



KAREL MS 48 IP

TELEPHONE EXCHANGE

PROGRAMMING GUIDE

KAREL | S 48 | IP

TELEPHONE EXCHANGES

PROGRAMMING GUIDE

KAREL

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DECLARATION OF CONFORMITY

R&TTE-Directive : 1999/5/EC

Hereby, we:

Karel Electronics Corporation,

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declare on our own responsibility, that the product:

Electronic Private Automatic Branch Exchange,

MS48IP

is in compliance with the provision of R&TTE directive 99/5/EC with requirements covering EN 55024 & EN 55022 of EMC directive 89/336/EEC and EN 60950 of Low Voltage directive 73/23/EEC.

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PREFACE

This guide covers all the programs of MS48IP System. As the programming is one of the most important steps of setting up a PABX system, programming must be made only by authorized personnel.

As programming affects the functionality of the PABX, programming made by unauthorized people may cause undesired functions of your PABX.

Before starting the programming, the customer requests should be clearly noted then relevant programming codes should be defined and then the PABX must be programmed as explained in this guide.

The PABX can be programmed through the system supervisor telephone and through a PC via the Net-Console software. Via Net-Console, programming can be made faster and more effectively.

We wish you a successful programming session,

KAREL ELECTRONICS

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INTRODUCTION

Thanks to the rich software structure of the systems, several parameters related to the operation of the MS Series exchanges can be modified according to customer requirements. The modifications are done through program codes.

The system can be programmed only through telephone of the system supervisor (by default the first extension of the system). A different extension can be assigned through programming by the system supervisor.

The system cannot be programmed during normal operation mode. It should be switched to programming mode by the System Supervisor. Following all the modifications of parameters in programming mode, those modifications must be saved in the memory and then the programming mode should be exited. Unless the modifications with the parameters are saved, the parameters will have to be programmed again, in case of any power failure.

The structure of the program codes is standard. For all programs, there is a maximum six-digit program code, followed by parameter codes. Details about those parameters have been included in the descriptions of the related programs. However, there is an important point about extension and line access codes that should be emphasized: In several programs, extension or line access codes must be entered as a parameter. One should be careful, during the entry of the extension or line numbers while programming,

In the following pages of this guide, the program codes related to various parts of the systems have been presented in the form of groups. The purpose is making it easy for the programmer to find the programs for the related module, as well as providing conceptual integrity.

It is recommended that all of the programs below should be read and all the codes to be entered during the programming should be determined prior to programming. An alternative of the system supervisor's telephone to be used to program the system is the Net-Console PC program, which is a very user friendly software tool to program the exchanges.

IMPORTANT NOTE: Due to their own operating principles of IP phones, functions of some programs may vary on them.

GENERAL DEFINITIONS

Explanations of the programs have been presented in a constant format in this guide.

Heading Line: Name of the program is stated.

Definition: Brief explanation of the program is stated. This section is omitted in some programs, since it has been included in the sections for necessary explanations and parameter definitions.

Program Codes: Some extension and line parameters can be programmed by two alternative ways. One of them is programming of a single line (extension or external line) and the other is programming of line group. Thus, parameters related to an extension or line can be programmed either one by one or in groups. The group programming option of a program code is indicated by [9]. If "9" is dialed in the code at the shown position, then the parameters given for the extension or line will be valid for all the extensions or lines, starting from the given extension or line to the last one. However, IP extensions/lines and analog extensions/lines cannot be programmed together in groups all at once. That means; during the programming, if an analog extension number is entered before '9', the group programming does not cover the IP extensions, only the analog extensions will be programmed. To program the IP extensions in groups, the programming process must also be repeated by entering an IP extension line before '9'.

Parameters: Parameters related to programs are stated with their definitions. Some of the parameters are "conditional" ones that are to be entered in connection with some previous parameters. Those conditional parameters are indicated in braces: {}

Cancellation: The codes that will cancel the given program are defined here. Please note that this section is used only when the related program has different activation and cancellation codes.

Default value: Factory default initial values of program parameters are stated here.

Notes: Additional constraints, warnings and information about the program are stated.

NUMBERING PLAN

MS Series PABX systems have different numbering plans with respect to their capacities and types. The differences and the factory set numbering plans of MS48IP can be seen in the following table.

Capacity (Initial capacity, total number of ports)	Line numbers	Extension numbers	Flexible numbering
4 lines / 12 extensions 16 ports, max. 48 ports	01....04 01....12 (E)	11....22 111....150 (E)	+

* Only the analog capacities of the MS48IP are given, the IP capacities are not shown on the table.

E: With expansion cards.

Extension numbers can be defined as up to 4 digits by Flexible Numbering.

When it is required to enter the extension number during the programming the last value of the extension number must be entered within the program code.

ABBREVIATIONS

In the table below, the meanings of the abbreviations used in this guide are given.

DP	Dial Pulse
DTMF	Dual Tone Multi Frequency
DISA	Direct Inward Subscriber Access
ACD	Automatic Call Distributor
CO	Central Office
DDI	Direct Dialing In
MSN	Multiple Subscriber Numbering
EVM	Auto-Attendant and Voice Mail
PABX	Private Automatic Branch Exchange
LCR	Least Cost Routing

PROGRAMMING MODE

Entering The Programming Mode:

8 7 7 7 7 7

In order to set the exchange into the programming mode, that code must be dialed on system supervisor phone. Otherwise, the exchange will not accept the dialed program codes and it will signal error tone to the programmer.

Notes

1. The phone through which the programming will be performed is the operator's telephone. However, this can be assigned to another extension via programming. When the system is put in programming mode, the Pr LED on the Busy Display Panels of Karel Consoles and DSS modules turn on.
2. Entering the programming mode is not allowed if the system supervisor locks the phone with the code 837.

Exiting The Programming Mode:

8 7 7 7 7 8

After the programming of the exchange has been completed and all of the modifications must be saved to the memory, the exchange must be exited from the programming mode.

Entering Program:

The system exits the programming mode automatically, if no programming is carried for one minute. In such a case, the system must be put in programming mode, if exists extra programs must be entered and then the system must be put out of programming mode.

While entering the program, it's essentially important to enter parameters in correct length. Otherwise, the program may be ineffective, or the system may not work as desired at all, due to the erroneous entry.

Therefore, one should be careful about the length of parameters that have been indicated in the program definitions. As can be seen in definition sections, lengths of some parameters may be variable. If such parameters will be entered in a length that is shorter than the length indicated as the maximum number of digits, then they must be terminated with the "*" key. Because of that, the programming must be done with a DTMF phone. If the exchange has previously been programmed, the extension, whose phone the programming has been performed through, may not be authorized to use the key "*". In spite of this fact, the key "*" may be used while entering the programs.

Internal dial tone is received upon proper completion of the programming; otherwise, error tone is received. In such a case, the related program code should be re-entered.

IMPORTANT NOTE: IP extensions cannot enter any program listed below.

GENERAL EXCHANGE PROGRAMS

Country Setting (Only For Export Software):

Loads country specific parameters into the system memory.

8 0 0 9 P

Parameters

P	:	0	Standard parameters
	:	1	Greece
	:	2	Poland, Pakistan
	:	3	Morocco
	:	4	Spain
	:	5	Russia, Crimea, Georgia
	:	6	Romania
	:	7	Iran
	:	8	Republic of South Africa
	:	9	India

Default Value

P=0.

Notes

This program has a special state with respect to the other programs. The relevant country code is selected with this program and then the system is reset to load the country specific parameters. That is; in case of system reset, these parameters are not lost.

Initialization Of The System Tables:

The code below sets the various system parameter tables to their initial forms.

7 4 5 P

Parameters

- P : 0 Resets Auto-dial Authority, Intrusion in Conference, Voice Mail Lock/Record, External Call Pick Up and Target For Call forwarding authorities.
- : 1 Resets Line Parameters and the parameters of Line Status and Signaling programs.
- : 2 Resets Parameters of Access Group and Access Group Line Matching programs.
- : 3 Cancels Remote Follow Me / Follow Me facilities activated by the extensions for Day Mode.
- : 4 Cancels Remote Follow Me / Follow Me facilities activated by the extensions in Night Mode and PBX Groups defined for both Day and Night Modes.
- : 5 Resets all Hot Line parameters.
- : 6 Cancels all External Call Diversions.
- : 7 Cancels all programmed key parameters of extensions.
- : 8 Resets all system and user parameters, except the ones that belong to common and private pool numbers.
- : 9 Resets all system and user parameters and clears common and private pool numbers.

Notes

1. You can make use of that feature, if you want to program your exchange completely or partially.
2. In case of a failure, before using any of those codes, check whether the failure is persistent or not by reloading the system parameters by 744. (The code 744 can be dialed by the operator only.)

STD / ISD Codes:

The prefixes for long distance (STD) and international (ISD) calls, as well as the call record type indicators are defined.

8 0 0 0 1 9 P

Parameters

P : 0 STD is 0 and ISD is 00.
 : 9 STD is 9 and ISD is 99.

Default Value

P=0.

Notes

The parameter values of this program may vary with respect to the country setting program.

Automatic Night Mode:

The code below switches the system automatically between day and night modes at a pre-determined time, every day.

8 8 3 H H M M_S H H M M_E

Parameters

HHMM_S : Automatic starting time of the Night Mode.
 Format: Hour (00-23) Minute (00-59).
HHMM_E : Automatic exiting time from the Night Mode.
 Format: Hour (00-23) Minute (00-59).

Cancellation

883* should be dialed.

Default Value

The program is not active.

Automatic Parallel Operators:

The code below enables and disables the parallel operators at a pre-determined time, every day.

8 8 4 H H M M_S H H M M_E

Parameters

HHMM_S : Automatic enabling time of the Parallel Operators.

