

SAVE UP TO 30% ON YOUR TELEPHONE BILL

TARIFER



Picture 1

TARIFER is program for collecting data about achieved traffic over main telephone exchange.

It records outgoing calls and calculates costs, either with 16 KHz signal or autocalculation, and ingoing calls.

If the price of impulse changes unexpectedly, this program will calculate costs retroactive.

There would be simply addition or data base exchange of area codes, if the local provider's prices changed.

Possibility of report percolation about traffic (for example, only foreign calls, or just calls according to mobile phones, or calls according to both abroad and cell phones, etc.)

Hotel version of this program has possibility of managing up to 5 call boxes, publishing account to a customer/hotel guest, non paying and outstanding calls, and reports about effectuated traffic per shift at the recepcion desk.

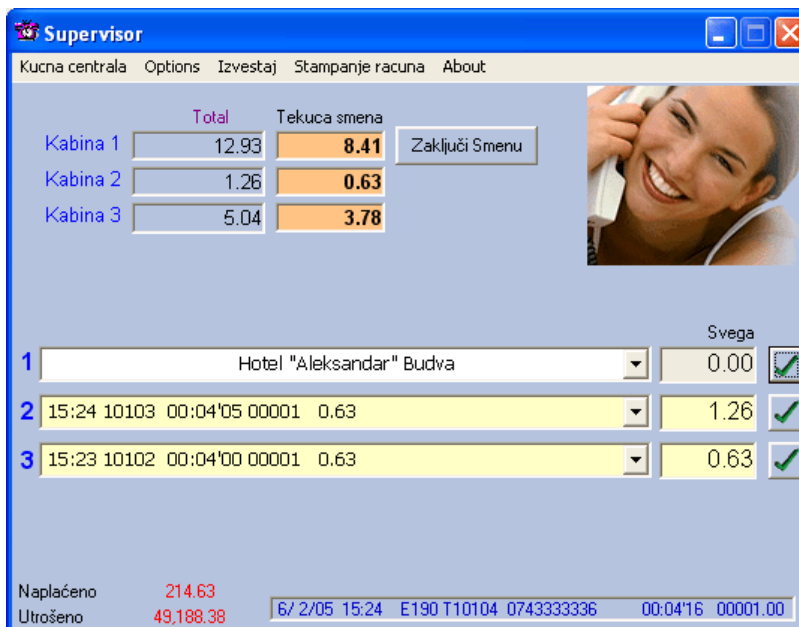
This program could be minimizing after running as you could continue your work unobstructedly.

After preliminary window (*Picture 5*), the main form appears which, except menu, contains fields that display existing call boxes' status (Hotel version). In that form is queue where we could see effectuated calls. Also, we could see immediate traffic through the telephone system.



After instalation, at the moment of reception the first datum about officiated call via telephone system, there is form (Picture 5) where we should note parameter neccessary for calculating costs.

Telephone systems send data about officiated calls in textual form, and because of that we should define positions where we could find some data about those calls. Telephone systems send data about completed calls



	Total	Tekuca smena
Kabina 1	12.93	8.41
Kabina 2	1.26	0.63
Kabina 3	5.04	3.78

Svega: 0.00

1	Hotel "Aleksandar" Budva	0.00	<input checked="" type="checkbox"/>
2	15:24 10103 00:04'05 00001 0.63	1.26	<input checked="" type="checkbox"/>
3	15:23 10102 00:04'00 00001 0.63	0.63	<input checked="" type="checkbox"/>

Naplaćeno: 214.63
Utrošeno: 49,188.38

Status bar: 6/ 2/05 15:24 E190 T10104 0743333336 00:04'16 00001.00

in textual form, and because of that we need to determine positions of some of those data. Since the positions of some data vary in dependence of telephone system type and its performance, it is necessary to note those requested positions in text stalls. During data registration the Wizard Merlin will help you with offering separated data positions and on those bases you will fill out a form easily. If you in the main form set cursor at the left corner and do right mouse click with holding SHIFT, the Wizard will show up. Beside the picture of girl, picture of gear will show up and after receiving first data about officiated call the Wizard form is starting (Picture 5).

