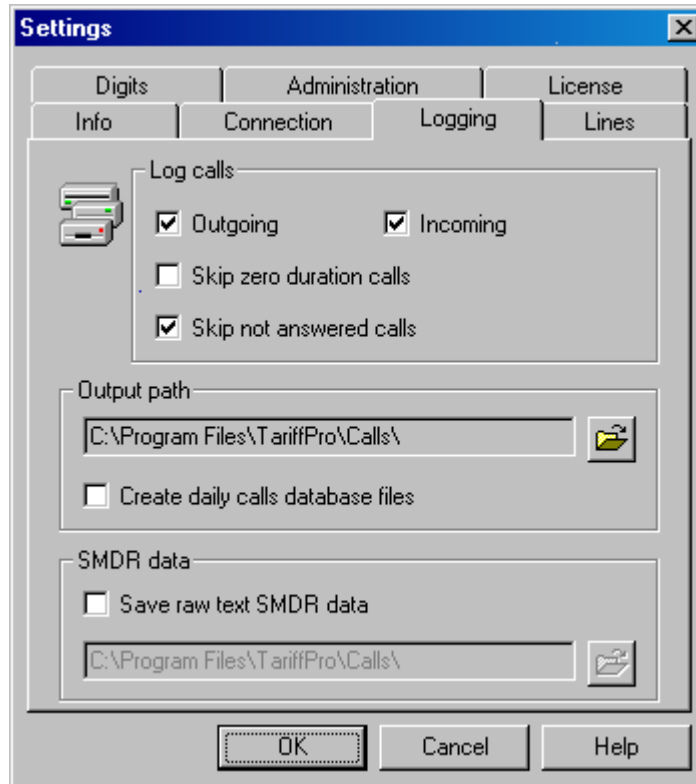


- **PBX Model** - if your PBX system can output SMDR information in different formats, please select correct format from this list.
- **Timestamp format** - some systems also output date information in different formats (usually *MM/DD/YY* or *DD/MM/YY*). In this case make sure you have selected correct date format from this list, otherwise call information would be logged incorrectly or not logged at all.
- **Serial port parameters** - select serial port that is connected to the PBX system. Set serial port parameters that correspond to SMDR port parameters of your PBX system. Default serial port settings are often described in the PBX installation manual.

Please note that all settings are absolutely critical for correct *Logger* module operation. Wrong settings will result in no call information being logged!

Settings / Logging page

This page controls call logging aspects.

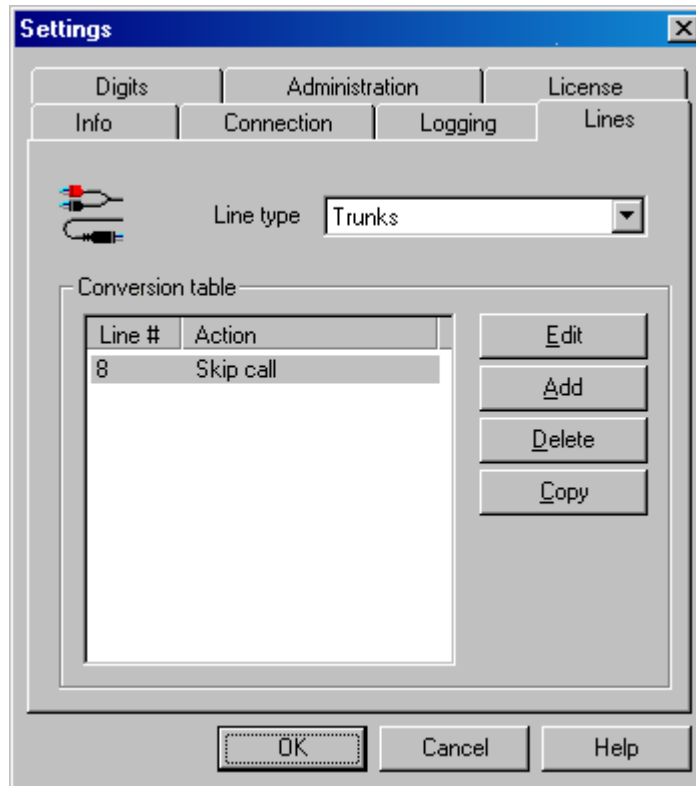


- **Log calls** - allows you to log **Outgoing** and/or **Incoming** calls. Please make sure that at least one of these options is active, otherwise no calls will be logged at all!
- **Skip zero duration calls** - if call duration is zero (not connected) it won't be logged.
- **Skip not answered calls** - if your PBX system provides information about not answered incoming calls and marks them, it would be possible to include such call information in the database if you disable this option.
- **Output path** - select output folder for call database files. Default location should be ok in most cases. If **Create daily calls database file** option is checked new calls database file will be created every day. Call databases will be named *YYYY_MM_DD.TRF*, where *YYYY* is year, *MM* - month and *DD* - day of the calls start date. If this option is unchecked, new calls database file is created for each month. Call databases are named *YYYY_MM.TRF*.
- **Save raw text SMDR data** - *Logger* module can save incoming SMDR information to text files. Some PBX system output useful information on the SMDR port. This option can be also used for troubleshooting or as extra precaution. SMDR files are named *YYYY_MM.TXT*, new file is automatically created every month. You can specify output folder for SMDR files or use default.

Settings / Lines page

Logger module provides conversion of the incoming trunk and extension numbers.

For example you can exclude some trunks or extensions from logging, or combine all T1/E1 channels into single logical trunk. You can also assign single number to the group of extensions.



- **Line type** - apply conversion table to trunk or extension numbers.
- **Conversion table** - lists conversion rules.

You can **Add** new rules, **Edit**, **Delete** or **Copy** existing ones. Rule editor window allows to change line number to another one or skip calls on this line.

Settings / Digits page

Logger module provides conversion of the dialed number for outgoing calls and Caller ID information for incoming calls.

It's possible to delete or add prefixes, restrict number of digits in the dialed number, delete PIN information from dialed numbers, don't log calls to specific destinations, exclude dialing errors, etc.

- **Call direction** - apply conversion table to outgoing or incoming calls.
- **Conversion table** - lists conversion rules.

You can **Add** new rules, **Edit**, **Delete** or **Copy** existing ones. Rules list is searched from top to bottom. Only first matching rule apply. To change rules order use **Up** and **Down** buttons.

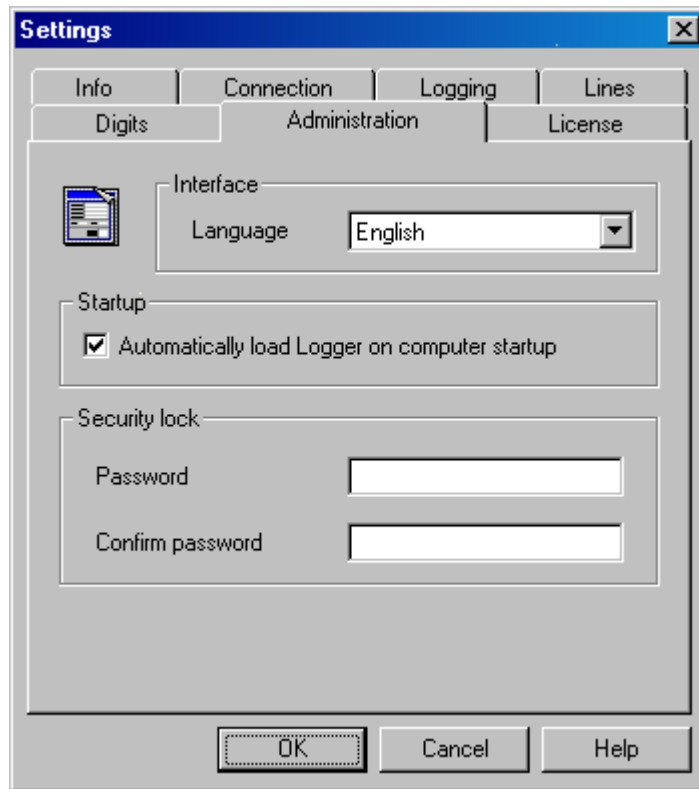


Rule editor window defines following rule parameters:

- **Scope** - apply this rule to all trunks or one specific trunk.
- **First digits** - match first digits of the dialed number (Caller ID number for incoming calls). Use * as a wildcard to match any digit. The rule will apply to all dialed numbers if this field is left blank.
- **Replace with** - digits to replace matched ones. Use * to preserve corresponding digit of the dialed number.
- **Skip call** - don't log call if first digits are matched.
- **Number length / Min digits** - define min. number of digits in the dialed number after conversion. If there are fewer digits, the call is considered a dialing error and ignored.
- **Number length / Max digits** - define max. number of digits in the dialed number after conversion. If there are more digits, dialed number will be truncated.
- **Check max digits first** - this checkbox changes behavior of *Max digits* field. If checkbox is set dialed number length is checked before the conversion. If length is less or equal to *Max digits* - conversion rule is applied. Otherwise, this conversion rule is skipped and the search continues.

Settings / Administration page

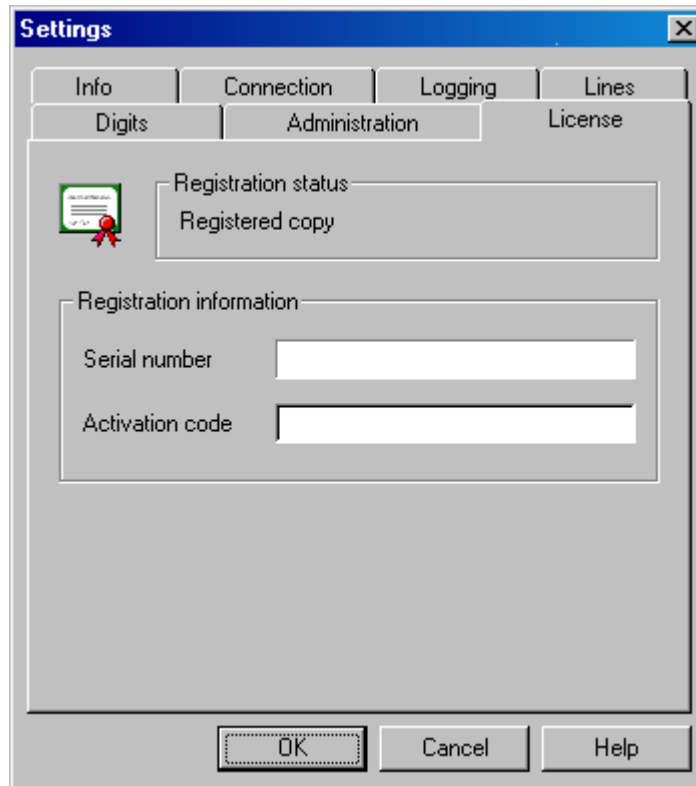
This page lists various options available for system administrator.



- **Interface language** - select available interface language from the list. The language will be changed after you close settings window by clicking OK. Language packs can be edited and added in the *Calls Browser*.
- **Startup** - enable this option to automatically load *Logger* on computer startup. *Logger* module starts before user logs on (service mode) and stays running after log off. This option is useful when the software is installed on unattended server PC.
- **Security lock** - set password to prevent unauthorized access to *Logger* module. You'll be prompted for password every time you try to access *Logger* menu. It won't be possible to shutdown *Logger* or change anything in the settings without entering correct password. This option is useful when the software is running on office workstation.

Settings / License page

This page displays licensing information and allows to unlock your copy of the software.



Registration status shows **UNREGISTERED COPY** if the *Logger* module hasn't been activated yet.

If your copy of the software includes hardware protection key, please make sure that it is plugged into serial port of your PC before PBX system connection cable. Correct serial port number should be set on the [Connection page](#).

If hardware protection key wasn't included, please consult *readme.txt* file about activation procedure.

Once activated, registration status shows **Registered copy** and all other fields on this page are grayed out.

CALLS BROWSER

Main window of the *Calls Browser* displays a list of call records. Every call record can include basic and extended information, you decide which columns and in what order to display in Preferences.