Format: Hour (00-23) Minute (00-59).

HHMM_E : Automatic disabling time of the Parallel Operators.

Format: Hour (00-23) Minute (00-59).

Cancellation

884* should be dialed.

Default Value

The program is not active.

Weekly Automatic Features:

It allows setting the Night Mode, Parallel Operators and ACD active all day long in any desired day of the week.

8 0 9 8 S G N

Parameters

S	:	1	Night mode
	:	2	Parallel Operator
	:	3	ACD
G	:	0	Saturday
	:	1	Sunday
	:	2..6	Monday...Friday
N	:	0	The feature is not active throughout the day.
	:	1	The feature is active throughout the day.

Default Value

N = 0 for all services for all days.

Notes

When the Automatic Night Mode Program is entered, the Weekly Night Mode program is not deactivated at midnight; instead, it remains active until the termination time of the Automatic Night Mode program. The same applies to Parallel Operator and ACD services, as well.

Relay Control:

Defines the duty of the special relay on the system, which can be used to control several external devices.

8 0 9 P

Parameters:

P	:	1	External Ringer Control
	:	3	External Announcement System Control
	:	6	External Music Source Control
	:	7	Door-opener

Default Value:

P=7.

Notes:

1. When P=1, the relay is activated with the same cadence as the ring tone of an external call.
2. When P=3, the relay is activated when an extension accesses the doorphone.
3. When P=6, the relay is activated when a line is put on hold till the line is retrieve or released.
4. The relay is not activated for the calls come through the IP lines.

System Buzzer Control:

The system buzzer can be activated to ring with the external calls.

8 0 9 P

Parameters

- P : 0 System buzzer rings.
: 2 System buzzer does not ring.

Default Value

P=0.

Notes

When activated, the system buzzer rings with the same cadence as the ring tone of the ringing extension, in case an external call is received. This is especially useful when the environment is too noisy and the ringer of the telephone is weak.

Relay-On Duration:

That program defines the duration during which the relay systems, which can be used for door opener controlling purpose in the system, are active.

8 0 9 4 T

Parameters

- T : 01...99 x 0.1 relay-on duration in seconds

Default Value

T=10

Call Wait Duration (Waiting Time Of Call In Park):

That program defines the duration during which the parked calls will remain parked.

8 0 8 2 T

Parameters

T : 03 ... 25 x 10 waiting duration in park in seconds

Default Value

T = 06

Line Flash Duration:

That program defines the duration of the flash that will be made on the line when the Line Flash feature is used.

8 0 9 9 T

Parameters

T : 02 ... Flash duration in milliseconds (T x 100 msec)
20

Default Value

T = 06

Notes

Thus the IP extensions cannot use the hook flash feature; this parameter does not function for them.

Duration For Automatic Hold:

That program enables an incoming call to be put on hold automatically, in case it is not answered within a period specified by that code.

8 0 8 9 T

Parameters

T : 01...99 A call that is not answered after T seconds is put on hold automatically.

: 00 Automatic hold is not active.

Default Value

T = 00.

Notes

1. An incoming line call is answered automatically after T seconds if the operator is busy and the external party hears music (if the Music On Hold has not been activated, the caller receives wait tone).
2. The external calls that are on hold are in the queue of the operator or the ringing extension.
3. If the wait message recording has been made on EVM module by the system supervisor, the external caller first receives that message and then hears music or wait tone.
4. If there is an analog line marked as ACD and also Duration For Automatic Hold facility is activated on the system, an incoming call will ring on the operator within the period specified by the code 8089. If it is not answered within this period ACD will meet the call. If the operator is busy, ACD will meet the call immediately. (This facility works only for South African country settings.)

Equal Loads On Lines:

In normal case, when an extension accesses a line with “Line Access” feature the system assigns the highest number line available. This program allows assigning equal load on lines when extensions use Line Access feature. Especially useful to have equalized call charges on all lines.

8 0 2 7 P

Parameters

- P : 0 Equal load on lines is not active. The system accesses the highest numbered line.
- : 1 Equal load on lines is active. The least recently used line is accessed.

Default Value

P=0

Parked Call Retrieve Method:

Allows choosing the method to retrieve the multiply parked calls.

8 0 8 P

Parameters

- P : 0 An extension can retrieve the parked line first by pressing 4 Line Selective retrieve method is active.
- : 1 Time Selective retrieve method is active.

Default Value

P=1

Ring Time-Out For DISA/ACD Lines:

Allows setting the number of rings that a call will ring on the operator or on the ringing extension in case they are received through a DISA or ACD line and the call is automatically transferred to this extension. This program is also valid for the ringing period of the definite extension called through DISA/ACD line and the operator.

8 0 8 2 3 P

Parameters

P : 10...99 The ringing period in seconds.

Default Value

P=15

Notes

1. This program is available on the PABXs with software version of 3.11H or better.
2. If a call is not answered within the defined time-out, it is dropped.

Forced Account Code Definition:

Thanks to that program, for cases when some telephone machines are used commonly, the persons using those telephones can be identified in the call records, with the forced account code they use.

8 0 0 3 K S

Parameters

K : 01...99 The code to be entered by the user for the feature with the code 797.

S : 000...25 The private password of the user
0

Notes

1. The codes and passwords defined by this program can be given to desired extensions. Those extensions can make phone calls by using any phone without any authority restriction. These calls can be identified in the call record with "A" info field element.
2. If the parameter K is defined as "00" all defined passwords are cancelled.

DTMF Flash Duration:

The duration that the extension should press the # key to make hook flash can be adjusted by this program.

8 0 1 A 7 P

Parameters

- A : The extension access code.
- P : 0 The minimum duration is 200 msec.
: 1 The minimum duration is 80 msec.

Default Value

P=0.

DTMF Dialing Parameters:

Allows defining the DTMF signalling method of the system.

8 0 8 8 P

Parameters

- P : 0 The numbers dialed by the extensions are directly sent to the line.
- : 1 The system regenerates the numbers dialed by the extensions and sent the regenerated tones to the line.
- : 2 In case the line is marked as DP, when an extension accesses a line then the internal dial tone is transmitted to the extension instead of external dial tone, and the numbers dialed by the extension are regenerated and sent to the line (only for export software).

Default Value

P=0.

Least Cost Routing (LCR):

Allows setting the system to check the numbers dialed by extensions to find the most economical route for establishing the calls.

When an extension activates *Automatic Line Access* by dialing "9", instead of the CO dial tone, he receives the internal dial tone. Then, the system compares the digits he dials with the pre-programmed prefix table and as soon as it finds a match, it calculates the most economical route based on the pre-programmed parameters. After such a match is found, a line is selected (it may be a specific line related with the prefix or any idle line) and a prefix of at most 6 digits (if present) is added in front of the digits extension dials and this number is sent to the CO. If no match is found, any idle line is accessed and the number is sent to the CO, after the 6th dialed digit. (The same working principle applies to Selective Line Access on system software 3.10B or better.)

IMPORTANT

It is not recommended to use this program unless necessary (if more than one operator with different rates are not available in your country).

8 0 0 6 L Y P R S T U V

Parameters:

- L : 01..40 Location number.
- Y : Prefix (at most 2 digits) that is not sent to the line, just for control purpose.
- P : Prefix (at most 6 digits) that the system compares with the dialed digits.
- R : Prefix (at most 6 digits) that the system adds in front of the dialed number.
- S : Line number through which the external number with prefix Q is dialed
- T : The starting and ending hours of LCR.
- U : 0..6 Day information. Saturday..Friday .
- : 7 Weekdays.
- : 8 Weekend.
- V : 000..250 Indicative charge pulse period in seconds.

Cancellation

8006 00

Default Value

Not active.

Notes

1. If the prefix Y is less than 2 digits, then skip the rest of the digits by dialing “#” in place of each digit.
2. If the prefix P is less than 6 digits, then skip the rest of the digits by dialing “#” in place of each digit. If the prefix R is less than 6 digits, then skip the rest of the digits by dialing “#” in place of each digit.
3. If the telephone is hanged up after 8006 L is dialed the relevant line of LCR is cleared.
4. The parameter “Y” is used when the same external party number is wanted to be dialed in different ways. By this definition extensions on the system can use different routes to make their callings. With this distinguishing prefix, some reasonable codes can be defined to point out the routes, before the extensions dial the desired external number. Please notice that this distinctive codes are just required to decide the route, they are not sent to the line.

Example: When the following codes are entered:

- 1) 8006 01 ## 0##### ##### 01 *
- 2) 8006 02 9# 0##### ##### 02 * (Y=9)
- 3) 8006 03 99 0##### ##### 03 * (Y=99)

- If the extension dials "9 0 555 666 77 88" and waits, the system sends the number "0 555 666 77 88" to the CO through the Line 01 according to the LCR Line 1.
 - If the extension dials "9 9 0 555 666 77 88" and waits, the system sends the number "0 555 666 77 88" to the CO through the Line 02 according to the LCR Line 2.
 - If the extension dials "9 9 9 0 555 666 77 88" and waits, the system sends the number "0 555 666 77 88" to the CO through the Line 03 according to the LCR Line 3.
5. Whenever the extension gives a break of 3 seconds while dialing the digits:

The system compares the whole dialed number with prefix P of each location in the table. If it finds a match, the digits are dialed according to the matching location.

If it does not find a match, it omits the last dialed digit and checks the remaining dialed number. The system repeats this procedure until the first dialed digit to find a match.

If it does not find a match even after checking down to the first dialed digit, it does not give a line to the extension. Instead, the system waits the extension to dial up to the 6th digit.