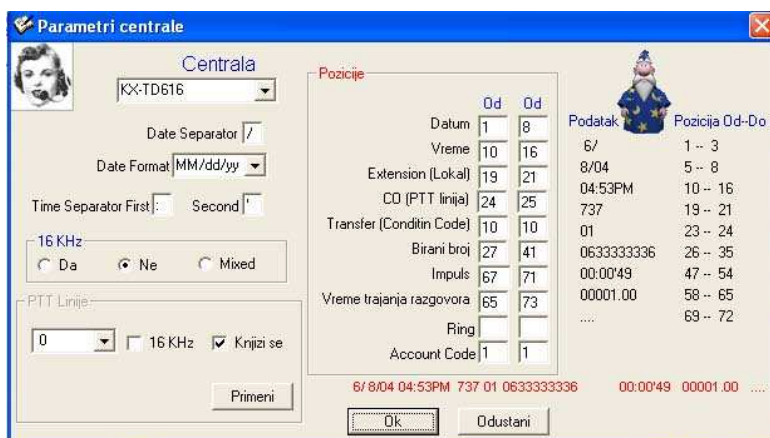
Under the picture of Merlin there are assumed, separated data with their positions. At the bottom of this form is red-colored string which is got from main telephone exchange. In this case, date is written without leading zeros (6/ 8/04 instead of 06/08/04) and because of that programme participated that data on two parts. If we wanted to detect main telephone exchange data successful we should note digits from 1 to 8 in data fields. That case should happen with time also (4:53 PM instead of 04:53 PM).

Next datum (737) is number of extensions, and then number of CO lines.

Selected number can be longer than number in example (for example, when we call foreign countries) and because of that we have to predict its growth on the right side and in selected example instead of acception proposal from 26 to 35, we have to note digits from 26 to 41 in field 'Birani broj'. Next datum is time duration call, and after that there is datum about spent impulse as the main telephone exchange has PayTone card.

If the main telephone exchange has PayTone card, it will be neccessary to set 1 for price per each impulse (in the setup) and we will get the number of impulse in reports (we set price in programme and we can change it). If we look at the picture (the example), datum about price of telephone call will be presented as number with leading zeroes and two decimal places (we can change number of decimal places in setup). In this example we should write in from 58 to 62 for impulse (decimal places are not taken into consideration).

Important impulses could be written without leading zeroes (e.g. 1.00 instead of 00001.00) and, in that case, we should predict that field for impulse should be expanded from the left side.



Pozicije		Podatak	
Datum	1 8	6/	1 -- 3
Vreme	10 16	8/04	5 -- 8
Extension (Lokal)	19 21	04:53PM	10 -- 16
CD (PTT linija)	24 25	737	19 -- 21
Transfer (Condition Code)	10 10	01	23 -- 24
Birani broj	27 41	0633333336	26 -- 35
Impuls	67 71	00:00:49	47 -- 54
Vreme trajanja razgovora	65 73	00001.00	58 -- 65
Ring		69 -- 72
Account Code	1 1		

Picture 2

On this form there is a dialogue for picking calculation mode of completed calls. Either calls could be calculated on the basis of time duration call and data about impulse duration or we could use 16 KHz signals which are given by provider. Also, some lines we could auto calculate and some we could calculate with 16 KHz signal. In that case we should select option button Mixed and choose lines where we should use auto calculation and lines with 16 KHz signal. Also, we could select lines either for calculation or not.

This form you can start from menu Options -> Centrala.

Menu Options -> Setup runs the form *Picture 3*.

Programme parameters could be changed in this dialogue.

For example, if organisations that did not calculate telephone calls but they used programme for periodically control of completed traffic throughout main telephone exchange, we should check out *Login Dijalog*, check *Rad u pozadini* and *Automatsko pokretanje programa*. Then, when we turn on our computer the programme would be started automatically without asking Username and password and would pull out into the icon on Status bar (from where it could be called) and would not disturb usual work on that computer.

Marked option *Automatsko brisanje zastarelih poziva* will erase all calls which are completed before the period from text box *Zastereli pozivi su stariji od XX dana*, and so on.