Column	Description
Date	call start date
Time	call start time
Ext	extension which placed or answered the call
Dialed	dialed number for outgoing calls, caller ID information for incoming calls *
Destination	country and/or city for long-distance and international calls
Duration	call duration
Cost	calculated call cost
Employee	employee who should be charged for this call, if available (see Directory)
Department	department, to which the employee belongs (see Directory)
Contact	contact name assigned to this telephone number (see Contacts) or caller ID name
Trunk	trunk number used in this call
Trunk	group to which trunk belongs (see Trunks list)
Acc	account code entered for this call *
CD	secondary call type: (TR - transferred, FW - forwarded, NA - not answered, DI - DISA,
Direction	call direction - <i>Outgoing</i> or <i>Incoming</i>
Type	call type - <i>Local</i> , <i>Long-distance</i> , <i>International</i> or one of 4 user defined types
Carrier	telecom carrier name (see Carriers)
Ringtime	time between incoming call arrival and pickup *
Project	project name assigned to account code of this call (see Projects) *

PBX system specific information that may not be available on your system.

Calls Browser

Calls list can be automatically refreshed as soon as new call records arrive from the PBX system. You can switch this feature using *View / Auto Refresh* menu command or refresh manually by pressing *F5*.

Calls list can be sorted by any column - ascending or descending. There are two sort levels - grouping and sorting itself. For example, you can group calls by employee and sort by date inside the group. Click on column header to set new sorting order. Click again to reverse it.

Calls of each type can be displayed in different colors. You can also change formatting of destinations, extension and trunk numbers and define up to 4 user call types in Preferences.

Status line shows number, total duration and total cost of the filtered calls.

You can select multiple records with *Shift* or *Ctrl* and mouseclicks. If more than one call record is selected, status line is updated to show number, total duration and total cost of selected calls in *O*.

Date	Time	Ext	Dialed Number	Destination	Duration	Cost	Employee	Department	Co
1/9/2002	12:08 PM	200			0:01:05	\$0.00	Reception	Administration	
1/9/2002	12:08 PM	234	245038		0:00:20	\$0.00	Romer A.	Workshop	
1/9/2002	12:09 PM	211			0:01:33	\$0.00	C.E.O.	Administration	
1/9/2002	12:25 PM	226			0:00:14	\$0.00	Fax	Administration	
1/9/2002	12:35 PM	211			0:00:39	\$0.00	C.E.O.	Administration	
1/9/2002	12:36 PM	226			0:01:04	\$0.00	Fax	Administration	
1/9/2002	12:43 PM	203	767173		0:00:17	\$0.00	Wilson E.	Marketing	Tr
1/9/2002	12:44 PM	204	0-91-32323	Mobile	0:00:15	\$0.03	Johnes P.	Marketing	
1/9/2002	12:45 PM	204			0:02:29	\$0.00	Johnes P.	Marketing	
1/9/2002	12:45 PM	220			0:00:16	\$0.00	Porter K.	Workshop	
1/9/2002	12:48 PM	211			0:00:18	\$0.00	C.E.O.	Administration	
1/9/2002	12:48 PM	226			0:00:42	\$0.00	Fax	Administration	
1/9/2002	12:54 PM	222	00-7095-2197435	Russia - Moscow	0:00:43	\$0.24	Schwartz V.	Technical	Bu
1/9/2002	12:55 PM	211	233215237		0:02:17	\$0.02	C.E.O.	Administration	
1/9/2002	12:56 PM	222	00-7095-2197435	Russia - Moscow	0:00:43	\$0.24	Schwartz V.	Technical	Bu
1/9/2002	12:59 PM	226	0-91-32126	Mobile	0:00:27	\$0.09	Bell E.	Field agents	
1/9/2002	1:00 PM	226	0-91-74224	Mobile	0:00:19	\$0.05	Bell E.	Field agents	
1/9/2002	1:07 PM	226			0:00:42	\$0.00	Fax	Administration	
1/9/2002	1:08 PM	203			0:00:37	\$0.00	Wilson E.	Marketing	
1/9/2002	1:08 PM	204			0:00:20	\$0.00	Johnes P.	Marketing	
1/9/2002	1:08 PM	226			0:01:15	\$0.00	Fax	Administration	
1/9/2002	1:11 PM	226	0-91-32126	Mobile	0:00:15	\$0.03	Bell E.	Field agents	
1/9/2002	1:13 PM	203	767173		0:00:20	\$0.00	Wilson E.	Marketing	Tr
1/9/2002	1:14 PM	203	725048		0:01:23	\$0.01	Wilson E.	Marketing	Bu
1/9/2002	1:20 PM	226			0:00:55	\$0.00	Fax	Administration	
1/9/2002	1:24 PM	000	00-38044-24131623	Ukraine - Kiev	0:03:12	\$0.91	Luther W.	Field agents	
1/9/2002	1:24 PM	000			0:03:27	\$0.00	DISA	Technical	
1/9/2002	1:35 PM	204	297188		0:02:43	\$0.03	Johnes P.	Marketing	
1/9/2002	1:38 PM	204	0-91-28692	Mobile	0:00:57	\$0.25	Johnes P.	Marketing	
1/9/2002	1:39 PM	204	0-91-32323	Mobile	0:00:22	\$0.06	Johnes P.	Marketing	
1/9/2002	1:48 PM	222			0:00:45	\$0.00	Schwartz V.	Technical	
1/9/2002	1:59 PM	211			0:01:14	\$0.00	C.E.O.	Administration	

Press F1 for Help
3827 calls
118:52:53
\$253.81

Working with call database files

There are several ways to open call database files in *Calls Browser*:

- Open *Calls Browser*, use *File / Open* menu command and select the file(s) you need
- Click on the file with *.trf* extension in any *Windows Explorer* folder - *Calls Browser* will start and this file will be opened
- Select *Calls Browser* from the *Logger* module menu - *Calls Browser* will start and call database for current month will be opened

When using *File / Open* dialog you can select multiple files with *Shift* or *Ctrl* and mouseclicks. All selected call databases will be loaded into main window calls list. This option is useful for creating quarterly and yearly reports.

Occasionally you may need to modify call database files. While direct modification is not possible, you can load the file(s) you need, apply necessary filters and use *File / Save As* menu command to save call database under new name. You can also press **Del** key in the calls list window to hide selected records. Only visible records will be written to the new file. You cannot overwrite existing calls database.

If you want to change the settings and no longer need the call database to be opened select *File / Close* menu command to close it and clear main calls list window.

Processing call records

Only primary call record fields such as *extension*, *trunk*, call *start time* and *duration* are stored in the calls database by the *Logger* module. Values of other fields (call *cost*, *carrier*, *employee*, etc.) are calculated or assigned every time the call database is loaded into *Calls Browser* using current settings.

Here are the steps that PBX Call Tarifficator Pro™ takes for loading each call record:

- If *account code* is present and projects are enabled, projects list is searched for the *account code*. If there's a match - *project* name is set. If projects are disabled, directory list is searched for the *account code*. If there's a match - *employee* and *department* fields are set.
- If *employee* field was not set in the above step, directory list is searched for the *extension number*. If there's a match - *employee* and *department* fields are set.
- The contacts list is searched for *dialed* or *Caller ID number*. If there's a match - *contact name* field is set.
- The trunks list is searched for call *trunk number* and *carrier* is determined. If trunk is not listed, first carrier is assumed.
- Prefixes list for the given carrier is searched for longest matching *prefix*. *Call type* (*local*, *long distance*, *international* or *user defined*) is determined. If there are no prefix match, the call is considered local. Prefix definitions can also contain rules to change the carrier.
- If call type is *long distance*, *international* (or *user defined* and *Treat calls as local* checkbox is not set), the Codes/Rates list is searched to match the international *dialing code*. Longest matching code is used. If there are no match - call *destination* is set to **Unknown** and further processing is halted. Otherwise correct call *destination* is set.
- Call *cost* is calculated using rate definition for a given *call type*, *destination* and *carrier*. If *Employee* field is set *Cost modifier* for given employee is applied.

Accuracy of the call cost calculations

PBX Call Tarifficator Pro™ uses complex approach to calculate costs of the telephone calls. Unfortunately, it's almost impossible to perfectly match calculated costs and telephone company phone bills.

Main sources of error are:

- Different call duration calculation within office switching system and central office PBX. Office PBX systems consider the call connected after user has dialed some predefined number of digits or after certain time out.
- Office systems often cannot distinguish unanswered outgoing calls, such calls will be recorded and accounted.

You can try to minimize the errors by adjusting Grace Period settings.

Context menu

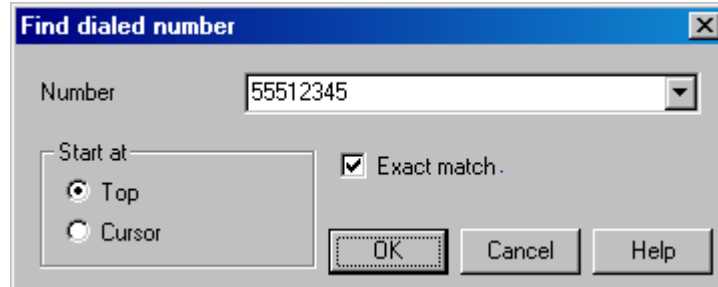
Right-click on call record in the calls list window to bring up context menu. Context menu commands are used to filter call records and add information to settings database. It allows to fill Directory, Trunks and Contacts lists directly from the calls list, cutting the amount of information to type and resulting in fewer errors.

095-2197435	Russia - Moscow	0:00:43	\$0.24	Schwar
15237		0:02:17	\$0.02	C.E.O.
095-2197435		0:00:43	\$0.24	Schwar
32126		0:00:27	\$0.09	Bell E.
74224		0:00:19	\$0.05	Bell E.
		0:00:42	\$0.00	Fax
		0:00:37	\$0.00	Wilson E
		0:00:20	\$0.00	Johnes
		0:01:15	\$0.00	Fax
32126		0:00:15	\$0.03	Bell E.
73		0:00:20	\$0.00	Wilson E
48		0:01:23	\$0.01	Wilson E
		0:00:55	\$0.00	Fax
3044-24131623		0:03:12	\$0.91	Luther V
		0:03:27	\$0.00	DISA
88		0:02:43	\$0.03	Johnes
28692		0:00:57	\$0.25	Johnes
32323	Mobile	0:00:22	\$0.06	Johnes

- **Apply Filter** - choose one of the saved filters from the submenu to apply immediately.
- **Quick Filter** - quickly add one of the current record fields to filter criteria.
- **Undo last filter, Clear filter** - manage filters with one click.
- **Hide selected records** - hide selected records from view so they will not appear in reports or exported data. You can also press Del key to hide selected records. This function is useful when you need to exclude clearly erroneous records from reports. To bring back hidden records select *Undo last filter* or *Clear filter* menu command. Applying any filter will also bring back hidden records. This function can be disabled to prevent possible abuse in Security options.
- **Add / Edit Employee** - add current call record extension number (and account code if present) to the Directory list.
- **Add / Edit Trunk** - add current call record trunk number to the Trunks list.
- **Add Contact** - add current call record dialed number (or Caller ID number) to the Contacts list.
- **Add Project** - add current call account code to the Projects list.
- **Dial Number** - start *Phone Dialer* or other registered application to dial the current call record number. Your computer should have modem or other *TAPI* connection to utilize this function.

Find dialed number

You can quickly find a call record if you know dialed number (or just part of it) by using *View / Find* command or corresponding toolbar button. This function also searches Caller ID information for incoming calls.



Enter search pattern in the **Number** field or select one of the previous patterns from the list. Use * as a wildcard to match any digit.

If you don't enable **Exact match** checkbox, the program will treat **Number** field as first digits of the dialed number. Otherwise, only complete matches will be found.

Specify **starting position** for the search and press **OK**. First matching call record will be highlighted and scrolled into view.

To continue search, use *View / Find Next* command.

If you want to select several records that match a dialed number, use Filter command instead.

Export / Import

For easier data manipulation **PBX Call Tarifficator Pro™** can export and import all database tables (codes and rates, employee data, trunks list, etc) to text or .csv files with fixed width or separated fields.