E.g. when the following codes are entered:

- ```
8006 01 4##### 09##### *
8006 02 42##### 0532## *
```

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8006 03 423### 0542## \*

8006 04 4231## 0562## \*

8006 05 0##### 0535## \*

- If the extension dials "42" and waits, the system sends this number to the CO as "0532 42".
- If the extension dials "423" and waits, the system sends this number to the CO as "0542 423".
- If the extension dials "018" and waits, the system sends this number to the CO as "0535 018".
- If the extension dials "567" and waits, the system does not send this number to the CO. Instead, the system waits the extension to dial the next 3 digits.

6. If the parameter Y is to be skipped, a "#" should be dialed.
7. If the parameter S is to be skipped, a "#" should be dialed. In such a case, the dialing is established through any idle line.
8. If the parameter T is to be skipped, a "#" should be dialed. In such a case, the dialing is established regardless of the time at which the call is established.
9. If the parameter U is to be skipped, a "#" should be dialed. In such a case, the dialing is established regardless of the day at which the call is established.
10. If the parameter V is to be skipped, a "#" should be dialed. Skipping means "least cost". The bigger value of this parameter means the cheaper the route is.
11. After dialing "9", since the system cannot know which line will be used at that time, the status of all lines are checked and the extension receives busy tone if all lines are busy.

But even if dial tone is received it does not mean that an idle line will be available. Following may happen after the system stops the comparison:

- If the line is busy, the extension receives busy tone.
- If the number to be sent to the CO is beyond the *External Call Authority* of the extension or this number is restricted by the "8007" coded *Call Prefix Restriction Program*, then he receives error tone.
- If the line through which dialing will be established is not assigned to the access group of the extension, the extension receives error tone.

Once LCR is activated, the parameter of 8088 coded *DTMF Dialing* program takes the value "1", i.e. the system always regenerates the digits dialed by the extensions before sending them to the CO

12. If the numbers stored in the private pool or common pool start with the prefixes defined by parameter P of any LCR location, then the system sends these numbers to the CO with the prefix defined by parameter R of the LCR location.
13. The "8007" coded *Call Prefix Restriction Program* restricts the calls of extensions only if the prefix to be restricted is just the same as the one entered by parameter P or R of the LCR program.

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8007 0 11 (None of the extensions can dial numbers starting with 11)

8007 2 12 (None of the extensions can dial long distance numbers starting with 12 after dialing the STD code (0 by default))

8007 3 44 (Extensions with local call authority levels cannot dial local numbers starting with 44)

8006 01 13##### 1##### \*(Numbers starting with 13 are sent to CO as 13...)

8006 02 15##### 11##### \*(Numbers starting with 15 are sent to CO as 11 15...)

8006 03 11##### 32##### \*(Numbers starting with 11 are sent to CO as 32 11...)

8006 04 12##### 0##### \*(Numbers starting with 12 are sent to CO as 0 12...)

8006 05 16##### 012#### \*(Numbers starting with 16 are sent to CO as 012 16...)

8006 06 012#### 4##### \*(Numbers starting with 012 are sent to CO as 4 012...)

8006 07 43##### 4##### \*(Numbers starting with 43 are sent to CO as 4 43...)

8006 08 44##### 112#### \*(Numbers starting with 44 are sent to CO as 112 44...)

8006 09 53##### 44##### \*(Numbers starting with 53 are sent to CO as 44 53...)

- Extensions will be able to dial 13, but not 15 and 11.
- Extensions will be able to dial 12, but not 16 and 012.
- Extensions with local call authorities will be able to dial 43, but not 44 and 53.

14. "#9" coded *Line Flash* feature does not work if LCR is activated, since the system gives internal dial tone to the extension when he dials "9".
15. If the line (parameter S), which has been defined through the 8006-coded LCR program, is out of service or busy the external number will be called through the lines which have been included in the same PBX group with this line via the 8050-coded program. For example if the Line 01 which is used for the LCR program, is included in the same PBX group with the Line 02 and in case the Line 01 is out of service or busy the call request will be supplied through the next available line in the group; Line 02.
16. A line cannot be transferred before the LCR algorithm starts sending the external number to the CO
17. *External Call Diversion* (835) is not affected by LCR.
18. Remote Line Access Feature (9 + extension number + password) can use routes defined by LCR program. It is also possible to use defined LCR routes for such an extension who enters to the system by using Remote Line Access through DISA line which the polarity reversal detection is activated for.

## LCR Activation:

The LCR parameters, which are set via the 8006-coded LCR facility, can be activated or deactivated by this program.

8 0 0 6 9 P

### Parameters:

- P : 0      LCR parameters are not active.  
      : 1      LCR parameters are active.

## Automatic Line Check (Only for operator):

The line service state and the signalling parameter can be set automatically by the system.

8 2 7 or 7 4 7

### Notes

1. Once activated, the lines will be out of service for a while. Therefore, make sure that there are no ongoing external calls on the system before activating this code.
2. Once activated, the dial tone detector starts to check the lines. Then, it puts the lines with CO dial tone:
  - *In Service For Incoming Calls Only* if they were *In Service For Incoming Calls Only* before the service is activated,
  - *In Service* otherwise. These lines are also marked as *DP* or *DTMF* after a signaling test.

On the other hand, lines without CO dial tone are put:

- *In Service For Incoming Calls Only* if they were marked as *In Service* before the service is activated.
- *Out Of Service* otherwise.

## DTMF Signal ON/OFF Duration:

DTMF signal ON and OFF durations can be programmed in case LCR is activated or 8088 1 code is used, in other words when the system is regenerating DTMF digits and then sending them to external lines.

8 7 7 6 4 0 1 N M

### Parameters:

|   |   |         |                                       |
|---|---|---------|---------------------------------------|
| N | : | 02 - 25 | DTMF ON Duration (x 20 milliseconds)  |
| M | : | 07 - 25 | DTMF OFF Duration (x 20 milliseconds) |

### Deactivation:

The default DTMF ON and OFF durations are 100 msec and 140 msec respectively.

### Notes:

Dialing 8776 4 01 \* sets the DTMF durations as their default values.

## DTMF Detection ON/OFF Time:

With this program DTMF Detection ON and OFF durations can be programmed. These ON and OFF durations determine the minimum detectable ON and OFF durations of incoming DTMF digits. If they are increased more than needed, the system may not detect the dialled digits properly and the call can not be formed since the system regenerates the DTMF digits and send them to the external lines incorrectly.

8 7 7 6 4 1 1 N M

### Parameters:

|   |   |       |                              |
|---|---|-------|------------------------------|
| N | : | 1 - 5 | ON-Time (x 20 milliseconds)  |
| M | : | 1 - 5 | OFF-Time (x 20 milliseconds) |

### Default Values:

N= 2 (40 msec) and M= 3 (60 msec).

### Notes:

1. Dialing 8776 4 11\* sets the times as their default values.
2. This program will be supported with the Net-Console release AAS.



## Tone Detection on Line – Line Connection:

When two lines are connected to each other (the line-line connection) and external call diversion facility is activated on the system, the system can be set to detect the tones on the lines at the time of hanging up of talking parties.

8 7 7 6 4 0 2 P

### Parameters:

|   |   |   |                           |
|---|---|---|---------------------------|
| P | : | 0 | Tone Detection Active     |
|   | : | 1 | Tone Detection Deactivate |

### Default Value:

P=0 (Tone Detection is activated on the line)

### Notes:

1. If P is dialed as “0”, the system checks the tone on the lines to see if one of the parties hang up. If the CO disconnect tone is received, the lines are dropped.
2. If P is dialed as “1”, the tone on the line is not detected even if both sides hang up the phones; the line is dropped after 3 minutes.

## DTMF Generation Mode Exit Duration:

With this program, when the system regenerates the numbers dialed by the extensions and sends the regenerated DTMF digits to the line (if LCR is activated or the code "8088 1 is entered) the duration to exit from the DTMF generation mode can be programmed.

8 7 7 6 4 0 3 P

### Parameters:

P : 1-9 Exit Duration From DTMF Generation Mode

### Default Value:

F = 4 seconds

### Notes:

1. Dialing 8776 4 03 \* sets the DTMF Generation Mode Exit Duration as its default value.
2. The system sends the regenerated numbers until the end of the defined duration that is programmed by this code. If the extension still continues to dial the numbers within the defined duration, those digits will directly be sent to C.O. without being regenerated by the system.

## Polarity Reversal Detection Time Filter:

The detection duration of the Polarity Reversal on the lines can be programmed. According to the defined duration, short or long period Polarity Reversal is not detected.

8 7 7 6 4 0 4 P

### Parameters:

P : 0 Filter Time in 20 msec.  
 : 9 Filter Time in 200 msec.

### Default Value:

P = 7 (160 msec.)

### Notes:

1. Dialing the code 8776 4 04 \* sets the Polarity Reversal detection duration as its default value.
2. P parameter can be programmed as from 0 up to 9. Each parameter value has 20 milliseconds increment. Such as; P = 1 means 40 msec, P = 5 means 120 msec.
3. It is recommended to decrease this duration if system can not detect the Polarity Reversal on the lines and also this duration should be increased if the system detects the Polarity Reversal easily even when C.O. does not reverses polarity.

## Tone Detection Bandwidth:

When two lines are connected to each other (the line-line connection) or external call diversion facility or Automatic Dialer is activated on the system, the system can be set to detect the tones on the lines at the time of hanging up of talking parties or of the tones on the lines to active automatic dialer.

The lower and the upper frequency limits of the tones to be detected can be programmed by this code. These limits are also used for tone detection in Auto Dialer facility.

