

**Least Cost Routing (LCR)
With GESKO PABX Systems**

1 Introduction

Least Cost Routing (LCR)

When using Least Cost Routing for an outgoing connection the most favorable provider is selected from a memorized list.

The following GESKO PABX systems support Least Cost Routing (from firmware-version 4.17):

office 2108 / 2116
office 1106 / 1114
family 104 / 108 / 115.

You can enter the list for Least Cost Routing onto the PC program either yourself or you can download a file, which you can make up at your own request, from the internet. The web site www.billiger-telefonieren.de supports the GESKO LCR. When you follow the 'GESKO-LCR' link you can make up your own LCR file which is adapted to your usual telephone calls. After having entered the options for activation, fallback etc., you can download this LCR file onto your computer and transfer this with the help of the LCR software onto your PABX system via the serial interface.

Instruction for Installation

1. PC-Program for Installation of Programs for LCR

You can find this either on the GESKO-installations-CD or on the internet: www.gesko.de -> support -> pc. When you have downloaded the file from the internet you must free it with the applicable program and then execute the set-up program in sub-directory 'Disc 1' (setup. exe). Having done this the LCR program installation is completed.

2. Update Firmware

Your GESKO PABX system should be equipped with firmware version 4.17 or higher. To find out the latest version start configuration program on your PC and call Test/Hardware/Firmwareversion in your menu. If your PC is connected to your PABX system the version of firmware will be indicated on the screen. In case your system version is older than 4.17 you have to load the latest version by performing a remote load. Please see manual therefore (Installation and Programming).

3. Programming LCR Data

In order to use LCR you still have to make up appropriate tables, which you have to transfer to the PABX system.

2 Programming LCR

Conditions for LCR are entered or rather processed in the PC program. You can enter as many as 16 providers and 10 telephone number zones together with the time profiles belonging to them. Furthermore the necessary options for the system will be entered into your system.

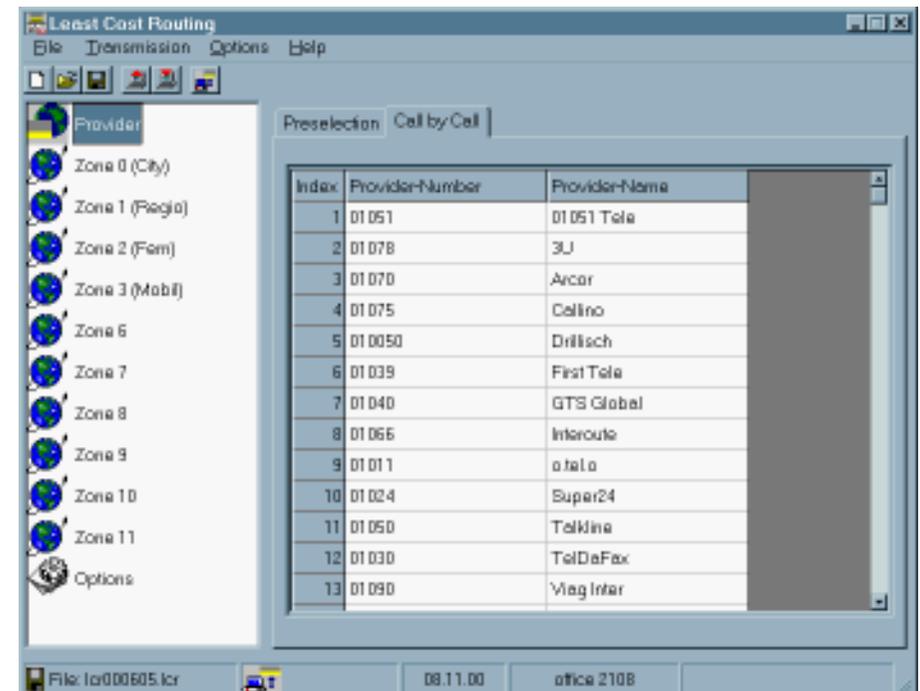
LCR is activated/deactivated for the whole system and can be switched on/off for every subscriber (by PC program).

Die Provider, Zonen und Zeittabellen müssen Sie nicht selbst per Hand eingeben. Sie können auch eine aus dem Internet bereitgestellte Datei verwenden, die Sie in das Programm einladen und dann in die TK-Anlage übertragen.

The providers' scale of charges is not fixed for a longer period. They can change at any time. Therefore you should watch the development of scale charges and make up new tables now and then or rather download them from the internet.

2.1 Enter Provider

You can enter as many as 16 providers together with the provider prefix number belonging to them. The provider with whom you have signed a preselection agreement is mentioned on the 'Preselection' registration card. Your preselection provider will be used whenever you dial without provider, that is to say if LCR is not activated or if you avoid the routing for a connection by dialing *0. If you don't have switched to any other provider, your preselection provider in Germany is Telekom (01033). As many as 15 further offers for registration cards call by call can be listed.