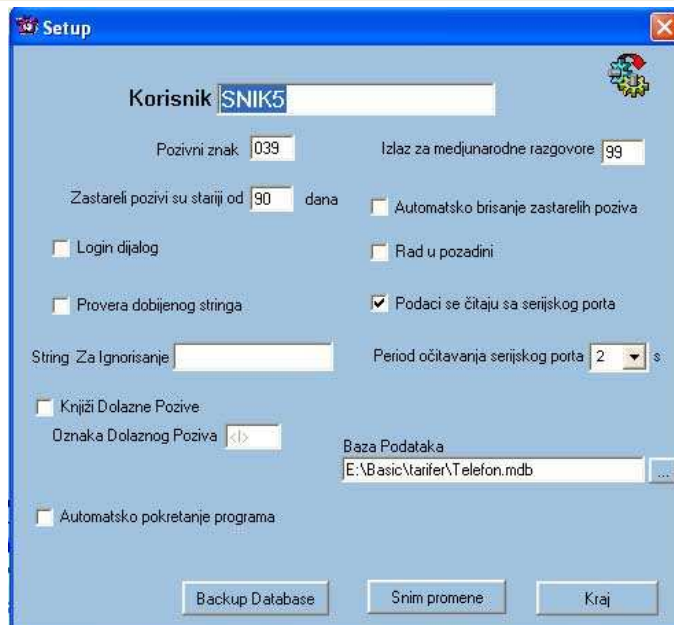
If the main telephone exchange send data that should be ignored¹, we will enter string which is going to be rejected by programme detection. If there are more than one string sent by main telephone exchange and they aren't data about completed or incomming calls, we shall separate them with comma.

If we want remote control of this programme, from computer which is not connected with main telephone exchange, we will check out *Podaci se čitaju sa serijskog porta* and, in the field *Baza Podataka* pick file where we can find data we want to read.

If the main telephone exchange has Caller ID function, it will be possible to include recording incomming calls², and in that case we are going to enter string which marks incomming call (default <I>) in the field *Oznaka dolaznog poziva*.

¹ E.g. main telephone exchange KX-TDA100 send data about printer condition as „12/04/05 Disconnected printer”, and if we want to ignore those data we'll note “Disconnected” in the field polje string za ignorisanje. In the future, programme will look for noted string in data which are got from the main telephone exchange, and if it really exists programme won't process that datum.

² Prerequisite for incomming calls reception is those data should be received by the main telephone exchange which has that option turned off in manufactured adjustment.

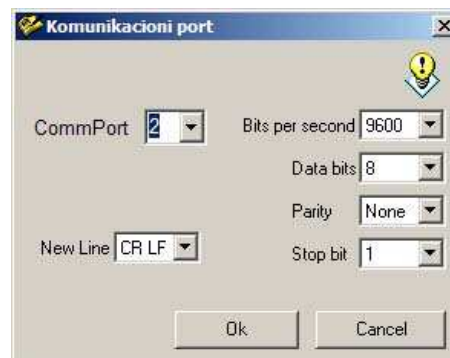


Picture 3

Parameters of serial communication are picking from form which are starting from main form with running Options-> DataSource. These parameters have to be same as parameters that are adjusted on main telephone exchange.

Personal computer and main telephone exchange are connecting with RS232 cable.

Cable main telephone exchange-computer could have only three connected lines in the case of larger length.