8 7 7 6 4 0 5 L H

### Parameters:

L : 01 - 29

The index for the lower frequency limit. (It defines the lower frequency that the system can detect when the tone detection is made through the line-line connection, automatic dialer or external call diversion)

H : 02 - 30

The index for the upper frequency limit. (It defines the upper frequency that the system can detect when the tone detection is made through the line-line connection, automatic dialer or external call diversion)

### Default Values:

L=7, H=10

### Notes:

1. Dialing 8776 4 05 \* sets the indexes as their default values.
2. The value of H must be bigger than the value of L.

**Remote Password Entry Time-out:**

If there is an external line defined for a specific extension with the 800-coded program and if this extension has been recorded "Temporary Absent Message" by dialing the code 8648, in order to listen the left messages and to change the absent message, the extension should enter his required password within the period that the system gives. With this program this period to let the password dialing can be programmed.

8 7 7 6 4 0 6 S

**Parameters:**

S : 1 - 9 Password entry time-out in seconds

**Default Value:**

S = 2 seconds

**Notes:**

Since the password entry gets easier it is recommended to program long period for the password entry time-out.

**Dialed Number Display Mode:**

By this program, display mode of the dialed numbers on line calls can be defined.

8 7 7 6 4 0 7 S

**Parameters:**

S : 0 7 dialed digits on local calls,  
10 dialed digits on long distance calls and  
13 dialed digits on international calls are shown.  
: 1 All dialed digits are shown.

**Default Value:**

S = 1

**Notes:**

"8776 4 07 1" is dialed to show all dialed digits.

**Hookswitch Flash Duration (Min/Max):**

With this program the hook flash filter parameters can be adjusted. The parameters L and H determine the minimum and the maximum durations that the extension must press the hook switch in order to make hook-flash.

8 7 7 6 4 0 9 L H

**Parameters:**

L : 01 – 98 Minimum Flash Duration = L x 20 msec  
 H : 02 - 99 Maksimum Flash Duration = H x 20 msec

**Default Value:**

L= 04 (80 msec) and H= 37 (740 msec).

**Notes:**

1. Dialing 8776 4 09\* sets the indexes as their default values.
2. For example, if the default values of Min and Max are set, the extension must hold the hook switch on more than 80 ms and less than 740 ms. If the on-hook duration is less than 80 ms, the sistem may detect a DP digit 1 or if it is more than 740 ms, the system detects on-hook.

This program will be supported with the Net-Console release AAS.

**Ring Detection Filter:**

The rings shorter than the filter time (msec.) are not perceived by the system. With this program filter time can be programmed between 100 and 5000 miliseconds.

8 7 7 6 4 1 0 R

**Parameters:**

R : 01 - 50 Detectable ring time = R x 100 msec

**Default Value:**

The default values may vary according to the country codes.

**Notes:**

1. If the R parameter is defined as 400 msec., the system can not perceive the rings shorter than 400 msec. But it perceives the rings longer than 400 msec.
2. This program will be supported with the Net-Console release AAS.

## Line-Line Connection Activation Mode:

*This program is valid for ONLY Morocco country settings.*

The usage of the user service “Line-Line Connection” with the code #6 can be denied or allowed by using this program. If the Line-Line Connection is denied by using this program, no extension on the system can use the user service coded as #6.

8 6 3 0 P

### Parameters:

P : 0 Line-Line Connection is active  
: 1 Line-Line Connection is not active

### Default Value:

P=0

### Notes:

This program code can not be entered on the standard software.

# EXTENSION PROGRAMS

## System Supervisor:

The system supervisor can be changed by the code below. The system supervisor sets the system into programming mode, enters programming codes, saves them, and then exits the programming mode.

8 0 3 A

### Parameters

A : The extension access code

### Default Value

A = The operator.

### Notes

1. The programming of the system can be done by the extension with the access code A only.
2. IP extensions cannot be system supervisor or operator.



Line Access Authority Level:

This program determines whether an extension will be granted with the call permission according to type of the calls. Since the program can be entered separately in night and day modes, the authority levels can be defined differently for night and day.

8 8 7 A [9] P

Parameters

- A : The extension access code
- P : 0 Only intercom calls are permitted.
- : 1 Intercom, local and restricted common pool calls are permitted.
- : 2 Intercom, local, long distance and restricted common pool calls are permitted.
- : 3 Intercom, local, long distance, international and all common pool calls are permitted.
- : 4 Intercom and all common pool calls are permitted.
- : 5 Intercom, local and all common pool calls are permitted.

Default Value

For operator P=1 and for all other extensions P=0.

Notes

Extensions with restricted common pool authority levels are permitted to call common pool numbers that are only within their authority levels. For example: An extension with authority level "2", can call the long distance numbers in the common pool but cannot call the international numbers in the common pool.

Line Call Restricted Prefix Table:

It allows prefix definitions for different call levels in order to restrict line calls. Extensions cannot call, according to their line authority levels, the numbers starting with the prefixes defined for the corresponding levels.

8 0 0 7 P T

Parameters

|   |   |   |                                                                                                                                                   |
|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------|
| P | : | 0 | None of the extensions can call the numbers starting with the prefix "T", both in day mode and night mode.                                        |
|   | : | 1 | None of the extensions can call the numbers starting with the prefix "T" in night mode.                                                           |
|   | : | 2 | Extensions with long distance call authority level "2" cannot call the long distance numbers starting with prefix "T" after dialing the STD code. |
|   | : | 3 | Extensions with local call authority cannot call the numbers starting with prefix "T".                                                            |
|   | : | 4 | Extensions with local call authority level can call the long distance numbers starting with prefix "T" after the STD code.                        |
|   | : | 5 | Extensions with local call authority level can call only the numbers starting with prefix "T".                                                    |
| T | : |   | Prefix with at least 1 and at most 3 digits.                                                                                                      |

Cancellation

8008

Default Value

No prefixes are defined for any level.

Notes

1. Through that program, at most 10 prefixes can be defined. The trials made after the 10<sup>th</sup> entry results with error tone.
2. If the prefix is shorter than 3 digits then it must be terminated with a "\*".
3. If a long distance number is called starting with a prefix entered in the 4<sup>th</sup> field, then this call is recorded as local call.

**Line Call Restricted Prefix Override:**

Allows specifying extensions who will have the authority to override the restrictions defined by Line Call Restricted Prefix Table program.

8 8 7 A [9] 8 P

**Parameters**

A : The extension access code  
 P : 0 Cannot override the restrictions  
     : 1 Can override the restrictions.

**Default Value**

For all extensions P=0.

**Extension Line Access Group:**

This program defines extension groups in order to allocate determined lines to those groups.

8 0 1 A G

**Parameters**

A : The extension access code  
 G : 00 ...14 The group number.  
     : 15 Extension can access any line.

**Default Value**

For all extensions G=00

**Notes**

1. The extension group program operates in connection with the Line Matching program with the code 802. The Line access group is valid for line access administration of any kind.
2. Extensions can access lines allocated to the access group defined here by the Line Access Group program only.

## Line Access Groups:

Extensions are assigned to line access groups through the Extension Line Access Group program. On the other hand, lines are assigned to the access groups through the Line Access Groups program. Therefore, extensions can access the lines, which are in the same access group with them.

8 0 2 D G ( G G ... )\*

### Parameters

- D : The line access code
- G : 00 ...14 Line access group number  
: 15 No line access

### Default Value

G = 00 for all lines.

### Notes

1. G=00,...,14

Following each line access group number entry, the system allows other access group number entries, instead of emitting internal dial tone. Hence, upon entering that program once, it is possible to assign one line to 15 access groups in a single programming session. If line D is to be assigned to less than 15 access groups, then the telephone should be hung up after the last access group number entry.

2. If 15 is assigned to G, then the system emits internal dial tone and does not allow access group number entries.
3. There are examples below that would clarify the topic:

Examples:

- Line 03 inaccessible,
- Line 02 can be accessed by the groups 01, 02 and 03.
- Line 01 and 04 can be accessed by group 02.

The program codes to be entered:

802 03 15 \*

802 02 01 02 03 \*

802 01 02 \*

802 04 02\*

## Extension PBX Group:

This program defines groups for extensions, in order to provide them with various features to take advantage of. The extensions can make use of the features listed below, when they are included in such groups called PBX group:

- 1- Extensions of the same PBX group can answer each other's ringing telephones by making use of the feature PBX Group Call Pick Up.
- 2- If A and B are in the same PBX group, when the extension A receives a call request while s/he is busy or the request has not yet been answered after the telephone rang three times, the call request is forwarded to the extension B.
- 3- Extensions in the same PBX group can activate the Parallel Extensions feature. Hence, when one of the extensions in the PBX group receives a call request, the telephones of the first four extensions in the group will ring simultaneously.

8 0 5 A B

### Parameters

- A : The access code of the extension to be included in the PBX group.
- B : The access code of the extension following the extension to be included in the PBX group.

### Cancellation

805 A A

### Default Value

No extension PBX group has been defined.

Notes

1. According to the mode at which the program is entered, different PBX groups for night and day can be defined separately.
2. By entering that code more than once, extensions in desired number can be included in a PBX group. Here, it is essentially important that the entered extensions must form a chain. Therefore, the last member of the group must be forwarded to the first member. If that condition is not fulfilled, then that feature of the exchange may not fully satisfy customers and problems may occur.

Example: If extensions with numbers 112, 113 and 114 are to be included in the same PBX group, the following programs should be entered:

805 112 113, 805 113 114, 805 114 112

3. In order to discard an extension from the PBX group, the program 805 A A should be entered, where A is the extension access code, and the chain should be preserved. The previous and the next extensions in the group must be related with the code 805 .

Example: Let us assume that the codes

805 112 113, 805 113 114, 805 114 115 and 805 115 112 have been entered for a PBX group. In that case, the following codes must be entered in order to discard 114 from the PBX group:

805 114 114

805 113 115

In order to cancel all of a PBX group, each and every member of the group must be discarded separately one by one.