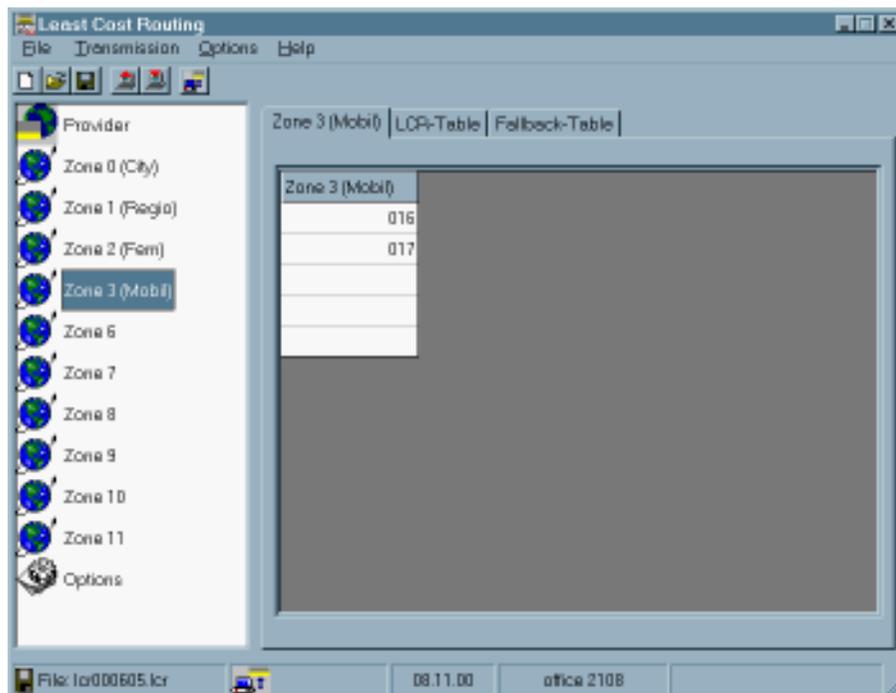
2.2 Enter Zones

There are 10 zones with various maximum numbers of dialing code entries. Every entry has 9 figures maximum. You can adapt the term 'Zone#' to your personal requirements with a double click on your mouse, e.g. change 'zone 6' into 'Switzerland' or 'zone 7' into 'USA' etc.

Enter the local or country access code into the input column for the corresponding zone. These entries can be carried out at any time. Usually these are dialing codes for various local areas, countries etc. Every entry normally begins with 0 (exception: Denmark).

For every zone you have to draw up a table, in which, according to date and time, a (favorable) provider is entered. When you now dial a number the system examines, if the number can be allocated to a zone and dials the code for the provider which is entered for this date and time. There is a similarly organized table for Fallback (see below).

	max. entries	Example: Germany
Zone 0	20	City
Zone 1	125	Regio
Zone 2	15	Long distance
Zone 3	5	Mobile phone
Zone 4	100	\ Foreign countries with many prefix
Zone 5	100	/ number zones
Zone 6 bis 9	5	Foreign countries



2.3 Enter Routing Tables

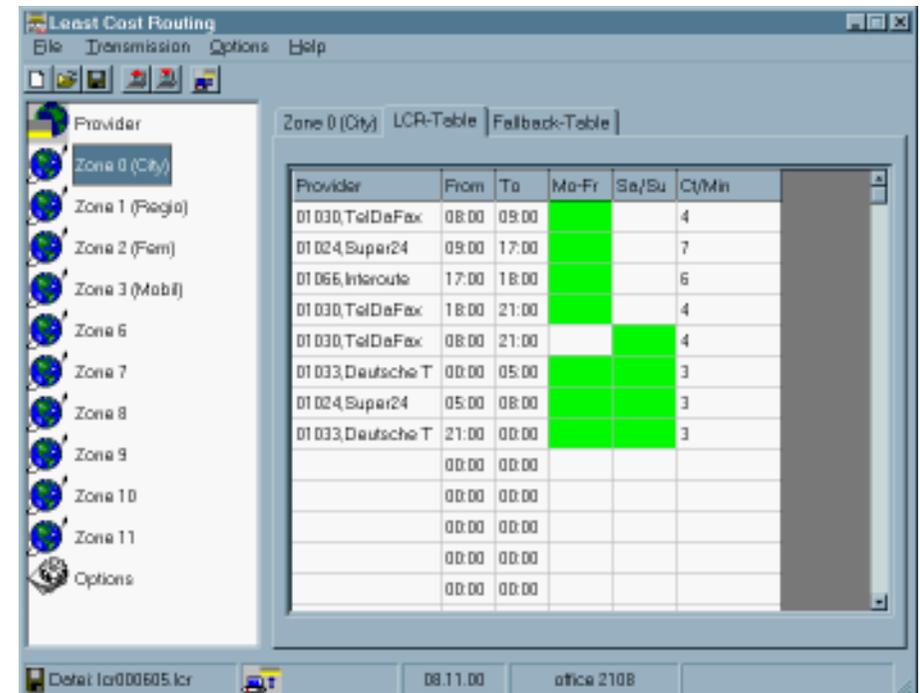
The information which provider is most favorable for your requested destination concerning time, day of the week, is saved on the tables. The program of your PABX system is searching the corresponding entry on these tables and tries to set up a connection via the appropriate provider.