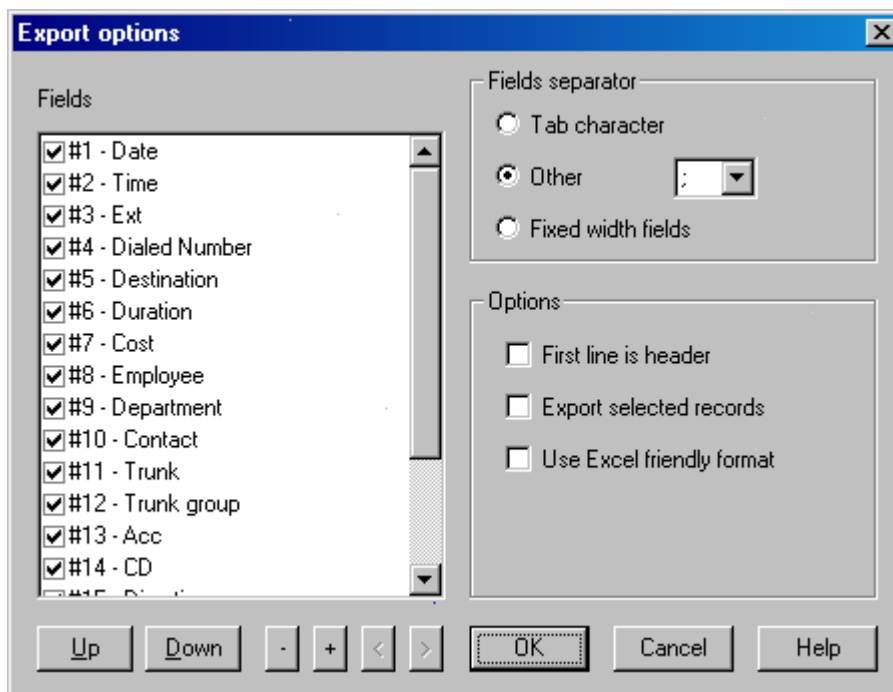
To export opened calls database please use *File / Export* menu command. Only filtered call records would be exported. Exported data can be used in many popular spreadsheets and database applications (for example *MS Excel*).

Import function allows to prepare the tables in your favorite spreadsheet program and later import them into **PBX Call Tarifficator Pro™** database.

Export / Import options allow to customize file format, define order and number of fields and field width.

- **Fields** - fields list. If individual field is enabled, field position is displayed to the left of field name. You can change field order using **Up** and **Down** buttons. For files with separated fields you can increment and decrement field position using - and + buttons. Undefined positions will be skipped on import and left empty on export. For files with fixed width fields you can change each field width using < and > buttons. Width is displayed after field name in [].
- **Fields separator** - select either **Tab character** (text files), or other separator character. Use comma (,) or semicolon (;) for .csv files. Select **Fixed width fields** for text files with no separators.

Export options

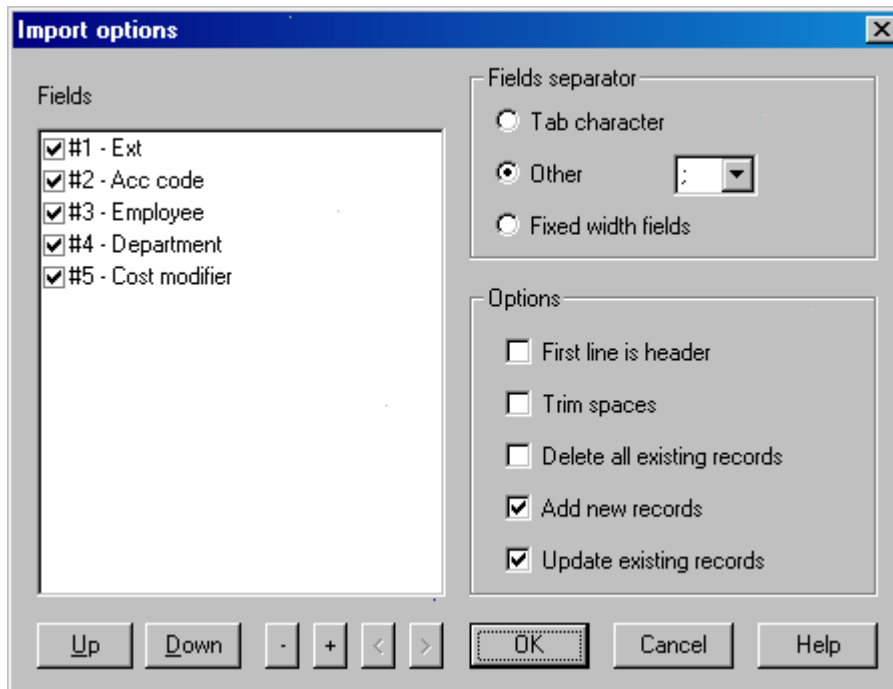


- **First line is header** - export extra line containing column labels.
- **Export selected records** - only export selected records, otherwise all records.
- **Use Excel friendly format** - use this option if you will later import the data into *Microsoft Excel*. Formatting of some fields will be affected to conform *MS Excel* better.

Date fields will always be exported as *MM/DD/YY*, regardless of Windows regional settings. Time fields will be exported in 24-hour *HH:MM* format. Currency values will use decimal dot (.) separator, currency symbols will be omitted. Dialed number and account code fields will have 'soft-break' character appended to make *MS Excel* recognize them as text strings and not numbers.

It's also advised to set comma (,) as field separator and choose .csv extension for exported files.

Import options



- **First line is header** - treat first line of imported file as header and skip it.
- **Trim spaces** - delete spaces at the start and end of each field. This option is always selected for files with fixed width fields.
- **Delete all existing records** - delete all records from the database before importing.
- **Add new records** - add new records to the database. Otherwise only update existing records.
- **Update existing records** - update existing database records. Otherwise only new records would be added.

Setting different import options allows you to change only the selected data fields. For example, you can import new call rates without changing destination country and city names.

Note that database is actually updated only after you close *Settings* window by clicking *OK*. So all changes can be reversed.

Please pay attention to correct formatting when you prepare data to import:

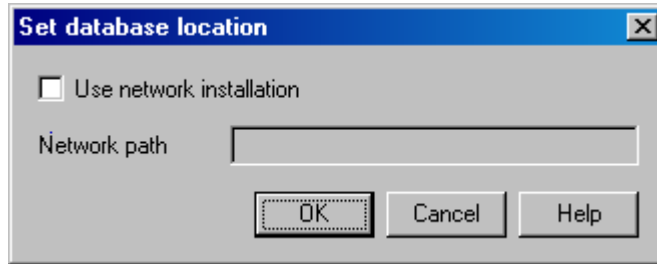
- **Currency** - don't use currency symbol prefix (i.e. use *10.50*, not *\$10.50*).
- **Time** - use HH:MM[AM/PM] time format (i.e. *14:30*, or *02:30PM*). Don't separate optional AM/PM with spaces.
- **Boolean** - boolean flags are: *1* - Yes, Checked, *0* - No, Not checked.

Network installation

You can setup *Calls Browser* on the network workstations to use settings database from the main server. All settings are stored in *tariff.dat* file. Saved filters and report templates however are always stored locally.

Benefits of the network installation:

- Improved security - it's possible to assign different login levels to network clients.
- Consistent updates - all database changes instantly become available to network clients.



Enable **Use network installation** checkbox and specify the network path to folder containing database file. This folder should provide read/write access using Windows network sharing.

Disable the checkbox to use local database.

Multi-language support

PBX Call Tarifficator Pro™ has unique interface localization feature - all text within the application can be translated to any language using built-in editor. Setup package includes *English* and *Russian* language packs.

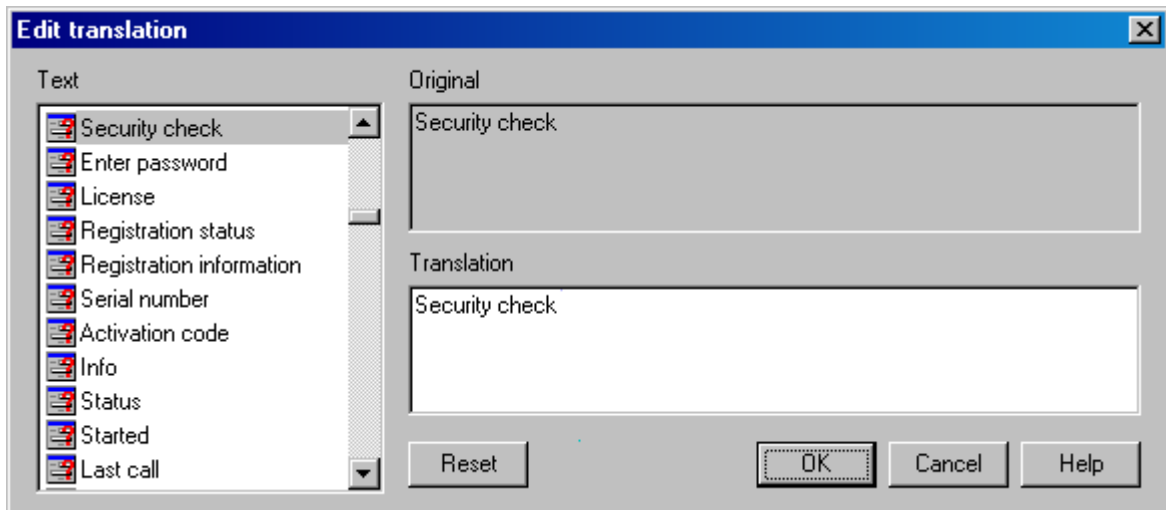
It's possible to switch interface languages on the fly using *View / Language* menu.

To add new translation select *View / Language / New translation...* The translation would be based on default *English* language pack. After completing translation you will be prompted to save it under language name.

To edit current language pack (except default *English* pack) select *View / Language / Edit translation...*

Report templates are in *.xml* format and should be translated separately using any text editor (for example: Windows Notepad).

Localization editor window allows to interactively edit translations for all strings and messages.



- **Text** - this list shows all strings in English. Strings are sorted by location - menu items, dialog box controls and other text messages. If string is not translated, the location image displays red question mark.
- **Original** - original string in English.
- **Translation** - translated string. Please pay attention to the following control characters:
 - § & - next character is treated as hotkey in menus and dialog boxes.
 - § % - next character is treated as formatting type and should be preserved exactly as in original string.
- **Reset** - cancel translation of the current string and reset it to original.

Command line interface

Introduction

PBX Call Tarifficator Pro™ provides command line interface to *Calls Browser* which helps to automate report generation. This feature can be also used to interface call accounting with other software applications.

Use following format to specify arguments in the command line:

```
Tariff.exe argument1="value1" argument2="value2" ...
```

If arguments list is too long, it can be taken from the text file. Just specify *@filename* in the command line. If full path to the command file is omitted, it's assumed to reside in the application directory. Alternative format:

```
Tariff.exe @[path\]commands.txt
```

Arguments "from", "to", "report" and "out" are required. Other arguments are optional.

When processing command line PBX Call Tarifficator Pro™ performs following actions:

- Opens minimized *Calls Browser* window, if *Calls Browser* wasn't active.
- Loads call database files that correspond to "from" and "to" date arguments. Call database files location can be specified in the optional "calls" argument.
- Optionally applies specified "filter".
- Using "report" template, optional report "type" and "detail" values creates report file "out".
- Closes the main *Calls Browser* window, if *Calls Browser* wasn't active before starting this command line task.

Arguments reference

- **from**="this | previous | today | yesterday | YYYYMMDD[hhmm]" - start of the time period to process. The date (YYYY - year, MM - month, DD - day) is required and time (hh - hours in 24h format, mm - minutes) are optional. Alternatively you can specify "current" for current month, "previous" - previous month, "today" - current day, "yesterday" - previous day.
- **to**="YYYYMMDD[hhmm]" - end of the time period to process. Values are the same as in "from" attribute.
- **calls**="path" - path to call database files. If this argument is omitted, path to last opened call database is used.
- **filter**="name" - apply saved filter "name".
- **report**="template" - use report "template" to create output report.
- **out**="[path\]name[.ext]" - save output report under this name. If "path" is not specified, *Reports* folder in the application directory is used instead. If you're saving reports to other folder, please make sure that all files (graphics, .css tables, etc.) required to properly display the report are present in the destination folder.
- **type**="N" - select report type. If this attribute is not specified, summary report will be created.

Value	Report type
"0"	summary report
"1"	individual report for Employee
"2"	individual report for Department
"3"	individual report for Trunk
"4"	individual report for Extension
"5"	individual report for Acc code
"6"	individual report for Contact
"7"	individual report for Trunk group
"8"	individual report for Project

- **detail=""** - if individual report is selected with "type" attribute, this field specifies extension, trunk, employee, etc. For more information please refer to [Creating reports](#) topic.

Notes

For command line interface to work without any user interaction, Security option should be turned off. Also, if any error happen during processing command line task, the processing stops and error message is displayed.