## PBX Group Parameters:

8 0 2 6 P R S T

### Parameters

- P : 0 When a call request is not answered, call transfer to the PBX group does not take place.  
: 1 When a call request is not answered, call transfer to the PBX group takes place.
- R : 0 If the call request is from the line and the extension is busy, call transfer to the PBX group does not take place.  
: 1 If the call request is from the line and the extension is busy, call transfer to the PBX group takes place.
- S : 0 When an extension calls another and if the called extension is busy, call transfer to the PBX group does not take place.  
: 1 When an extension calls another and if the called extension is busy, call transfer to the PBX group takes place.
- T : 0 Extensions can use Group Call pick up facility by dialing "5".  
: 1 Extensions can pick up the calls just by lifting the handset (automatic call pick up).

### Default Value

P=1, R=1, S=1, T=0.

### Notes

All parameters defined by this program are valid for all groups defined by the Extension PBX Group program.

“\*” , “#” Keys / Hook Flash Authority:

This program controls whether extensions use the keys “\*” / “#” and make hook flash.

8 0 7 1 A [ 9 ] P T

Parameters

- A : The extension access code
- P : 0 Extension cannot use “\*” / “#” keys  
 : 1 Extension can use “\*” / “#” keys
- T : 0 Extension cannot make hook flash  
 : 1 Extension can make hook flash

Default Value

P = 1, T = 1 for all extensions.

Notes

1. For cases when “\*” / “#” keys have to be used to take advantage of various CO exchange features that the system is connected to, or if it is not desired that an extension transfers calls by her/his telephone’s on/off switch then this program should be utilized.
2. The number of the DTMF receiver channels on a system is limited such that they cannot serve all the extensions at the same time. Since one MF receiver per extension, whose P parameter has been set as 1, is allocated throughout the conversation, the number of extensions in the system with parameter P has been defined as 1 should be determined by considering that situation and traffic load in the overall system.
3. Usage of the parameter P affects only extensions with DTMF telephone set.
4. When the LCR is activated on the system, an extension who is programmed by the 8071-coded program as not to use “\*” / “#” keys, can use “\*” / “#” keys on the line to be able to perform some facilities which are supported by C.O.



## Intrusion Authority Level:

This program defines authority levels determining whether a phone conversation can be intruded in, in case the called extension is busy.

8 0 6 A [9] P

### Parameters

A : The extension access code

P : 0....7 Authority level

### Default Value

P = 7 for the operator, P = 0 for the other extensions

### Notes

1. Extensions can intrude conversations of extensions with lower authority levels only. However, extensions with Intrusion authority level "7" can intrude the calls of the extensions who have the same authority level.
2. When an extension that has activated Do Not Disturb feature is called by another extension with a higher intrusion authority level, the Do Not Disturb feature does not function.
3. Regardless of the Intrusion Authority the Do Not Disturb feature operates for the calls received from the operator.
4. Regardless of the Intrusion Authority the Do Not Disturb feature operates for the calls coming to the LT48 or FT10 Feature Phones.
5. If an executive extension calls another executive with equal or less Intrusion Authority level then directly the called executive extension's telephone rings instead of the secretary.
3. This program also controls the speed of the fax or modem connections established through an extension. For extensions to which fax or modem is connected the Intrusion Authority level must be set to 6 to have high speeds. In such a case the CRL Time Filter program is not used on the calls of these extensions.

## Auto-Dial / Intrusion In Conference Permission:

This program controls whether extensions can use auto-dialer of the system and can use Intrusion in Conference feature.

8 0 7 3 A [ 9 ] P T

### Parameters

- A : The extension access code
- P : 0      Extension cannot use auto-dialer  
      : 1      Extension can use auto-dialer
- T : 0      Extension cannot use Intrusion In Conference feature  
      : 1      Extension can use Intrusion In Conference feature

### Default Value

P = 1, T = 0 for all extensions.

### Notes

The T parameter value of the operator and IP extensions is always "0" and cannot be changed.

## External Call Pick-Up / Target For Call Forwarding Permission:

This program controls whether extensions can use the External Call Pick-Up feature and can be target for Follow Me feature of other extensions.

8 0 7 4 A [ 9 ] P T

### Parameters

- A : The extension access code
- P : 0      Extension cannot use External Call Pick-Up feature  
      : 1      Extension can use External Call Pick-Up feature
- T : 0      No calls can be forwarded to the extension  
      : 1      Calls can be forwarded to the extension

### Default Value

P = 1, T = 1 for all extensions.

### Notes

Due to the own operation principles of the IP phones, even if the T parameter is selected as '0' for an analog extension, any IP extension can forward his/her calls to this analog extension.

## Outgoing Call Time-Out:

This program controls the duration for which an extension can talk during the outgoing line calls.

8 0 1 A 9 T

### Parameters

A : The extension access code  
T : 02 ...20 Conversation duration in minutes  
00 No duration limit for conversations

### Cancellation

801 A 9 \*

### Default Value

No limit is defined.

### Notes

1. While this program is active, whenever an extension with number A makes any line call, the conversation is automatically terminated at the end of period T.
2. The extension is warned by a short tone 15 seconds prior to termination of the conversation.

## Limiting Call Durations For Incoming External Calls:

That program is used for limiting call durations for incoming line calls.

8 0 8 4 P

### Parameters

- P : 0 No call duration limit for incoming calls from line.  
: 1 The time limit entered through the Outgoing Call Time-out program is also valid for incoming line calls.

### Default Value

P = 0.

### Notes

15 seconds before call termination, the extension receives short warning tone.

## Parallel Operators:

Allows defining the Parallel Operators to ring in parallel to the operator in case of an incoming external call.

8 0 8 5 A

### Parameters

- A : The extension access code

### Cancellation

8086

### Default Value

No parallel operators are defined.

### Notes

1. Maximum 4 parallel operators can be defined.
2. The incoming external calls ring on all the parallel operators in parallel to the operator. The first who lifts the handset, answers the call.
3. Once 8086 is dialed, all the parallel operators are cancelled.

## Hot Line:

This program enables an extension to do the following operations as soon as picking up the handset or following a 4-second delay, by defining a hot line:

- 1- Calling another extension
- 2- Accessing any idle line
- 3- Accessing a certain line

8 0 4 A P T

### Parameters

- A : The extension access code (except the operator)
- P : Extension no    The value is number of the extension that will be called.  
: 09                Any idle line is accessed.  
: 07D              A specific line is accessed.
- T : 1                The hot line operates after a 4-second delay.  
: 0                The hot line operates as soon as the handset is lifted.

### Cancellation

804 A A

### Default Value

No hot lines are defined for any extension.

### Notes

- 1- The extensions, for whom a hot line is defined, are provided with the feature of calling another extension or an external number without dialing.
- 2- No hot line can be assigned to the operator.
- 3- If a delayed hot line has been allocated to an extension, then that extension can dial any code within 4-second delay period. However, if no such action takes place, then the hot line connection is done in that case.
- 4- IP lines can not be used for hot line calls.

## Direct-Call Hot Line:

This program enables the extension to call one of the numbers stored in fields 96, 97, 98 and 99 in the common pool memory, in case of an emergency.

8 0 4 A P

### Parameters

- A : The extension access code (except the operator)
- P : 02 The number in the field 96 of the common pool is directly called.  
: 03 The number in the field 97 of the common pool is directly called.  
: 04 The number in the field 98 of the common pool is directly called.  
: 05 The number in the field 99 of the common pool is directly called.  
: 0 Direct-call hot line is cancelled.

### Cancellation

804 A A

### Default Value:

P = 0 for all extensions.

### Notes

1. Direct-call hot line cannot be allocated to the operator.
2. For P=02, 03, 04, 05, even if all lines are busy when the extension has lifted the handset, the system drops one of those lines and allocates it to the Direct-call hot line extension.
3. IP lines can not be used for hot line calls.

## Inaccessible Extension Through DISA / ACD Line:

Allows defining the extensions, which cannot be accessed directly by the callers who called the system through a DISA or ACD line.

8 0 1 A 8 P

### Parameters

- A : The extension access code
- P : 0 The extension can be called through DISA /Auto Attendant line.
- : 1 The extension cannot be called through DISA / Auto Attendant line.

### Default Value

P = 0 for all extensions.

## Doorphone Ringing Extension:

Allows defining the extension, on which the doorphone calls will ring.

8 0 5 D A

### Parameters

- D : The default doorphone access code
- A : The extension access code

### Default Value

A = Operator.

### Notes

The doorphone calls ring with a different cadence.



## Hotel Room Definition:

An extension is defined as a hotel guest through this program. Such an extension cannot make use of the features given in the list in Notes section.

8 0 2 8 A P

### Parameters

A : The extension access code  
P : 0 Not hotel room  
: 1 Hotel room

### Default Value:

P = 0 for all extensions.

### Notes:

1. An extension defined as hotel guest cannot make use of the following features:
  - a) Password definition, password update, locking telephone, calling from a locked telephone.
  - b) Making entries to the private pool, making calls from the common pool, making calls from the private pool, redialing the last number.
  - c) Auto-dial (Last number, Private Pool, Common Pool)
  - d) Background music
2. An analog extension who has been defined as hotel guest cannot make use of the following features:
  - Do not disturb
  - Follow me, remote follow me.
3. An extension defined as hotel guest can call all other extensions, including other hotel guests. However, that extension can be called only by the operator, another extension with hotel room call authority or another hotel room.
4. No hotel guests have the authority to use "\*" / "#" keys by default. However, they are enabled to use their "\*" / "#" keys by 8071 coded program to use the "\*" key.
5. Analog extensions cannot divert their calls by using 'Follow Me' feature to an extension defined as hotel guest. However, IP extensions can divert their calls to any extension defined as hotel guest, due to the fact that call forwardings activated through the IP phones are independent from the system.