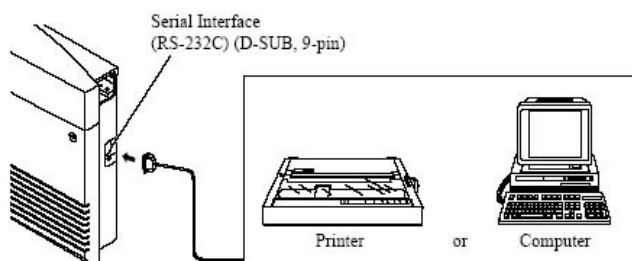
MainTelephoneExchange

Tx →
DSR →
Signal Ground(SG) →

Computer

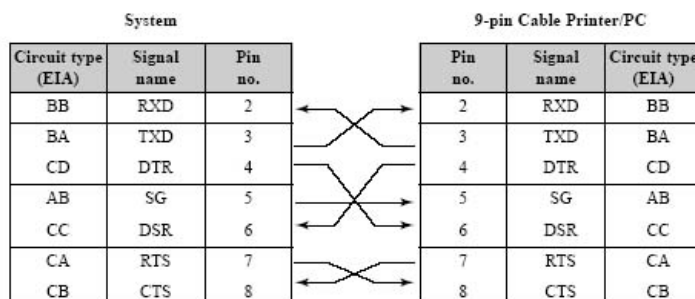
Rx
DTR
Signal Ground(SG)

Because data is transmitting with voltage levels here, cable length can be longer then in specification for RS232 cables. That communication works on the distances longer than 20 m, also. The longer cable length, less transmission rate.



Picture 4

In the other cases cable should be made as in the following scheme (Picture 5).



Picture 5

Selecting item **Izveštaji o obavljenim razgovorima** the form, where we can see and print various reports, is starting.

As you can see on this picture, from the whole report, only foreign and 063 network's mobile calls are presented (if it was written only 06 instead of 063, the report would be present mobile calls from all networks and providers 063, 064, 069, etc.)

If we don't enter any datum in the form (empty fields lokal and Linija, and do not enter anything in the field filter), the programme will print obligations per each extension by pressing print of Izveštaj (Picture 9).



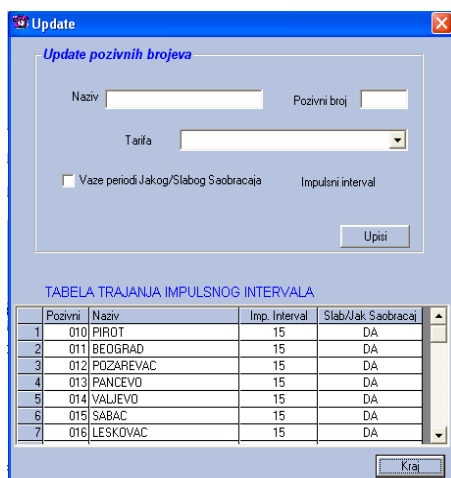

When we create report we can create groups of extensions also. It can be used in companies where we wish to have full control over extension group.

Subprogramme is starting from menu **Izveštaji -> Grupe lokala** where we can see and print Grupni izveštaji and create groupes at the same time.

Dopuna Baze Pozivnih brojeva. (**Options -> Dopuna baze Poz.brojeva**) If completed calls autocalculate, there will be need for maintenance of incoming calls data base.

If you get "Za pozvani broj XXXXX nemam podatke o cen³" on the main form, you will choose Tarifa in form from picture which is starting from menu Options->Dopuna baze poz. brojeva.

Enter Naziv lokacije and its area code, and then you choose tariff for calculation call costs which will show impulse's duration interval for selected location. After selected tariff Check box, where you can see if the periods of low traffic are valid for calling selected location (periods with lower price for specific percentage), will become unreachable for changing. That means for selected tariff these periods are not valid (e.g. for international callings).



Update

Update pozivnih brojeva

Naziv: Pozivni broj:

Tarifa:

☐ Vaze periodi Jakog/Slabog Saobracaja Impulsni interval

Upisi

TABELA TRAJANJA IMPULSNOG INTERVALA

Pozivni	Naziv	Imp. Interval	Slab/Jak: Saobracaj
1	010 PIROT	15	DA
2	011 BEOGRAD	15	DA
3	012 POZAREVAC	15	DA
4	013 PANCEVO	15	DA
5	014 VALJEVO	15	DA
6	015 SABAC	15	DA
7	016 LESKOVAC	15	DA