Examples

Create detailed report for extension 213 for December, 2002 and place it in the C:\Web folder:

```
Tariff.exe from="20021201" to="20021231" report="3.0.Details"
out="C:\Web\report_213_2002_12.htm" type="4" detail="213"
```

Create summary report by extension for Summer 2002:

```
Tariff.exe from="20020601" to="20020831" report="1.1.Summary by Extension"
out="report_summer_2002"
```

Filtering call records

For convenient browsing **PBX Call Tarifficator Pro™** contains powerful filter function. If filter is enabled, only call records that meet filter criteria are shown in the calls list, processed by Report Generator and can be exported.

Filter function uses logical AND to combine filter criteria.

There are several ways to enable filtering in *Calls Browser*:

- Select *Filter / Filter* command from the main menu, or click on *Filter* button on the toolbar to bring up *Filter Editor* window. Here you can define filter settings and save it for later use.
- Choose one of the saved filters from the drop-down list on the toolbar, or from the *Apply Filter* list in context menu.
- Right-click on call record in the calls list window to bring up context menu. Select *Quick Filter* and call record field you want to add to filter criteria (*Extension, Trunk, Destination*, etc.).

To cancel filtering use *Filter / Clear filter* or *Filter / Undo last filter* menu commands or corresponding toolbar buttons.

If you open new calls database file using *File / Open* command, current filter is automatically canceled. If *Default filter* is enabled on the *Save / Load* page in *Filter Editor*, it is automatically applied.

You can press **Del** key in the calls list window to hide selected records. This function is useful when you need to exclude clearly erroneous records from reports. To bring back hidden records select *Undo last filter* or *Clear filter* menu command. Applying any filter will also bring back hidden records.

Filter - Type and dialing

This page describes filtering rules that apply to call type and dialed number information.

- **Direction** - set checkboxes to show *Outgoing* and/or *Incoming* calls.
- **Type** - set corresponding checkboxes to show *Local*, *Long-distance*, *International* calls and any of *user defined* call types. You can also set *CD* checkbox and choose secondary call type, like *TR* for transferred calls and *NA* for not answered calls. It's possible to use *?* symbol as wildcard.
- **Number** - enter whole or part of the dialed number in this field. Set **Exact match** checkbox to filter only whole number matches.
- **Contact** - enter whole or part of the contact name, or select it from the list. Set **Exact match** checkbox to filter only full name matches. Or set **Unknown numbers** checkbox to filter numbers that are not in the Contacts list.
- **Destination** - select call destination from the list or enter only destination country. Set **Unknown destinations** checkbox to filter unknown destinations.
- **Invert filter** - setting this checkbox reverses filter rule. Only call records that do not match other filter settings will be shown.

Filter - Date, time, cost

This page describes filtering rules that apply to call date, time, duration and cost.

The screenshot shows a 'Filter' dialog box with the following sections and controls:

- Date:**
 - From: 1/ 1/2002 (dropdown), 12:00 AM (spinner)
 - To: 1/31/2002 (dropdown), 11:59 PM (spinner)
- Starting time:**
 - Between: 12:00 AM (spinner) and 11:59 PM (spinner)
- Duration:**
 - Between: [] sec. and [] sec.
- Cost:**
 - Between: \$ [] and \$ []
- Ringtime:**
 - Between: [] sec. and [] sec.

Buttons at the bottom: OK, Cancel, Help.

- **Date** - select time period to filter. You can enter dates directly or select from drop-down calendar.
- **Starting time** - select daily time period. Only calls that started within this period will be filtered.
- **Duration** - enter call duration limits. If you leave one of the fields blank, it would not be used in filtering. For example, to show only calls that lasted 20 seconds or more, enter "between 20 and ___".
- **Cost** - enter call cost limits. As with **Duration**, if you leave one of the fields blank, it would not be used in filtering.
- **Ringtime** - if your PBX system supports logging ringtime for incoming calls, you can use this setting to enter ringtime limits.

Filter - Lines

This page describes filtering rules that apply to trunks, extensions and company directory structure.

The screenshot shows the 'Filter' dialog box with the 'Lines' tab selected. The 'Internal lines' section contains the following fields:

- Employee
- Department (with Exact match)
- Extension (value: 211)
- Acc code
- Project (with Exact match)

The 'External lines' section contains the following fields:

- Carrier (value: Telecom)
- Trunk group (with Exact match)
- Trunk

Buttons at the bottom: OK, Cancel, Help.

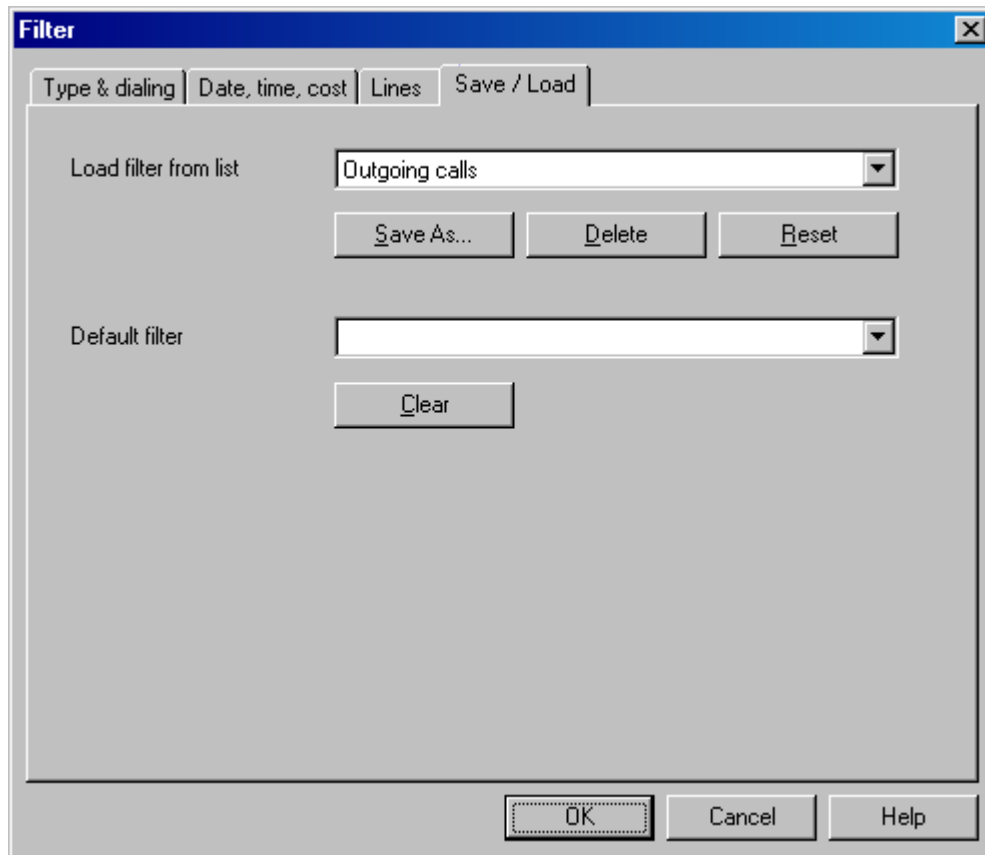
- **Employee** - select employee who initialed and received the calls from the list.
- **Department** - enter whole or part of the department name in this field or select it from the list. Set **Exact match** checkbox to filter only whole department name matches.
- **Extension** - select extension number from the list, or enter range of extension numbers to show.
- **Acc code** - enter account code in this field or select it from the list.
- **Carrier** - select carrier from the list.
- **Trunk group** - enter whole or part of the trunk group name in this field or select it from the list. Set **Exact match** checkbox to filter only whole trunk group name matches.
- **Trunk** - select trunk number from the list, or enter range of trunk numbers to show.

PBX Call Tarifficator Pro™ allows to enter range of numbers in the extension and trunk fields of the Filter Editor. Ranges are separated by ',' sign. Valid range types are:

- **N** - single number (200).
- **N-M** - a range that includes all numbers from N to M (200-210).
- **N-** - a range that includes all numbers greater or equal to N (200-).
- **-M** - a range that includes all numbers less or equal to M (-210). For example, if you want to filter extensions 200, 201, 202, 210, and 233 you can define the following range: 200-202,210.

Filter - Save / Load

This page helps to manage frequently used filter settings. Just select the name from the list to load filter settings into Filter Editor.



- **Save As** - saves current filter settings under specified name. Stored filters can be quickly applied from **Apply filter** menu, you won't need to bring up the **Filter Editor** window.
- **Delete** - select the previously saved filter from the list and delete it.
- **Reset** - clear current filter settings. Use this button to start building new filter from scratch.

You can assign default filter by selecting it from the **Default filter** list. This filter will be automatically applied each time you open new file in *Calls Browser*. If you no longer need the default filter, click on **Clear** button.

Creating reports

To access Report Generator module open call database file(s) and select *File / Reports* menu command or click corresponding toolbar button. The *Create Report* options window will appear, select report template and type and click *OK* to create and display the report. Note that only filtered call records (i.e. shown in the calls list window) will be passed to *Report Generator* and included in the report.

- **Template** - select report template. *Report Generator* templates are stored in files with *.xml* extension. Template files are located in the *Reports* folder in application directory (default path is *C:\Program Files\TariffPro\Reports*).
- **Type** - select *Summary* or *Individual* report. *Individual* report setting acts as additional filter. Please note that not all templates are designed to work with individual reports!
- **Date** - select start and end date/time for the report.
- **Include page breaks** - insert page breaks in *HTML* reports after each group of information. For example, call records for every extension will be on a separate page.

You can also define options for the most often used *Quick Report* by selecting *Options / Edit Quick report* menu command. After that just select *File / Quick report* to create and display the report without bringing up the options dialog.

During report generation you can press and hold *ESC* key to cancel it.

To automate report creation you can also use Command line interface.

Report Viewer

Report Viewer window displays generated reports and allows to print or save them. Report Viewer utilizes *Internet Explorer* for core functionality.

- **Print** - select printer and print options, print all or selected pages.
- **Preview** - preview page layout before printing. This function is available only if *Internet Explorer 5.5* or higher is installed.
- **Save** - save report to disk file. Available file formats are provided by *Internet Explorer*.
- **Open in Internet Explorer** - opens new standalone *Internet Explorer* window and loads the report in it. This window will remain active after you close the Report Viewer. Use this option if you want to create multiple reports and have them available simultaneously.
- **Page setup** - change paper size and orientation, select margins size.
- **Page numbers** - choose to print page numbers or not, select page numbers position.
- **Help** - display this help page.
- **Close** - close Report Viewer window. The report will no longer be available unless it was opened in *Internet Explorer*.

Report Generator

PBX Call Tarifficator Pro™ includes powerful Report Generator module. As report templates are described in XML based language it allows to modify existing reports or create new ones in any text editor. Almost every aspect of the report can be changed. It requires only basic knowledge of XML and HTML languages.

Report Generator templates are stored in files with .xml extension. Template files are located in the Reports subfolder of the main installation folder (default path is C:\Program Files\TariffPro\Reports). Template file names will be listed in Create report window.

Report Generator compiles the template (compiling stops at first found error) and processes the call records accordingly. Output report is then displayed in the Report Viewer window.

See detailed description of [template file structure](#) in the on-line help manual.

Summary Report
from 1/1/2002 12:00 AM to 1/31/2002 11:59 PM

Ext	Employee	Calls	Duration	Cost
000	DISA	418	8:08:50	\$79.76
200	Reception	531	7:00:22	\$27.74
201	Bell E.	16	0:09:25	\$0.06
203	Wilson E.	165	5:44:52	\$3.29
204	Johnes P.	510	16:18:57	\$30.39
205	Simpson O.	15	0:20:32	\$0.01
206	White A.	29	0:38:40	\$0.37
207	Barnes R.	2	0:01:18	\$0.01
210	Claus C.	43	2:38:26	\$1.24
211	C.E.O.	829	30:11:45	\$64.46
213	Fawcett D.	38	1:19:03	\$1.63
214	Kelvin M.	62	1:59:48	\$1.75
215	Gardner E.	7	0:11:33	\$0.04
218	Karlson P.	2	0:01:15	\$0.02
220	Porter K.	40	0:53:04	\$0.69
221	Burck H.	31	1:23:50	\$0.24
222	Schwartz V.	147	2:56:52	\$19.09
223	Brown L.	65	2:00:40	\$0.26
224	Goodman S.	68	1:29:35	\$1.04
226	Fax	568	8:50:17	\$7.07
227	Newman D.	17	0:08:30	\$0.09
228	Modem	120	23:52:26	\$14.25
234	Romer A.	104	2:32:53	\$0.31
Total:		3827	118:52:53	\$253.81

PBX Call Tarifficator Pro
Created on 2/17/2004 10:58 AM

CALLS BROWSER SETTINGS

PBX Call Tarifficator Pro™ stores all settings in tables. These tables can be modified in list form. All list editors have common interface.