## Hotel Room Access Permission:

This program sets the permission status for an extension to call hotel rooms.

8 0 2 9 A P

### Parameters:

- A : The extension access code
- P : 0 Extension cannot call hotel rooms.
- : 1 Extension can call hotel rooms.

### Default Value:

P = 1 for only operator, P=0 for all extensions.

### Notes:

The operator can call any hotel room and this cannot be modified.

## Doorphone Extension Definition:

An extension is defined as a doorphone extension through "Hotel Room Definition" program, together with user password entered as "250".

### To activate:

From an extension phone that will be defined as a doorphone extension:

8 3 6 2 5 0 (The password is defined as "250" from doorphone extension)

8 0 2 8 A 1 (Define doorphone extension)

Notes

1. As much telephones as desired can be defined as doorphone extension. Thus, in addition to the default doorphone terminal (110), various extensions can be used as doorphone interfaces as well.
2. If the password for a doorphone extension is not defined as 250, then this extension operates as a hotel room extension and this may lead to undesired functionality.
3. The following principles apply for the calls of doorphone extensions:
  - a) If the doorphone used has a handset, when the doorphone extension lifts the handset, he hears internal dial tone for a short while, then he receives silence. If the doorphone is a phone without handset, then silence is received continuously.
  - b) The doorphone extension can only dial numbers that start with digits "0", "1" and "2".
  - c) If the called extension is busy, then the doorphone extension starts hearing the dial tone after 4 seconds, in order to be able to dial another number.
  - d) If the called extension does not answer the call within 6 ringing periods, then the doorphone extension starts hearing the dial tone, in order to be able to dial another number.
  - e) When there is an incoming call, the connection is established automatically after a short tone.
4. The doorphone extension can also activate the door-opener, using other extensions' password. This facility enables door-opener control individually for each extension, such that other extensions can use doorphone extension's telephone in order to activate door-opener. In order to do that, "Relay Code + Relay Number + Extension Number + Password (of this extension)" must be dialled.
5. A normal extension that is talking to the doorphone extension can activate door-opener by pressing "#" with the following conditions:
  - a) If he has Intrusion Authority 0, he activates the relay on the system.
  - b) If he has Intrusion Authority 1, he activates the first relay on first RL04.
  - c) If he has Intrusion Authority 2, he activates the second relay on the first RL04.

## Toll Account:

8 0 7 9 A P

### Parameters:

A : The extension access code

P : 0000...9999 The total number of metering pulses that the extension can spend during external calls.

### Cancellation

8079 A \*

### Default Value

No toll account is defined.

### Notes

1. If Toll Account is defined for an extension, then on the lines where the pulse price is defined with 8778 coded program, for each received metering pulse from C.O. line or with each unit calculated by Tariff Table program, the value of P is decrements by one. The metering pulses are counted When p decreases to 0 the extension cannot make more external calls.
2. The call is cut as soon as the value of P is decreased to 0.
3. This program is not active on the lines, which are set to make no authority control by 800 coded program.

## Extension CID Mode:

Thanks to this program each extension can be programmed individually to receive ETSI or Bellcore standard Caller ID information. The default is the ETSI standard.

Furthermore, through this program, the “Ext.” field in the internal call Caller ID indication can be enabled or disabled. With this field disabled, if the name of the calling subscriber is defined in the system, it is sent to the called subscriber. Otherwise the phone ID is sent. Enabling this field lets the extension receive “Ext” when the calling subscriber name is not defined.

8 7 7 6 5 0 1 A [9] F B

### Parameters

A : The extension access code  
 F : 0 ETSI  
     : 1 Bellcore  
 B : 0 “Extension” name is sent  
     : 1 “Extension” name is not sent

### Default Value

F = 0 and B = 0 for all extensions

### Notes

1. After entering 8776 5, if an extension whose name has been defined through Net-Console calls, the name information of the extension will be displayed on the otherside. If there is no name definition made through Net-Console, only the number of the extension will be displayed.
2. For single line LCD telephones, it will be supplied to be displayed the telephone number with entering “1” for parameter B.
3. This program will be supported with the Net-Console release AAS.

# LINE PROGRAMS

## Line Status & Signalling:

This program determines activation or deactivation of a line for service, as well as the signalization that will take place over the line. Moreover, Caller ID detection for the definite line can be programmed with this program. The parameters “C” is valid and needed for all MS series systems, as well as the Caller ID supporting models and if there is a ID12 module operating with the system.

8 9 D [9] P {T} {C}

### Parameters

|   |   |                                                            |
|---|---|------------------------------------------------------------|
| D | : | The line access code                                       |
| P | : | 0 Out of service                                           |
|   | : | 1 In service                                               |
|   | : | 2 In service only for incoming calls                       |
| T | : | 0 DP (pulse) signalling is used.                           |
|   | : | 1 DTMF (tone) signalling is used.                          |
| C | : | 0 Caller ID detection is OFF                               |
|   | : | 1 Detection of Caller ID in both FSK and DTMF Format is ON |

### Default Value

P = 0, T = 0, C = 0 for all lines.

### Notes

- 1- Example: To put the line 02 in service with DTMF dialing, 89 02 1 1, with DP dialing 89 02 1 0, to put is out of service 89 02 0 must be dialed.
- 2- T and C parameters are not entered for activations of IP lines.
- 3- For the line where “P” is entered as 2, the incoming calls are accepted but extensions cannot use this line to make outgoing external calls.
- 4- If the parameter “C” is not dialled within 3 seconds, the line will be automatically marked as 0, and Caller ID detection will be OFF for the line.

## Call Time-Out For Lines:

With this program, the duration limitation can be defined for a specific line. This way the line can be controlled in terms of duration.

8 9 9 D [9] F

### Parameters:

|   |   |                                                 |
|---|---|-------------------------------------------------|
| D | : | The line access code                            |
| F | : | 01-89 Conversation time-out duration in minutes |
|   |   | 00 No duration limit                            |

### Notes:

1. The line is automatically dropped at the end of the defined period if the time out duration is programmed through the 899-coded program for the calls with dialling 9, by selective line access, with the 799, 797 and 790-coded programs and auto-dialling through common&private pools.
2. If the time-out duration is programmed through this program, whenever the defined line is taken and then the conversation is established, the line is automatically dropped at the end of the period F.
3. The extension who takes the defined line is warned by a short tone 15 seconds prior to termination of the conversation.
4. The incoming calls through the related line are not affected from this defined time-out duration.
5. When “polarity reversal detection” and “call time-out” programs are defined for analog lines both of them work properly at the same time.

Line Parameters:

This program assigns various parameter values for a line.

8 0 0 D A P R S T ( D a y m o d e )

8 0 0 D A ( N i g h t M o d e )

Parameters

- D : The line access code
- A : The access code of the extension that will be rung by the line.
- P : 0 The line can be accessed both by dialing 9 and by selective line access as well.  
 : 1 No access to the line by dialing 9, only selective line access.
- R : 0 Line call authorities of extensions requesting line access are checked.  
 : 1 Line call authorities of extensions requesting line access are not checked.
- S : 0 No fax router mode is active on the line  
 : 1 Fax router mode 1 is active  
 : 2 Fax router mode 2 is active
- T : 0 Auto answer mode of EVM module is active  
 : 1 When the system in night mode, even the ACD is in service, the EVM services are not used for the line and when the ACD is out of service and the Night Mode Greeting message is recorded, the automatic answering service is not used.

Default Value

A=Operator, P=0, R=0, S=0 and T=0 for all lines.

Notes

1. P = 1 is especially useful when T is connected to one of the extensions of another exchange to form a tie line.
2. R = 1 is especially useful when T is connected to one of the extensions of another exchange to form a tie line.
3. If S = 0, then A defined in the night mode is the night ringing extension. Thus different ringing extensions for day mode and night mode can be defined.



4. If  $S = 1$ , then A defined in the night mode is the fax extension. The items below explain this in detail.
  - In *Day Mode* When the ringing extension answers the call the systems checks the incoming tone.
    - \* If it is a fax call, it is diverted to fax extension. If fax extension does not answer the call for 6 ringing periods, the call is diverted to the ringing extension. D is released if the ringing extension does not answer the call for 9 ringing periods.
    - \* If it is not a fax call, the ringing extension goes on conversing.
  - In *Night Mode*, the system answers all incoming calls through D automatically and then checks the incoming tone. In the meantime, the external caller waits with ring-back tone as long as 10 seconds.
    - \* If it is a fax call, it is diverted to fax extension. D is released if the fax extension does not answer the call for 6 ringing periods.
    - \* If it is not a fax call, it is diverted to the operator and D is released if the operator does not answer the call for 5 ringing periods.
5. If  $S = 2$ , then A defined in the night mode is the fax extension. The items below explain this in details:
  - In *Day Mode*, the system answers all incoming calls through D automatically and then checks the incoming tone. In the meantime, the external caller waits with ring-back tone as long as 10 seconds.
    - \* If it is a fax call, it is diverted to the fax extension. If "Polarity Reversal" facility has been activated the fax extension rings for maximum 6/9 ringing periods until polarity reversal is detected on D.
    - \* If "Polarity Reversal" facility has not been activated, D is released if the ringing extension does not answer the call for 4 ringing periods.
    - \* If it is not a fax call, it is diverted to the ringing extension. D is released if the ringing extension does not answer the call for 5 ringing periods.
  - In *Night Mode*, the system answers all incoming calls through D automatically and then checks the incoming tone. In the meantime, the external caller waits with ring-back tone as long as 10 seconds.
    - \* If it is a fax call, it is diverted to the fax extension. If "Polarity Reversal" facility has been activated the fax extension rings for maximum 6/9 ringing periods until polarity reversal is detected on D.
    - \* If "Polarity Reversal" facility has not been activated, D is released if the ringing extension does not answer the call for 4 ringing periods.
    - \* If it is not a fax call, it is diverted to the operator and D is released if the operator does not answer the call for 5 ringing periods.
6. If there is not EVM-DL module installed on the system, parameter T cannot be entered.
7. If parameter T is entered as 1, then the ACD lines function as normal lines.