2.3.1 LCR Table

Providers which are dialed first for the call set-up are entered in the LCR table.

2.3.2 Fallback Table

In case you cannot be connected via the desired provider from the LCR table, another dial attempt can be made via a provider from the second table. This second table (Fallback Table) is, after a preprogrammed number of attempts, used for another dial attempt. The fallback table has the same set up as the LCR table. This table contains providers for the next favorable connection.



2.4 Options

Individual adjustments for your PABX system are entered in registration card options.

LCR activated

This is the main switch for the LCR in your PABX system.

Attempts to Fallback

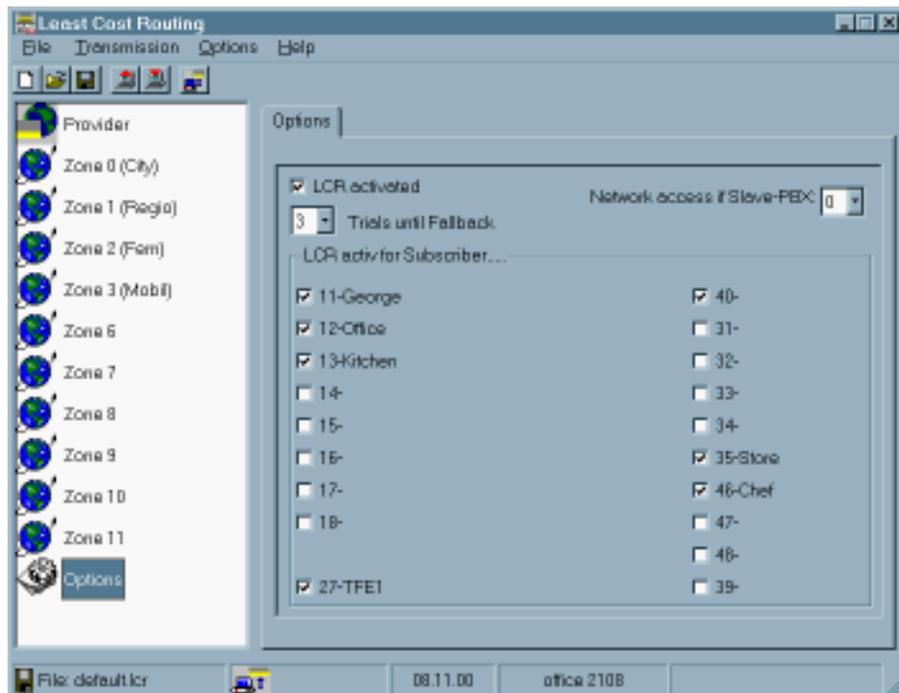
The number of attempts for call set-up entered here, is performed with the provider from the LCR table. After that a call set-up with a provider from the fallback table is attempted.

Telephone Line Occupation if Secondary System

If the system has been installed as subsystem and it is necessary to dial one more or several more figures or '0', the number of these figures must be entered here because they need to be cut off for LCR processing.

Active LCR for Subscribers

Here LCR can be activated or deactivated for any single subscriber. Activation, however, is only successful if main switch LCR is activated in the top part of the registration card.



3. Call Set-up

If you have activated LCR in your PC program the PABX system automatically searches the most favorable provider in your LCR table. To understand the procedures the following should be taken into account.

Dialing Tone

If LCR is activated the system produces an artificial dialing tone, which is a lasting one with a short preceding special dialing tone.

Temporary Deactivation of LCR

In the following cases LCR for your current connection request cannot be carried out:

- call with *0 instead of 0
- local calls (see below)
- manual call by call (dialing starts with 010...)



If you have programmed automatic call, you must press the question button before entering *0.

Special Telephone Numbers

Particular telephone numbers are not supported by all providers (e.g. 0800...). Here you have to, either avoid the LCR with *0 or you have to use a provider directly (e.g. 0133, Telekom).

Repeated Dial Attempt

The number of dial attempts together with the determined provider is entered in the PC program under options. That means that the system dials again if the dialing process has not been successful. This is not the case if the person you have called is occupied, except in those cases where there is a breakdown while dialing. It is possible that you hear an apparent confusion of various tones. This is caused by the quick sequence of dial attempts, busy tone, switch-off and renewed dial attempt.

Fallback

In case there should be no connection via the requested provider from the LCR table, a further attempt will be made to get a connection via the provider which has been entered in the fallback table as next favorable provider for your connection request. If this also won't succeed, this will be indicated by the busy tone.

Local Dialing

If the system detects local dialing (first figure no 0 or first figures corresponding to the prefix number entered in your PABX system) the LCR is deactivated for this dial, that means it is dialed without the preceding provider.