You can select the record by left clicking on it. Use *Ctrl* and *Shift* keys with mouse clicks or up / down arrow keys to select multiple records.

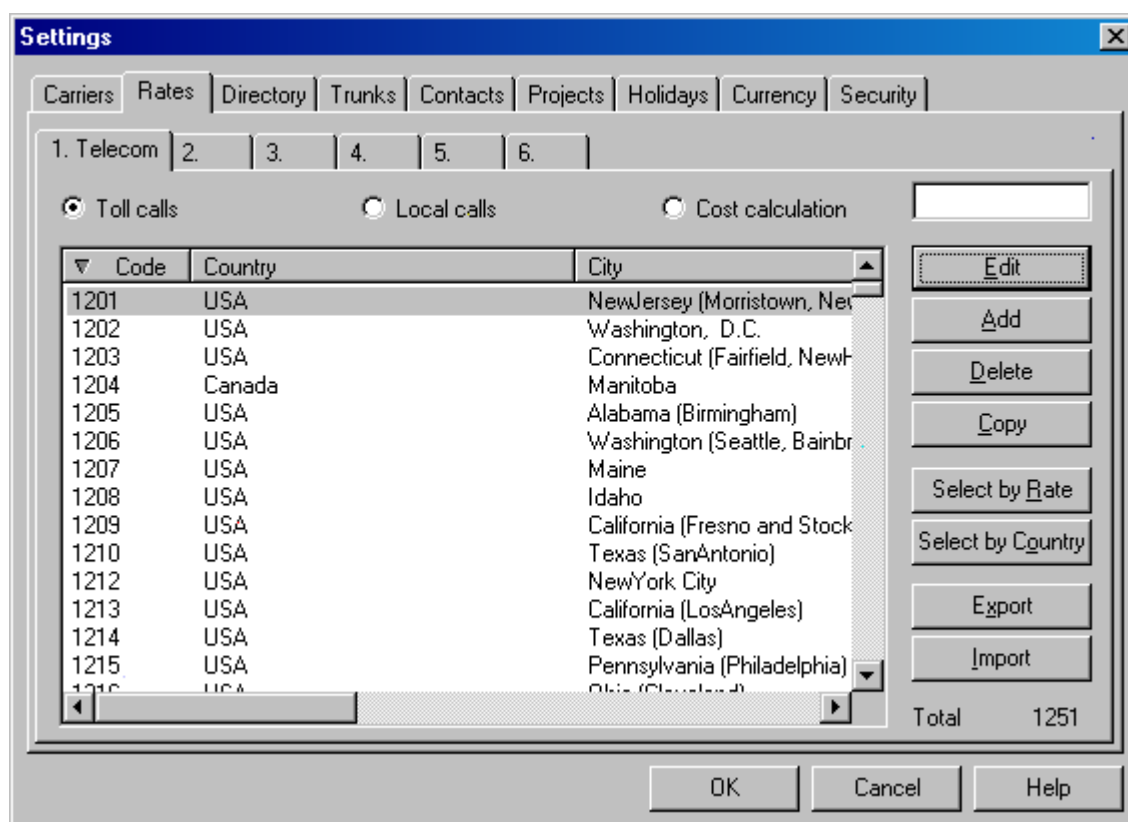
Click on the column header to sort the list alphabetically by the corresponding column. Click again to reverse sort order.

- **Edit** - modify selected record(s). *Keyboard shortcut - Enter.*
- **Add** - add new record to the list. *Keyboard shortcut - Insert.*
- **Delete** - delete selected record(s) from the list. Confirmation window will be displayed if you try to delete more than one record. *Keyboard shortcut - Delete.*
- **Copy** - modify selected record and add it to the list. Original record will remain intact. Use this command if you need to add a record that is different in only a few fields from the existing one.
- **Export** - export records to the formatted text file.
- **Import** - import records from the text file.
- **Total** - displays total number of records.
- **Quick find** - a tool to help you quickly find a matching entry in the list. As you type into the *Quick find* box, the first matching record is selected in the list.

Settings / Codes and Rates

This tab organizes international country and city codes database, defines rates for all call types and destinations for each carrier and allows to change call cost calculation rules.

The data are split into three sections. You can select the section by clicking on the corresponding radio-button. Select the carrier to view/edit by clicking on its name.



Toll calls

This section defines rates for outgoing long distance and international calls. Each destination is represented by unique international *Code*, *Country* and *City* name as well as rate definitions for each carrier. *Country* and/or *City* name will be displayed in the *Destination* column of main calls list window.

- **Code** - international dialing code of the destination. It consists of mandatory country code and optional city code (areacode). *For example, international code of Washington, D.C. is "1-202".*
- **Country** - country name.
- **City** - optional city name, name of the mobile phone company or service provider.
- **Rates** - rate definitions. **PBX Call Tarifficator Pro™** supports up to 4 different rate definitions for any given destination.

Additional interface commands:

- **Select by Rate** - select all records that have the same rate definition as the current one.
- **Select by Country** - select all records that belong to the same country as the current one.

Local calls

This section defines rates for outgoing local calls and incoming calls. Just select call type and click **Edit** button. The rate editor is the same as in *Toll calls*.

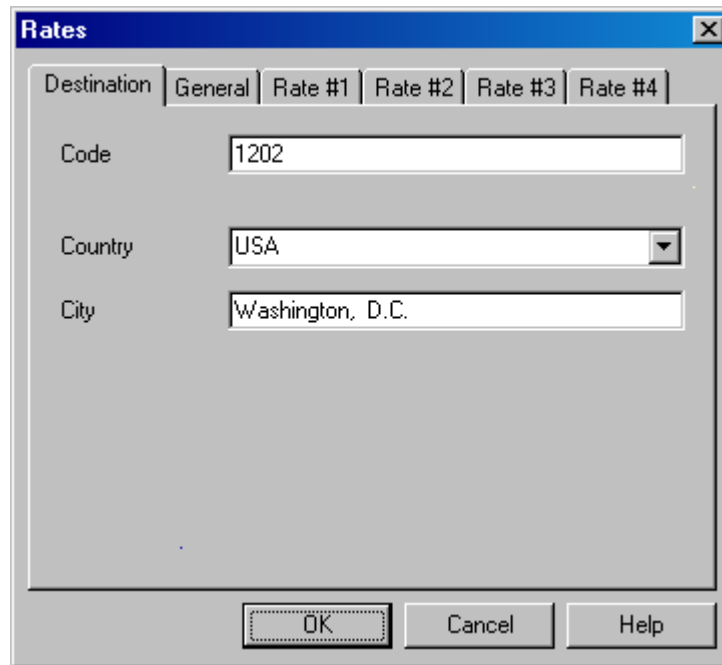
Cost calculation

This section defines call cost calculation rules for each carrier.

- **Use supplied call cost** - digital CO lines (*ISDN, PRI, T1/E1*) provide the ability to transmit exact call cost from phone company to the PBX system. PBX system in turn outputs this information to SMDR for each call record. *This service depends on PBX model and your phone company!*
- **Use supplied metering pulses** - some phone companies use *12/16 kHz* metering pulses which are transmitted through analog CO lines. Many PBX systems are able to account such pulses and present this information in SMDR records for each call. *This service depends on PBX model and your phone company!*
- **Currency** - use selected currency for supplied call cost or metering pulses.
- **One pulse equals** - define unit cost when using supplied metering pulses. This value is multiplied by the number of pulses for each call to get total call cost.
- **Grace period** - define number of seconds which would be subtracted from the duration of every *Local, Long distance, International* or *Incoming* call when **PBX Call Tarifficator Pro™** calculates call cost. The displayed call duration is not altered. Grace period should start after dialing ended and stops after the call is answered. If your PBX system is connected to the phone company using POTS analog CO lines, you can try to minimize errors in cost calculation by adjusting this value.
- **Global cost modifier** - apply this modifier to all calls for the given carrier. You can use this field to add tax value to call cost. Default value is 100% which means no modification. Value of 200% means twofold increase.
- **Use call start rate for all call** - only first matching time segmented rate definition will be used to calculate call cost.

Settings / Destination

This tab contains international dialing code and description of a destination. These data are common for all carriers, while rate definitions can be different for each carrier.



The screenshot shows a dialog box titled "Rates" with a close button (X) in the top right corner. The dialog has five tabs: "Destination", "General", "Rate #1", "Rate #2", "Rate #3", and "Rate #4". The "Destination" tab is selected. It contains three input fields: "Code" with the value "1202", "Country" with a dropdown menu showing "USA", and "City" with the value "Washington, D.C.". At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

- **Code** - international dialing code of the destination. It consists of mandatory country code and optional city code. You cannot add two destinations with the same code, but you can have separate destinations for the whole country ('1' for U.S.A.) and for each city ('1202' for Washington).
- **Country** - country name.
- **City** - optional city name, name of the mobile phone company or service provider.

Settings / General rate definition

This tab defines common cost calculation rules for a given destination.

- **Currency** - select main or alternative currency to use for this destination. If alternative currency is used, call cost will be automatically converted to main currency using current exchange rate.
- **Min. call duration [MD]** - phone company charges you only if call duration exceeds this time.
- **Min. call cost [MC]** - any connected call should cost no less than the value defined here.
- **Initial time unit [IT]** - don't apply time segmented rate definitions for the first [IT] seconds of the call.
- **Initial charge [IC]** - add this value to the cost of any connected call. Sometimes referred as call setup charge.
- **Round call time to [RT]** - round call duration to [RT] number of seconds. Useful if the phone company charges you by the number of [RT] second intervals. If you check **Discard remainder** checkbox, rounding is done down to nearest complete interval and any remainder is discarded.

Example

Phone company rate:

- charge by 180 second units
- \$0.30 for the first unit
- \$0.10 for subsequent units
- calls less than 20 seconds are free

PBX Call Tarifficator Pro™ rate definition:

- [MD] = 20
- [IT] = 180
- [IC] = \$0.30
- [RT] = 180
- Rate#1 : Active on *Everyday, 00:00 - 00:00*, rate \$0.10 per unit (180 sec)

Settings / Time segmented rate definitions

Rate# tabs define time segmented rates for a given destination. You can set up to 4 different rate definitions. Only definitions marked as *Active* are actually used while calculating call cost.

- **Active** - use this rate rate definition.
- **Apply on** - select weekdays to apply this rate rate definition. *Everyday* - any day, *Weekdays* - non-holidays only, *Holidays* - holidays only.
- **From, To** - set time interval when this rate definition is active. Use *00:00 - 00:00* if rate is active all day. Time interval can span across midnight (for example: *23:00 - 07:00*). Please make sure that time segments in different rate definitions don't overlap!
- **Rate** - call cost per minute / second or unit. When using units you should specify unit duration in seconds.

Example

Phone company rate:

- regular rate is *\$0.20* per minute
- discount rate is *\$0.10* per minute
- discount rate is used on holidays and from *22:00 to 08:00* on other days.