## Line PBX Group:

In case selectively accessed line is busy, this program allows automatic connection of an extension to the next available line in the group, by defining a line PBX group.

8 0 5 0 D E

### Parameters

- D : The access code of the line to be added on the PBX group.  
E : The access code of the line that will follow the line to be added on the PBX group.

### Default Value

No line PBX group has been defined.

### Cancellation

8050 D D

### Notes

1. By entering the code more than once, it is possible to add lines in desired quantity on a line PBX group. Yet those lines must form a chain. That means the last member of the PBX group must be forwarded to the first member in the group.
2. In order to discard line D from a PBX group, the code 8050 D D should be entered and the previous and the next line in the group must be related by the code 8050 in order to preserve the chain.

Example: Suppose that the programs

8050 01 02, 8050 02 03, 8050 03 04 and 8050 04 01 have been entered for a PBX group. In that case, the programs below should be entered in order to discard the line 02 from the PBX group:

8050 02 02

8050 01 03

3. In order to cancel a whole PBX group, the program 8050 D D must be entered for each line one by one.

**DISA / ACD Line Selection:**

This program marks an analog line as DISA / ACD. Extensions can be directly accessed without assistance of the operator for calls made through a line marked as DISA / ACD. Someone calling through DISA / ACD lines will have 15 seconds to dial number of the extension s/he wants to make conversation with. The caller receives a tone specific to DISA /ACD line within that period. With this program, it is also possible to program the ringing period of the definite extension called through ACD line and the operator.

**8 0 7 0 D P C**

**Parameters**

- D : The line access code
- P : 0            The Line is in normal service.  
       : 9            DISA is active in the line.  
       : 8            The line has been enabled for ACD usage.
- C : 1, 2, 3, 4    Ring Count

**Default Value**

P=0, C=1 for all lines.

Notes

1. DTMF telephone set is required in order to dial extension numbers for making calls through DISA/ ACD line.
2. If no extension number is dialed within 15-second period during calls through DISA line, then the caller is transferred to the operator or to the ringing extension. If that transferred call is not answered within programmable period of time, then the line is automatically released.
3. A DISA-line caller
  - Can refresh special DISA dial tone by pressing "\*" key, so that s/he can call another extension in case the called extension is busy or does not answer.
  - Can drop the line by pressing "#" key.
4. If an extension called through DISA line is busy or does not answer, the system gives another 15 seconds to the caller to call another extension. 9 such attempts can be done. If no connection has been established after the 9<sup>th</sup> try, the call is transferred to the operator or to the ringing extension. If, furthermore, that transferred call is not answered within 5 ringing periods, then the line is automatically released.
5. The ringing duration of the calls which are automatically transferred to the operator can be set by programming.
6. If the operator does not activate the ACD, then the ACD lines function as normal lines.
7. If polarity reversal facility has not been set by CO in a line defined as DISA / ACD, even if caller hangs up during dialing step, then the call rings at the operator and the operator receives CO tone when s/he answers the call. (3.11K or better) However, if CO has set polarity changing property in that line, then, in that case, when the caller party hangs up, the polarity of the line will change and the exchange, which detects this, will drop that line. Hence, invalid call requests to the operator will be blocked.
8. "C" parameter can be activated only for ACD lines. After the defined period by the parameter "C" the Entry Message is listened to the caller side.

## Line Voice Level:

This program adjusts voice level on a line.

8 0 2 5 D P

### Parameters

D : The line access code

P : 0 Normal voice levels

: 1 Receive voice level is increased and transmit voice level is decreased.

### Default Value

P=0 for all lines.

### Notes

This program does not function for IP lines.

# IP PROGRAMS

## MGW IP Address:

IP address of Media Gateway Card (MGW) can be identified by this program. With the definition of MGW IP address, IP address that is used to access the system web interface and Net-Console Server IP address are also defined. In addition to that, SIP Proxy Server IP address (SIPSPC) that the IP extensions are registered to has been also defined.

8 7 7 6 6 0 1 M P

### Parameters

M : 0 Static IP mode  
: 1 DHCP IP mode  
P : IP number (in NNN#NNN#NNN#NNN\* format)

### Default Value

M=0 and P=192.168.201.25

### Notes

1. Example: For static 192.168.23.2 IP address, 8776 6 01 0 192#168#23#2\* is dialed.
2. If M parameter is selected as '1' the system automatically tries to obtain an IP address from DHCP. If the system is unable to get IP address from the DHCP, the IP address entered as P parameter is used.

## RTP Starting Port Number:

RTP starting port that will be used during the transmission of the audio/voice packages can be determined through this program. RTP port numbers are used if there is a call coming from WAN to IP telephones. The firewall or router -or similar network device- must be programmed such that the call requests from this port must be forwarded to the IP address of the related telephone.

The other RTP port numbers that will be used by MGW channels are assigned by adding 2 to the starting RTP port number. For example, when the starting port is defined as 5000, RTP port for the 0<sup>th</sup> channel will be assigned as 5000; RTP port for the 1<sup>st</sup> channel will be assigned as 5002, RTP port for the 2<sup>nd</sup> channel will be assigned as 5004, etc.

8 7 7 6 6 0 2 P

### Parameters

P : Port number (in P P P P P\* format)

### Notes

Example: 8776 6 02 5000\* is dialed to set the starting port number as '5000'.

## VoIP Line IP Address:

By this program, IP address of SIP Proxy Server application that will be used for external calls through VoIP lines can be defined.

8 7 7 6 6 0 3 P

### Parameters

P : IP number (in N N N # N N N # N N N # N N N\* format)

### Default Value

M=0 and P=192.168.201.27

### Notes

Example: For 192.168.23.2 IP address, 8776 6 03 192#168#23#2\* is dialed.

## MC IP Address:

When the system is being established for the first time, IP address of the MC (Micro Control), namely main board IP address should be defined. MC can be considered as the basic IP address, which the system is used within itself. Except for the initial setup, there is no need any programming related to MC or main board.

While the system is being installed MC IP assignment need to be done with this program. The same IP assignment can be also done via web interface of the system.

8 7 7 6 6 0 4 M P

### Parameters

M : 0 Static IP mode  
 : 1 DHCP IP mode  
 P : IP number (in NNN#NNN#NNN#NNN\* format)

### Default Value

M=0 and P=192.168.201.26

### Notes

If M parameter is selected as '1' the system automatically tries to obtain an IP address from DHCP. If the system is unable to get IP address from the DHCP, the IP address entered as P parameter is used.

## MC Subnet Mask:

With this program Subnet Mask of MC should be assigned.

While the system is being installed MC Subnet Mask assignment need to be done by using this program. The same IP assignment can be also done via web interface of the system.

8 7 7 6 6 0 5 P

### Parameters

P : IP number (in NNN#NNN#NNN#NNN\* format)

### Default Value

P=255.255.192.0.



## Defining IP Address:

Extension numbers of the IP extensions that will be defined in the system are matched with the IP addressees of them by using this program.

Example; If we suppose that the IP extension numbers are defined between 174 and 151 by the programmer; IP extensions numbered between 174 and 151 should be matched with the IP addresses of these IP extensions.

8 7 7 6 6 5 1 S M P

### Parameters

- S : IP extension number
- M : 0 Static IP Mode  
: 1 Dynamic IP Mode
- P : IP number (in NNN#NNN#NNN#NNN\* format)

### Notes

1. Example: 8776 6 51 155 192#168#23#2\* is dialed to set the IP number as '192.168.23.2' for the IP extension numbered 155.
2. For S parameter, the number used while the IP extension is assigned into the system must be entered.
3. While M=0, the entered IP address is compared with the IP address of the extension sent during registration. If the numbers are different, extension's connection request is rejected.
4. While M=1, the IP number is not checked during registration and the sent IP address of the extension is recorded as the current IP number. If the M parameter is selected as '1', P parameter is not entered (programming will be completed by the \* key, instead of entering P parameter).

## Defining SIP Port Number:

For the SIP communication, SIP signaling port must be programmed. (When SIP extensions establish a conversation among themselves, there is no need to be set MGW card specifically.)

SIP signaling default port number of the system is coming as dynamic. If it is required to be set as static, the desired port number can be defined by using this program. This value can be displayed through System Administrator program.

8 7 7 6 6 5 2 S M P

### Parameters

S : IP extension number  
 M : 0 Static IP Mode  
     : 1 Dynamic IP Mode  
 P : Port number (in P\* format)

### Default Value

M=1.

### Notes

1. Example: 8776 6 52 151 5000\* is dialed to set the port number as '5000' for the IP extension numbered 151.
2. For S parameter, the number used while the IP extension is assigned into the system must be entered.
3. While M=0, the entered SIP port number is compared with the SIP port number of the extension sent during registration. If the numbers are different, extension's connection request is rejected.
4. While M=1, the SIP port number is not checked during registration and the sent SIP port number of the extension is recorded as the current number. If the M parameter is selected as '1', P parameter is not entered (programming will be completed by the \* key, instead of entering P parameter).

## Password Control for IP Extensions:

For IP extensions, whether the password control will be done or not during the registration or/and calling is determined with this program.

If any password control is activated, extension password definition should be done to let the system makes the related authorization for the required cases. By this program, the password can be defined for each IP extension on the system.