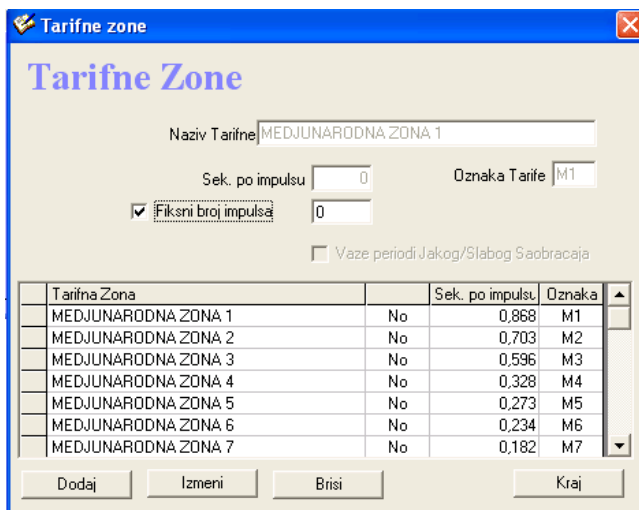
Kraj

Entering data about tariff areas and their changing you can do by moving programme **Options -> Tarifne Zone**. The dialogue will show up (as in a picture).

If new tariff area adds, fields for recording will empty and allow entering data by pressing button *Dodaj*. Then you will enter name of Tarifna zona, impulse time duration in seconds, oznaka tarife³ and mark option *Važe periodi slabog saobraćaja* if the periods of low traffic are valid for that new area.

Telekom Srbija for some locations calculates fixed number of impulses per each call, like in case of calling number 95 (the exact time) where in the moment of starting call 3 impulses have already spent. For such calls we should create "Zone" and mark option *Fiksni broj impulsa* and enter number of impulses in matched field.

After pressing button *Upiši*, you will check existence of recorded area code, and if there isn't such code you'll enter a new note, but if there is you'll change data in data base after warning message.



Tarifne zone

Tarifne Zone

Naziv Tarife:

Sek. po impulsu: Oznaka Tarife:

☒ Fiksni broj impulsa:

☐ Vaze periodi Jakog/Slabog Saobracaja

Tarifna Zona	Sek. po impulsu	Oznaka
MEDJUNARODNA ZONA 1	No	0,868 M1
MEDJUNARODNA ZONA 2	No	0,703 M2
MEDJUNARODNA ZONA 3	No	0,596 M3
MEDJUNARODNA ZONA 4	No	0,328 M4
MEDJUNARODNA ZONA 5	No	0,273 M5
MEDJUNARODNA ZONA 6	No	0,234 M6
MEDJUNARODNA ZONA 7	No	0,182 M7

Dodaj Izmeni Brisi Kraj

³ You select Oznaka tarife by yourself, but you have to pay attention on existing on such datum.

CALCULATION COSTS

Calculation costs of PTT services are doing either on the basis of received signals from Telekom Srbija if they exist or with autocalculation, which on the basis of calling number, time duration call and data about time duration of impulse's interval which are in internal data base, is calculating costs.

Important: In case of autocalculation, there is possibility for certain error in two reasons

1. Main telephone exchange can not detect making connection, and because of that, time duration call can be incorrect. After selecting telephone number you want to call, main telephone exchange is starting measuring time of conversation (beginning of measuring time can be programmed on the main telephone exchange).

2. Telephone service's provider can change mode of calculation telephone calls.

Because of that, calculation error in autocalculating is approximatively 3-8%.

Comment: If the telephone calls charge for (hotels, motels, telephone booth), there will be recommended to ask Telekom Srbija for service of 16 KHz impulse and there won't be any mistake.

Price of impulse sets in dialogue *PTT Linije* which is running from *Kućna Centrala* -> *PTT Linije*. (Picture 6)



	CO Line	Tel. Number	Cena	Start	Tarifiranje	Tarifni Paket
1	T10100	T10100	0,6074	0	Fiksna telefonija	
2	T10101	T10101			Mobilna telefonija	MobiKlik Standard
3	T10102	T10102	1	0	Fiksna telefonija	
4	T10103	T10103	0,6074	0	Fiksna telefonija	
5	T10104	T10104	1	0	Fiksna telefonija	
6	T10105	T10105	0,6074	0	Fiksna telefonija	
7	T10106	T10106	0,6074	0	Fiksna telefonija	
8	T10107	T10107	0,3037	0	Fiksna telefonija	
9	T10108	T10108	0,3037	0	Fiksna telefonija	
10	T10109	T10109	0,3037	0	Fiksna telefonija	

Picture 6

In this dialogue you can enter telephone numbers that belong to CO lines on main telephone exchange, and price of impulses. Prices are entering per each CO line. In the field Start price for making connection (Start) is entering. In this dialogue CO lines for calling cell phones (GateWay) are entering, also.