PBX Call Tarifficator Pro™ rate definition:

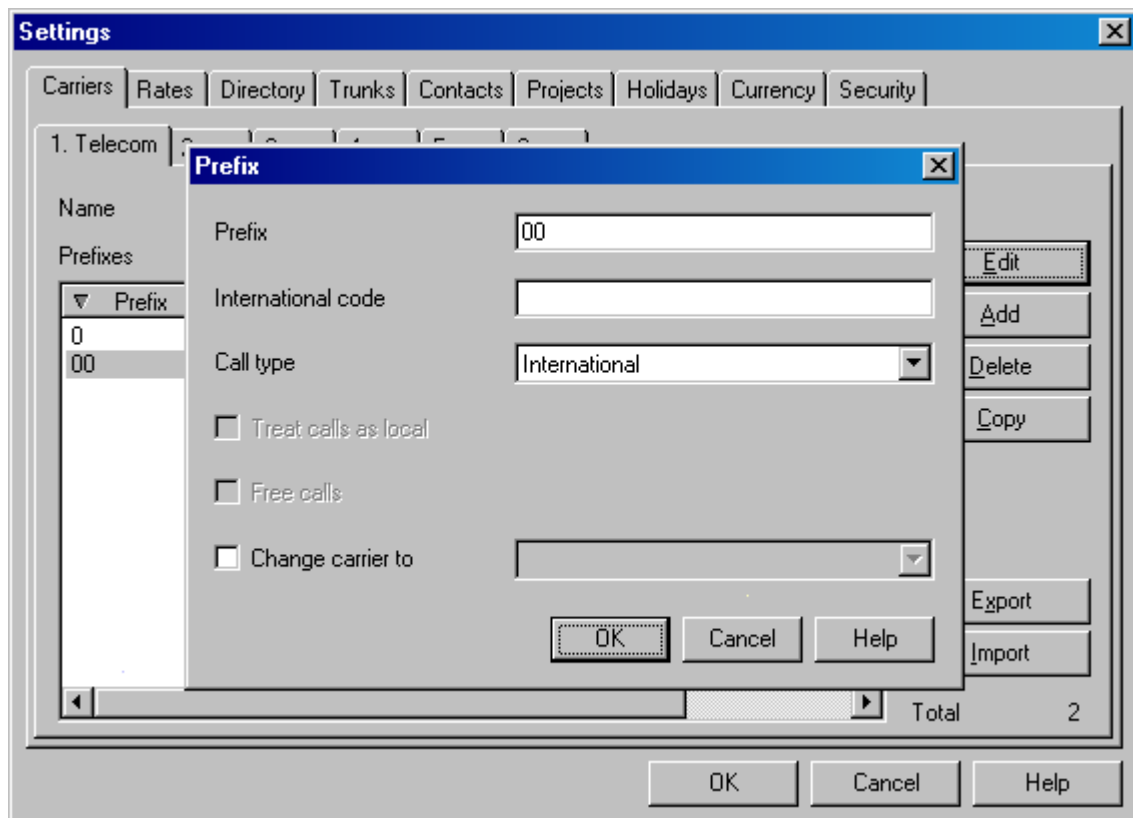
- Rate#1 : Active on *Weekdays*, *08:00 - 22:00*, rate *\$0.20* per *minute*
- Rate#2 : Active on *Weekdays*, *22:00 - 08:00*, rate *\$0.10* per *minute*
- Rate#3 : Active on *Holidays*, *00:00 - 00:00*, rate *\$0.10* per *minute*

Settings / Carriers

PBX Call Tarifficator Pro™ supports up to 6 carriers (telephony service providers) with different rate settings and dialing rules. There are carriers that are connected by physical trunks and IP-telephony providers. In the single carrier environment only first carrier is used.

All country and city codes in the database are stored in international format. PBX Call Tarifficator Pro™ maintains a list of dialing prefixes for each carrier to accommodate different dialing rules and distinguish *local*, *long-distance* and *international* calls, as well as up to 4 *user defined* call types.

Select one of the carriers from the nested tab. You can define name for the carrier in the Name edit box.



Dialing prefix definition fields:

- **Prefix** - enter dialing prefix.
- **International code** - define corresponding international country code for long-distance dialing prefixes.
- **Call type** - choose from predefined or user defined call types. You can assign names to user defined call types in preferences.
- **Change carrier to** - set this checkbox if you are defining prefixes for IP-telephony providers. Select IP-telephony carrier from the drop-down list.

For user defined call types you can also check extra fields:

- **Treat calls as local** - this prefix defines local calls. Call destination would not be determined and cost will be calculated based on outgoing local rate for the given carrier.
- **Free calls** - cost calculation will be disabled. Any call will be considered free.

Examples

1. Location: *Texas,USA*, country code: 1, Single carrier

Dialing rules:

- 1 - long-distance calls
- 011 - international calls

Define following prefixes for carrier #1:

Prefix	International code	Call type	Change carrier to
1	1	long-distance	
011		international	

2. Location: *Moldova*, country code: 373, Two carriers (main and IP-telephony provider)

Dialing rules:

- 02 - long-distance calls
- 00 - international calls
- 221010 - access IP-telephony provider

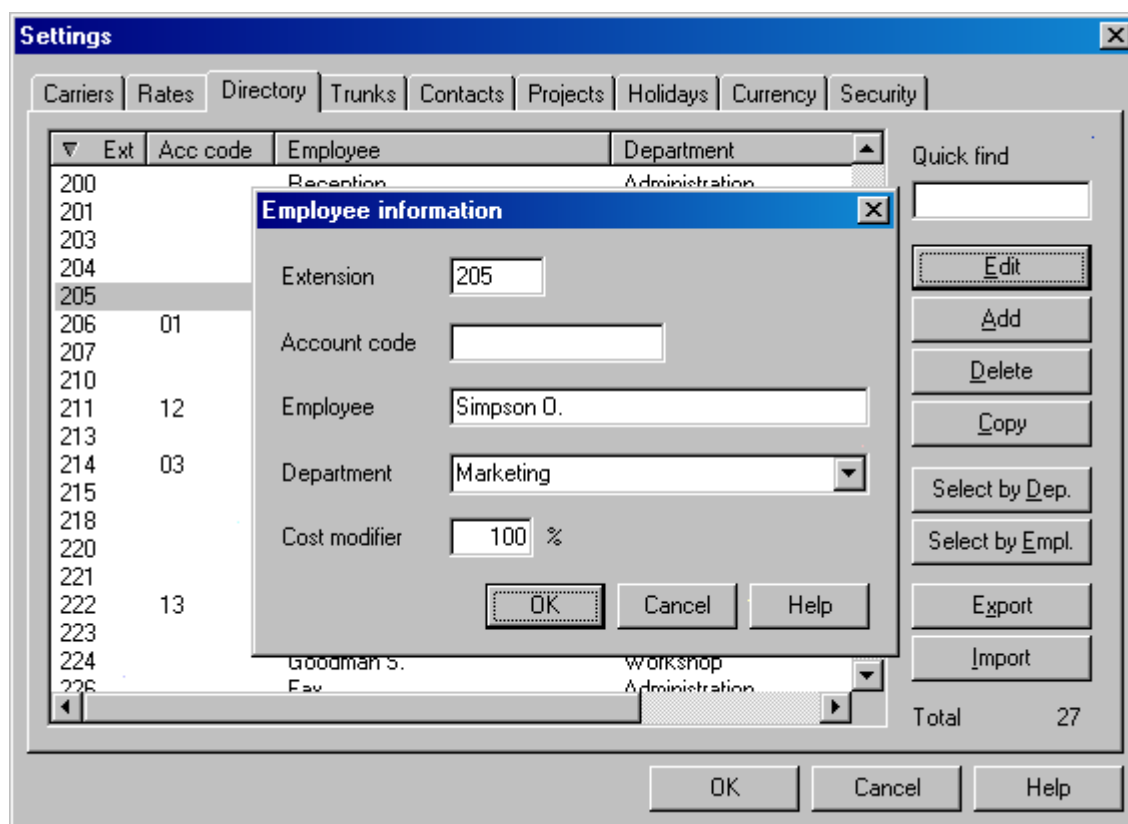
Define following prefixes for carrier #1:

Prefix	International code	Call type	Change carrier to
02	373	long-distance	
00		international	
221010		international	IP-telephony provider

Settings / Directory

PBX Call Tarifficator Pro™ maintains a database of employees which are using the PBX system. *Employee* name and *department* will be displayed in the corresponding columns of main calls list window.

For each employee you can assign multiple extension numbers and/or account codes. Employees can be grouped in departments for better structured reports and easier filtering.



- **Extension** - assign extension number to the employee. All calls made from or received at this extension will be traced to this employee.
- **Account code** - assign optional account code to the employee. Account codes are used to trace a call to this employee if he is calling from other extension. You can also use account code information to assign calls to different projects (accounts). See [Projects](#) for details.
- **Employee** - enter employee name.
- **Department** - enter department name or select one from the drop-down list.
- **Cost modifier** - apply this modifier to all calls originated from or received by by this employee. You can use it to give discounts or apply extra charges for certain employees. Default value is *100%* which means no modification. Value of *0%* means that all calls for this employee will be free of charge. Value of *200%* means twofold increase.

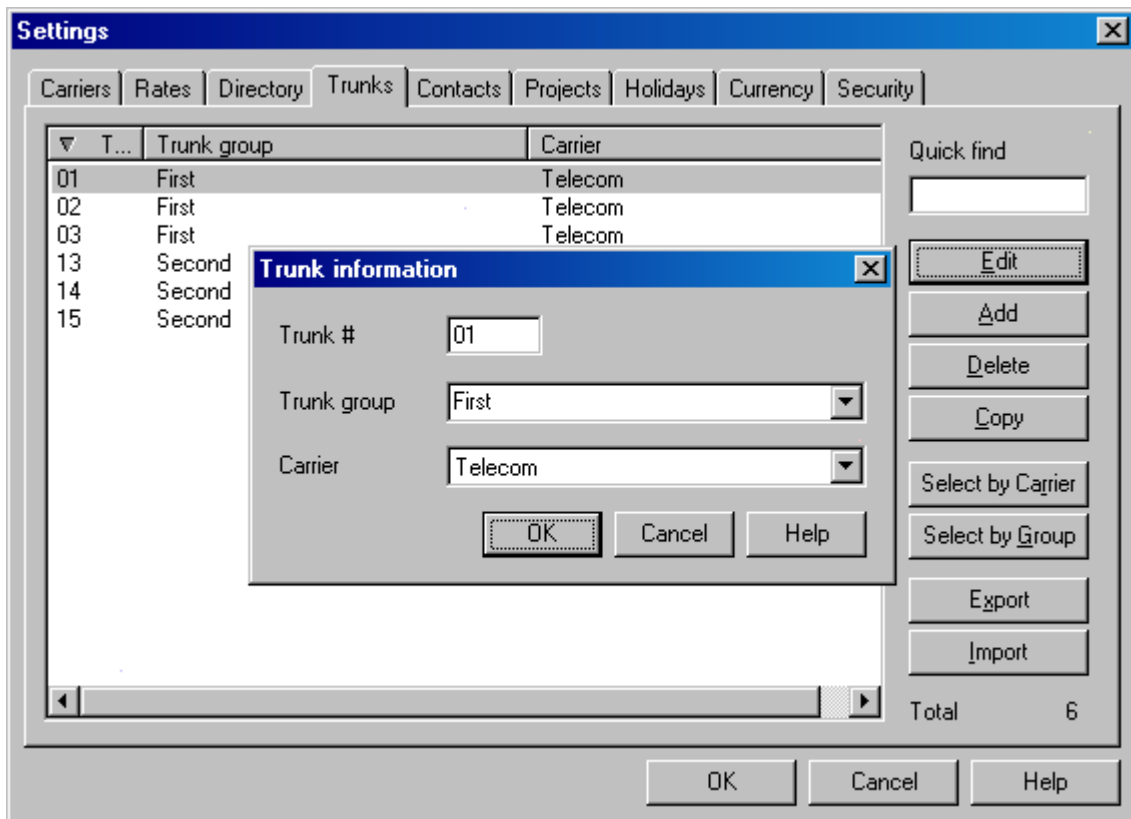
Additional interface commands:

- **Select by Dep.** - select all records that have the same department as the current one.
- **Select by Empl.** - select all records that list extensions and account codes of the current employee.

Settings / Trunks list

This tab helps you organize trunks into trunk groups and assign trunks to different carriers. All trunks not defined in this list belong to default carrier (#1). Group names will be displayed in the *Trunk group* column of main calls list window. It's also possible to filter and sort calls list by trunk groups and carriers.

- **Trunk #** - trunk number.
- **Trunk group** - enter trunk group name or select one from the drop-down list.
- **Carrier** - select carrier to which this trunk belongs.

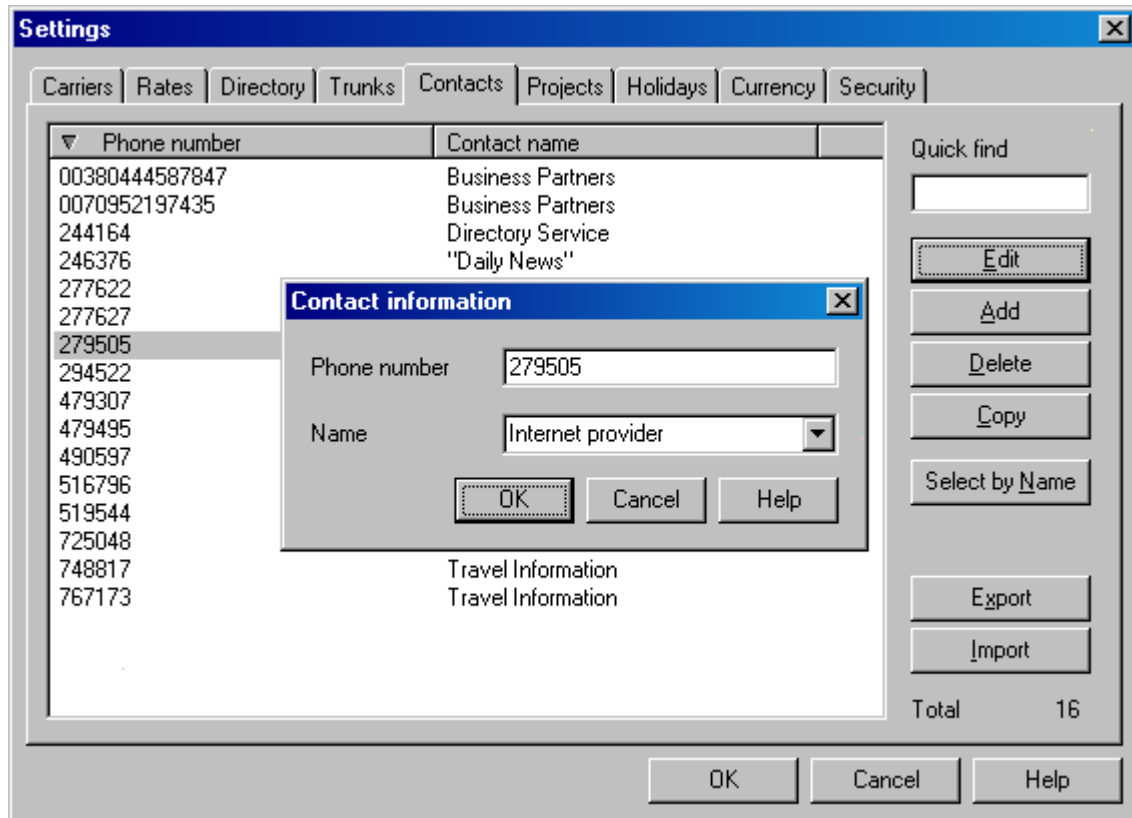


Additional interface commands:

- **Select by carrier** - select all trunks that belong to the same carrier as the current one.
- **Select by group** - select all trunks that have the same group name as the current one.

Settings / Contacts list

PBX Call Tarifficator Pro™ can assign names to the often used dialed numbers and Caller ID numbers. Names will be displayed in the *Contact* column of main calls list window. It is also possible to filter and sort calls list by Contact name.



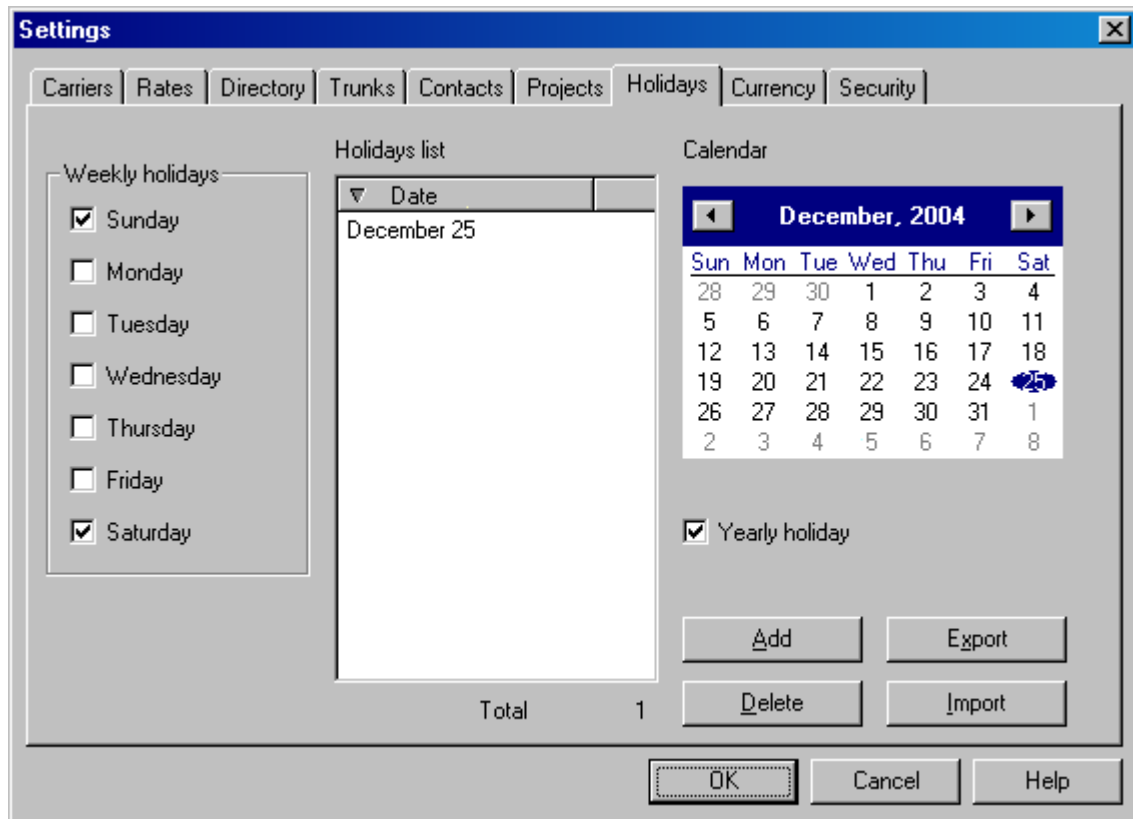
- **Phone number** - dialed number or Caller ID number to search. You can use wildcard (*) for any digit.
- **Name** - enter name or select one of the previously entered names from the drop-down list. It's possible to assign the same name to several different numbers.

Additional interface commands:

- **Select by Name** - select all records that have the same name as current one.

Settings / Holidays list

This tab allows to define the list of holidays. When *Calls Browser* calculates cost of the call it applies holiday discount rates based on this list.



- **Weekly holidays** - select which days of the week are considered holidays.
- **Holidays list** - user defined list of official holidays.
- **Calendar** - select date from the calendar and click **Add** to add it to the holidays list. Set **Yearly holiday** checkbox for the holidays that have same date every year.

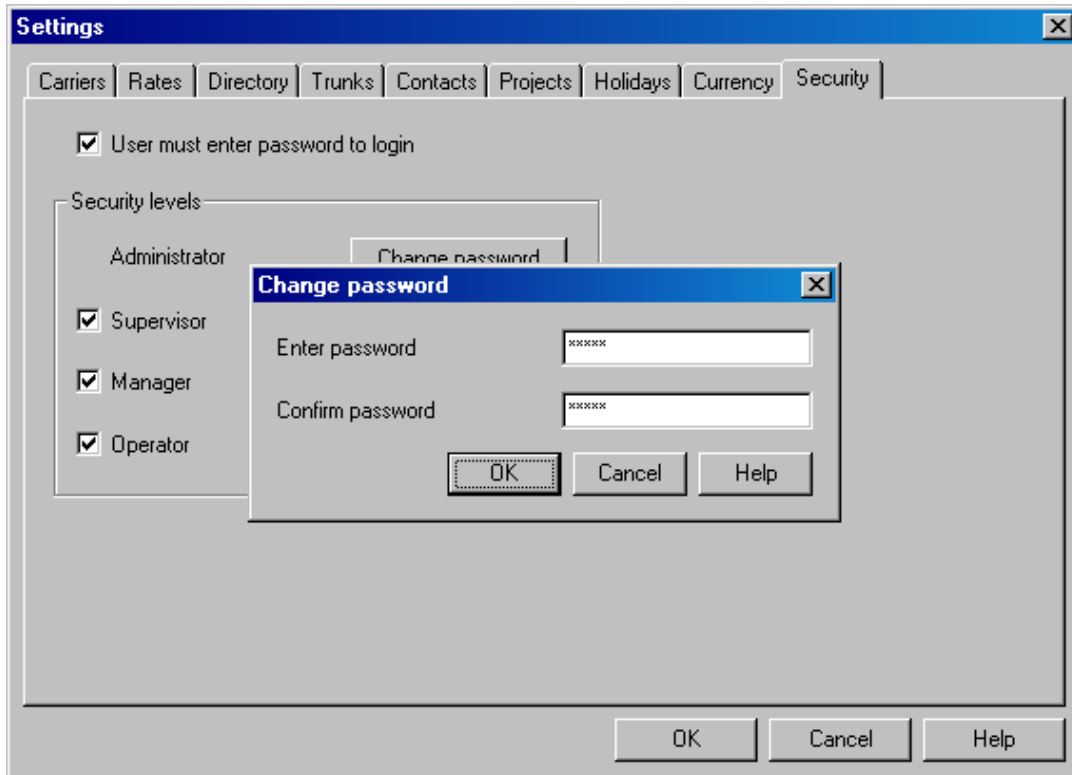
Settings / Currency

PBX Call Tarifficator Pro™ can use two different currencies to calculate costs of the telephone calls. This tab defines currency values formatting and exchange rate between two currencies.

- **Main currency / Override Windows settings** - this checkbox controls currency values formatting (call costs, total costs, etc.). You can use default *Windows Regional settings* (accessible from the *Control Panel*) or override them and define currency symbol, decimal separator, number of fractional digits, etc.
- **Alternative currency** - allows to control formatting of the alternative currency values. Alternative currency is used only in rate definitions.
- **Exchange rate** - defines exchange rate between main and alternative currency.
- **Use exchange rate history list** - if the exchange rate fluctuates you can define different rates for certain time periods. For each rate definition you set the starting date. *Calls Browser* will automatically use appropriate rate definition for each call depending on call date. If there's no suitable rate definition in the list, fixed exchange rate is used.

Settings / Security

Calls Browser provides four access levels (*Administrator*, *Supervisor*, *Manager* and *Operator*) to functions and commands. This tab is used to setup access restrictions.



- **User must enter password to login** - globally enable access restriction system. User will be prompted for a password every time *Calls Browser* is started. Entering correct password selects one of the access levels.
- **Security levels** - individual access levels can be enabled or disabled separately.
- **Change password** - set and confirm new password for this level. Passwords can be empty (default). If the same password is set for more than one level, higher security level will be selected on login.

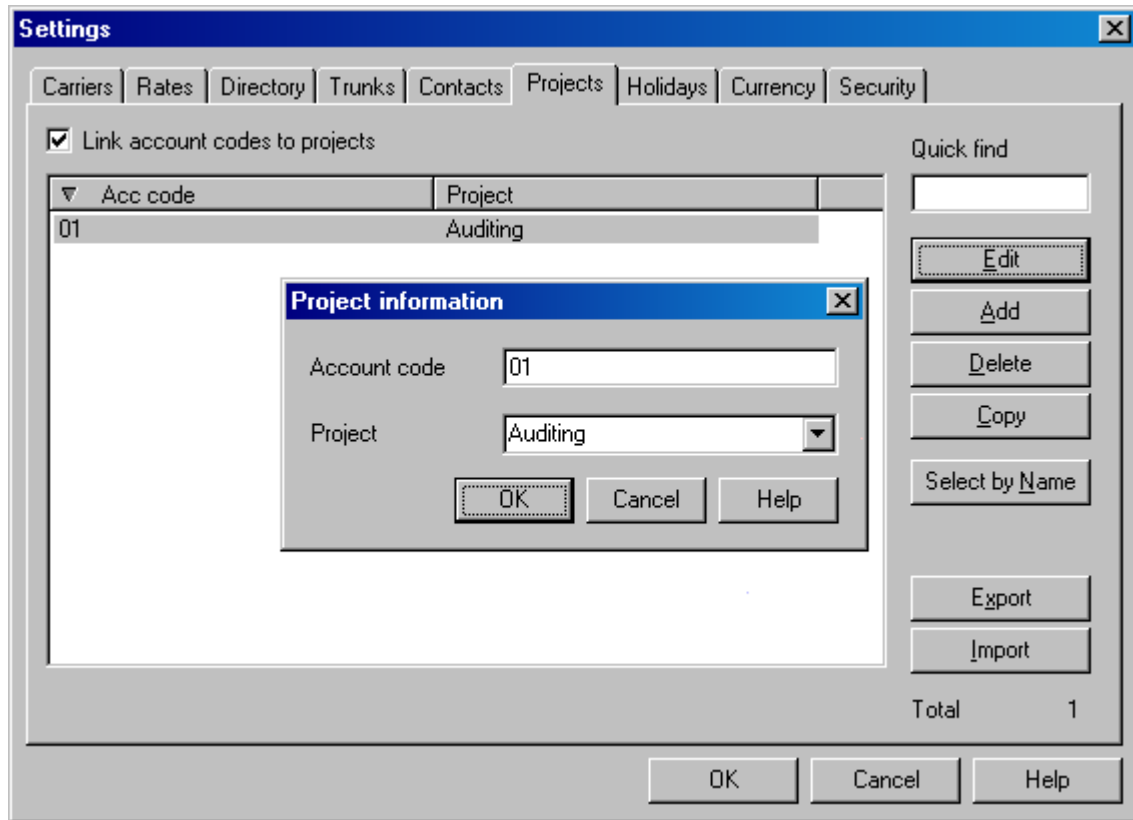
Access restriction table

Function	Min. security level
Change security passwords and access levels	Administrator
Switch between <u>network</u> and local installation modes	Administrator
Edit <u>language packs</u>	Administrator
Edit <u>settings</u>	Supervisor
Change <u>preferences</u>	Supervisor
Save call database files	Manager
Export call database files	Manager
Hide selected call records	Manager
Manage <u>filters</u>	Manager
Open and browse call database files	Operator
Print <u>reports</u>	Operator

Settings / Projects

PBX Call Tarifficator Pro™ can use account code information to assign calls to different *projects* (accounts). To use this feature you should set **Link account codes to projects** checkbox. Project names will be displayed in the *Project* column of main calls list window. It is also possible to filter and sort calls list by Project name.