Retroactive changing prices for some period is possible in case of unexpectidly modification of telephone services. Meni Options -> Retroaktivna promena cena

Examples of printing reports *Picture 7*, *Picture 8* and *Picture 9*.
Currency in reports depends on regional setup in Windows.

Hotel 'Par'

nedelja 09.11.2003

TELEFONSKI RAČUN ZA SOBU: 1425

	Datum	Vreme	Tel. br.	Birani broj	Utrošeni impulsi	Trajanje razgovora	Cena
1.	14.07.2003	18:00	1425	011473511	00001	00:00:04	0,04
2.	15.07.2003	14:29	1425	011456979	00004	00:00:16	0,16
3.	15.07.2003	14:31	1425	0114569798	00004	00:00:20	0,16
4.	15.07.2003	18:21	1425	011988	00018	00:01:14	0,72
5.	17.07.2003	11:49	1425	011630401	00066	00:04:34	2,64
6.	22.07.2003	14:41	1425	0113240112	00048	00:03:14	1,92
7.	22.07.2003	15:38	1425	0113240112	00025	00:03:08	1,00
8.	23.07.2003	13:16	1425	0639863	00214	00:03:33	8,56
Ukupno:							15,20 \$

Picture 7

KUCNI

ponedeljak 17.10.2005

Linija: T10103 Od 01.01.2005 Do 17.10.2005

	Datum	Vreme	Lokal	TR	Birani broj	Impuls	Trajanje	Cena
1.	17.10.2005	17:46	E118		0540333336	2	00:04:05	2,40
2.	17.10.2005	17:45	E124		0213333336	20	00:04:55	24,00
3.	17.10.2005	17:45	E168		0863333336	35	00:04:38	42,00
4.	17.10.2005	17:44	E174		0293333336	36	00:04:42	43,20
5.	17.10.2005	17:44	E118		0533333336	2	00:04:53	2,40
6.	17.10.2005	17:44	E138		0863333336	34	00:04:29	40,80
7.	17.10.2005	17:44	E196		0303333336	18	00:04:26	21,60
Ukupno:								176,40 Din.

KUCNI

ponedeljak 17.10.2005

Lokal: E137 Od 01.01.2005 Do 17.10.2005

	Datum	Vreme	Lokal	TR	Birani broj	Impuls	Trajanje	Cena
1.	17.10.2005	17:49	E137		0623333336	129	00:04:16	129,00
2.	17.10.2005	17:47	E137		0973333336	2	00:04:14	2,00
3.	17.10.2005	17:43	E137		0323333336	19	00:04:41	19,00
4.	17.10.2005	17:43	E137		0353333336	20	00:04:51	20,00
Ukupno:								170,00 Din.

Picture 8

SNIKS

Tuesday 09.05.2006

Sumarni izveštaj o obavljenim razgovorima

Od 01.01.2006 Do 09.05.2006

	Lokal	Broj poziva	Procenat od ukupnog broja	Cena	Procenat od ukupne cene
1	110	116	1.86%	1.234.58	1.60%
2	111	112	1.80%	1.872.41	2.43%
3	112	129	2.07%	1.179.06	1.53%
4	113	125	2.01%	1.230.34	1.60%
5	114	128	2.06%	1.702.14	2.21%
6	115	127	2.04%	1.388.36	1.80%
7	116	140	2.25%	1.993.84	2.59%
8	117	124	1.99%	1.048.32	1.36%
9	118	102	1.64%	912.08	1.18%
10	119	114	1.83%	1.135.96	1.47%
11	120	56	0.90%	1.032.38	1.34%
12	121	59	0.95%	861.28	1.12%
13	122	65	1.04%	728.98	0.95%
14	123	66	1.06%	959.76	1.25%

Picture 9

Hotel version of programme has additional menu for printing accounts and taking evidence of collection accounts per shift