Please note that using *Projects* will disable *Account code* field in *Employee* records in the Directory list. You can use *Account code* either for *Employees* or for *Projects* but not simultaneously.



- **Account code** - assign account code to the project.
- **Name** - enter name or select one of the previously entered names from the drop-down list. It's possible to assign the same name to several different account codes.

Additional interface commands:

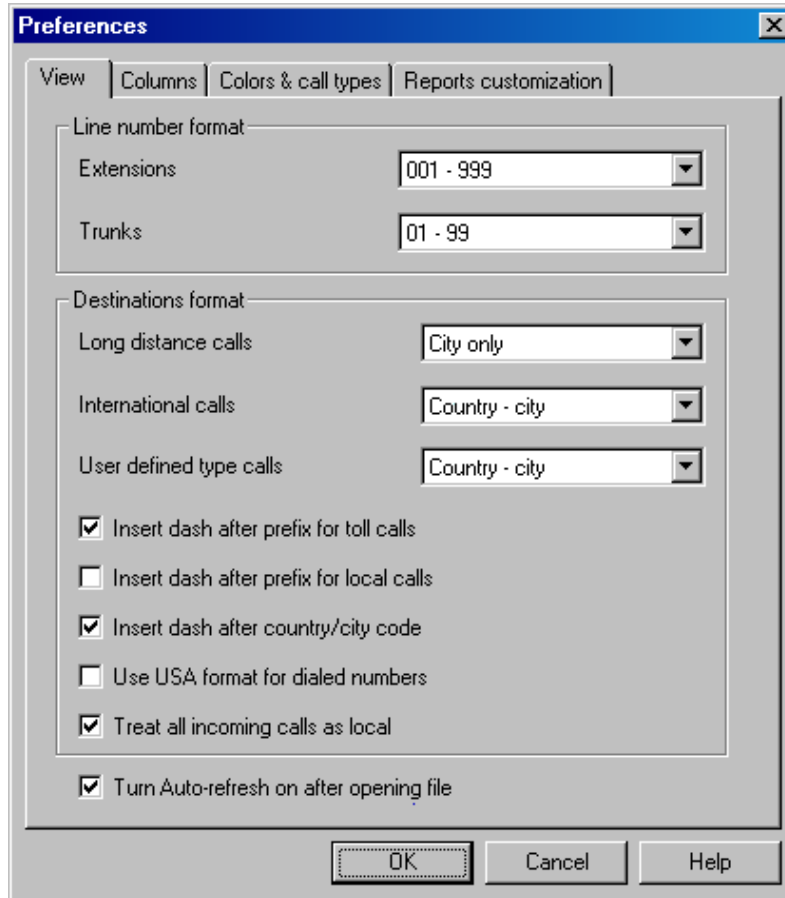
- **Select by Name** - select all records that have the same name as current one.

Preferences

Preferences window allows the user to customize look and feel of the software.

Preferences / View

This page defines how extension, trunk and dialed numbers are displayed in all windows, including calls list, reports, etc.

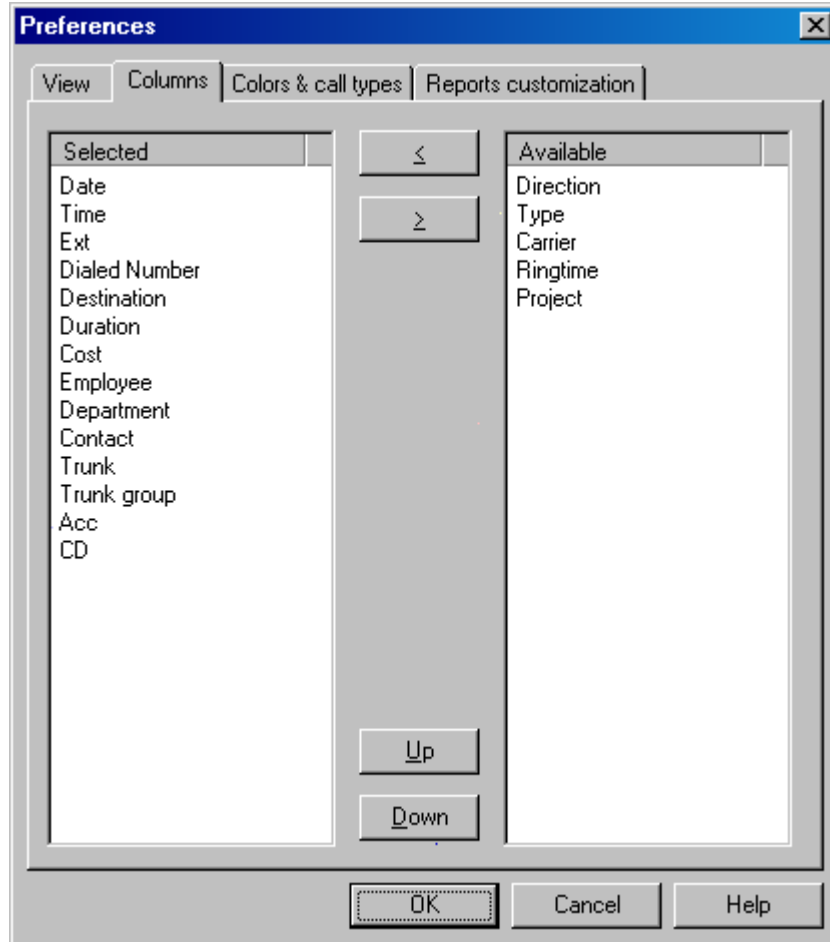


- **Line number format** - select number of digits in the extension and trunk numbers. Extension numbers can contain 1 to 5 digits and trunk numbers - 1 to 6 digits. As **PBX Call Tarifficator Pro™** works with many different PBX systems, this option allows to select format that best matches your system.
- **Destinations format** - define how destinations for long-distance and international calls, as well as for user defined call types are displayed. You can choose from **Country**, **City** or **both**. Note that this setting affects filtering and grouping calls by destination.
- **Insert dash after prefix** - if this option is enabled, prefix and the rest of the dialed number will be separated by dash sign.
- **Insert dash after country/city code** - if this option is enabled, country/city code and local dialed number will be separated by dash sign.
- **Treat all incoming calls as local** - if this option is enabled, *Calls Browser* will not attempt to determine the type and origin of the incoming call. All incoming calls will be shown as local.
- **Use USA format for dialed numbers** - display dialed numbers in the following format: *'1-aaa-nnnnnnn'*, where *aaa* is areacode and *nnnnnnn* is local dialed number. This rule apply to all dialed numbers that start with '1' prefix and are 11 or more digits long, regardless of the call type and direction.
- **Turn Auto-refresh on after opening file** - Auto-refresh feature will be automatically turned on after you open calls database file. You can however switch it on and off manually anytime.

Preferences / Columns

This page defines main calls list window layout. You can remove the columns you don't need and change the order of columns.

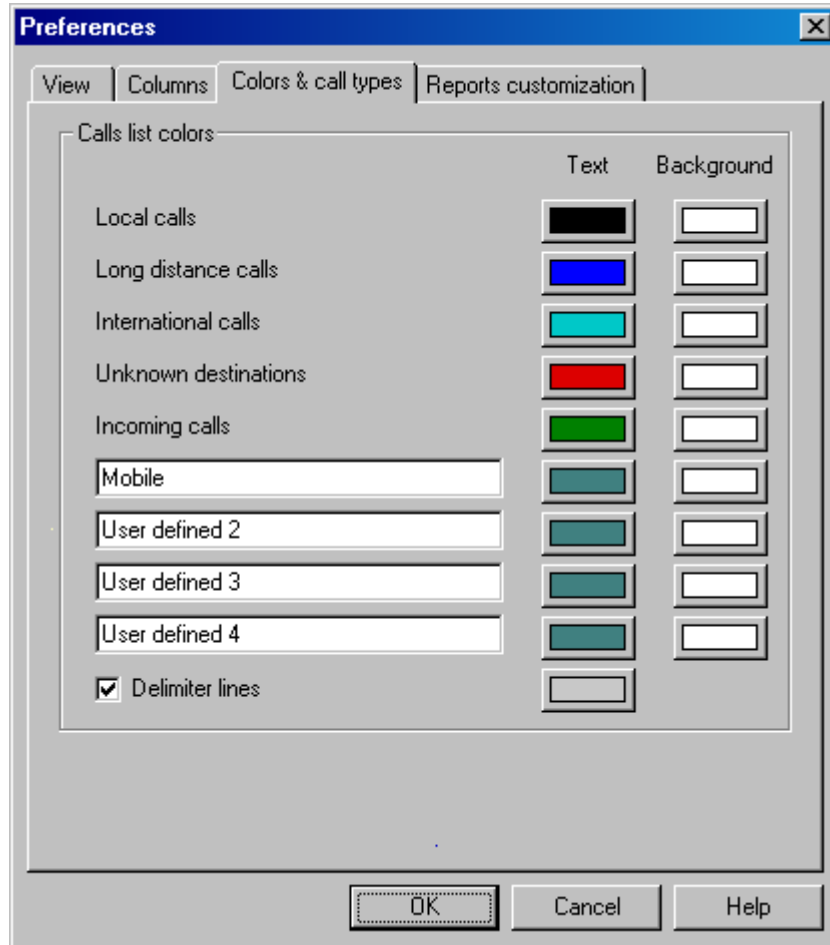
Use < and > buttons to move columns between **Selected** and **Available** lists. Use **Up** and **Down** buttons to change columns order.



Preferences / Colors and call types

This page defines main calls list window color palette. It also allows to assign names to user defined call types.

You can change the text color and background for local, long-distance, international, incoming calls and user defined call types, as well as for calls to unknown destinations. It's also possible to change color or turn off delimiter lines. Select white background to use Windows system color.



Preferences / Reports customization

PBX Call Tarifficator Pro™ reports can be easily customized to include your Company name, Address, Phone number(s) and two lines of custom text. Just fill in the fields on this page.

For advanced reports customization see [Report Generator](#) documentation in the on-line help manual.

The screenshot shows a 'Preferences' dialog box with a blue title bar and a close button (X) in the top right corner. Below the title bar is a tabbed interface with four tabs: 'View', 'Columns', 'Colors & call types', and 'Reports customization'. The 'Reports customization' tab is selected and contains the following fields:

- 'Company name': An empty text input field.
- 'Address': A text input field with a vertical scrollbar on the right side.
- 'Phone(s)': An empty text input field.
- 'Custom text line 1': A text input field containing the text 'PBX Call Tarifficator Pro'.
- 'Custom text line 2': An empty text input field.

At the bottom of the dialog box, there are three buttons: 'OK', 'Cancel', and 'Help'.