8 7 7 6 6 5 3 S G P

### Parameters

|   |   |                                                              |
|---|---|--------------------------------------------------------------|
| S | : | IP extension number                                          |
| G | : | 0 There is no password control                               |
|   | : | 1 Password control for the registration, not for the calling |
|   | : | 2 Password control for both, registration and calling        |
| P | : | Password (max 16 digits)                                     |

### Notes

1. Example: 8776 6 53 151 2 155 is dialed to set the password as '155' and the security level as '2' for the IP extension numbered 151.
2. For S parameter, the number used while the IP extension is assigned into the system must be entered.
3. While G parameter is set as '1' or '2', after registration of the IP extension, match of the password and the extension number is done automatically by the system. System rotates positive response to requests from extension.
4. The IP extension whose G parameter is defined as '0' is cancelled. Except the extensions connected via the LAN, it is not recommended to use the security levels as '0'.

## VoIP Channel Configuration:

The number of the channels reserved for IP extensions and the number of VoIP lines to be used in the system can be defined by this program.

8 7 7 6 6 0 6 T K

### Parameters

|   |   |       |                                  |
|---|---|-------|----------------------------------|
| T | : | 00-12 | VoIP line number                 |
| K | : | 00-12 | Channel number for IP extensions |

### Default Value

T=04 and K=04.

### Notes

1. Example: To assign 2 channels for VoIP lines and 6 channels for IP extensions, 8776 6 06 02 06 is dialed.
2. Maximum T and K values can be up to the number of available MGW channels in the system. For example, if the system has 12 channels, T = 12 and K = 12 is a valid configuration.

# FLEXIBLE NUMBERING PROGRAMS

The access codes of extensions, as well as feature codes, can be changed through the flexible programming feature in your PABX system. The numbers have been assigned as factory default, as the first number of the first card being 111 and incrementing that number by one for the following extensions. The new extension numbers of feature codes can be defined as up to 4 digits. After changing the access code of an extension, the old program parameter values remain the same, whereas the new parameters must be defined to the new access code.

The programs related to the flexible numbering are entered while the system is in the programming mode. Since those data are stored separately from other parameters, even if the system is reset through the code 7459, they retain their most recent values.

## Flexible Numbering Initiation:

This program initiates the flexible numbering on the system as loading the initial values of the extension access codes to the flexible numbering table of the system.

8 8 6 9

### Notes

1. The initial access codes are the same as physical access codes. Regardless of the system capacity all the extension access codes are loaded on the table.
2. As factory default, the flexible numbering table is empty and is not used. If any extension or feature code is changed by flexible numbering before this code is dialed, then only this extension or feature can be accessed on the system. Therefore, this code must be dialed prior to the first flexible numbering programming. However, if the existing flexible numbering plan is to be changed, this code must not be used, otherwise the current numbering plan is lost and the default values are loaded on the table.
3. Once the 8869 code is dialed, regardless of the capacity of the system, the table is filled as the system has the maximum capacity. Therefore, the nonexistent extension numbers must be deleted prior to changing the extension numbers in order to prevent the conflicts.
4. This code can also be useful to set the table to defaults if the numbering plan is very much complicated.
5. After this program is entered, the relay and doorphone access codes are changed as follows, for MS48IP systems with capacities smaller than 24 ports:

Doorphone access code: 110

Door-opener code: 100 (extension numbers become 3 digits)

## Extension Access Code:

This program changes the extension numbers.

8 8 6 A E

### Parameters

- A : The access code of the extension, or  
110 (in order to change access code of doorphone), or  
161 (i order to change relay activation code)
- E : The new access code. (minimum 1, maximum 4 digits)

### Notes

1. A new access code can be entered for any extension or a line through this program. If the entered access code is of 4 digits, then dial tone or the invalid operation tone is received after entering the last digit. If dial tone is received, then the entered code does not coincide with any other code and the operation has been accomplished. On the other hand, if the invalid operation tone is received, then that means the code coincides with other codes, thus the operation has not been accomplished.
2. If the entered access code is of less than 4 digits, then the operation should be terminated with "\*" key. (If the operation is attempted to be terminated by hanging up, then it cannot be accomplished.) In that case, either dial tone or the invalid operation tone is received. For the invalid operation case, either the coincided code must be replaced by another, or must be temporarily deleted. Clearing access codes facilitates the entry of a numbering plan with many coincidences with the previous codes. (see Clearing Access Codes)
3. The access code of the line with number A is cleared after entering 886 A \* and receiving dial tone, respectively. That line can no longer be accessed, when another extension is called or external call is made through that line, nothing is transmitted as the access code of the line. Clearing access code can be applied as a temporary action in case there is code coincidence.

For example, suppose you would like to change the access code of an extension from 112 to 144, and at the same, you would like to change access code of another extension from 144 to 112. Both of the actions 886 112 144\* and 886 144 112 \* will result with error. In that case, the programs 886 144 \*, 886 112 144 \* and 886 144 112 \*, respectively, should be entered.

4. If the Karel Feature Phone is utilized for programming, then the coinciding number will be displayed, in case of a coincidence.
5. With this program the doorphone access code and the door-opener access codes can be changed also.

## Digit Access Code:

This program changes the digit values, so that the feature access codes or extensions access codes, having this digit are also changed.

8 8 6 0 0 B E

### Parameters

B : 0, 3...9 The digit to be modified.(1 and 2 cannot be changed)

E : The new access code. (minimum 1, maximum 4 digits)

### Notes

1. A new access code can be entered for any extension or a line through this program. If the entered access code is of 4 digits, then dial tone or the invalid operation tone is received after entering the last digit. If dial tone is received, then the entered code does not coincide with any other code and the operation has been accomplished. On the other hand, if the invalid operation tone is received, then that means the code coincides with other codes, thus the operation has not been accomplished. If the entered access code is of less than 4 digits, then the operation should be terminated with "\*" key. (If the operation is attempted to be terminated by hanging up, then it cannot be accomplished.) In that case, either dial tone or the invalid operation tone is received. For the invalid operation case, either the coincided code must be replaced by another, or must be temporarily deleted. Clearing access codes facilitates the entry of a numbering plan with many coincidences with the previous codes.
2. Once a digit value is changed, the feature codes starting with this digit, starts with the new value of the digit. The same is valid for the feature codes dialed after "#".
3. The substitutes are not valid for the codes, which are dialed while receiving busy tone and overflow tone and during ongoing conversations.  
  
(E.g. Even if 0 is changed to another digit, the users still activate Intrusion facility by dialing 0.)
4. If "8" is accidentally cleared by dialing this code before a new code is assigned for "8", or if you forget the new access code for "8", the system will reject every code (including the program codes) beginning with 8. In that case (provided that a KAREL Console or Feature Phone is used):

Press "8" until "88" is seen on the display of the telephone, dial "77777" to enter the Programming Mode, press "8" once more until "88" is seen on the display of the telephone and then dial "869" to restart Flexible Numbering.

**Feature Access Code:**

This code changes the feature access codes.

8 8 6 0 P E

**Parameters**

- P : The Feature code (2-digit special code)  
 E : The new access code (minimum 1, maximum 4 digits)

**Feature Access Code Table**

| P  | Feature                                                               | Default Code |
|----|-----------------------------------------------------------------------|--------------|
| 10 | Parallel Operators                                                    | 856          |
| 11 | Background Music                                                      | 857          |
| 12 | Night Mode Activate                                                   | 858          |
| 13 | Programming Facility Keys                                             | 859          |
| 14 | EVM Features                                                          | 864          |
| 15 | Paging-Group                                                          | 865          |
| 16 | Paging-All                                                            | 866          |
| 17 | Paging An Extension                                                   | 867          |
| 18 | Night Guard Service                                                   | 869          |
| 19 | Auto Attendant                                                        | 874          |
| 20 | Night Mode Cancel                                                     | 878          |
| 21 | Night Mode Activate                                                   | 879          |
| 22 | Selective Call Pick Up                                                | 82           |
| 23 | Password Define / Password Update                                     | 836          |
| 24 | Phone Lock                                                            | 837          |
| 25 | Reminder & Wake-Up Services                                           | 838          |
| 26 | Time Setting                                                          | 88           |
| 27 | Auto-Dial (Last Number & Private Pool)                                | 77           |
| 28 | Auto-Dial (Common Pool)                                               | 78           |
| 29 | Follow Me                                                             | 85           |
| 30 | Follow Me (No Answer)                                                 | 86           |
| 31 | Remote Follow Me                                                      | 855          |
| 32 | Marked External Calls                                                 | 790          |
| 33 | Account Coded External Calls /<br>Forced Account Coded External Calls | 797          |
| 34 | Password Dialing From Another Extension                               | 799          |
| 35 | Hotel Room Tidiness / Vacancy                                         | 730          |
| 36 | Hotel Room Query                                                      | 731          |
| 37 | Hotel Room Check-In /Check-Out                                        | 732          |
| 38 | Permanent Absent Message                                              | 737          |
| 39 | Meet Me                                                               | 738          |



Notes

1. P can be 1, 2, 3 or 4 digits.  
If P is less than 4 digits, then you have to hang up after dialing P to complete the entry of the program.
2. If P coincides with any existing code, error tone is received after entering the program. Then the existing code has to be cleared or changed first to be able to allocate this code to another feature.
3. If the entry of the program results with an error tone, the coinciding number will be seen on the telephone set provided that a KAREL Console or Feature Phone is used.
4. Even after changing a feature code, the old code can be used, as well.

Clearing Extension Access Codes:

This program clears all extension numbers.

8 8 6 8

Notes

If a new numbering plan coincides with the previous or the default ones at too many points, then it may be too cumbersome to enter the new plan by the code 886 A E, so all extension and line numbers are cleared through the code 8868. Then it will be necessary to enter new access codes for extensions and lines all over again. If the number of any extension is not entered after dialing that code, then one cannot access that extension.

Resetting The Flexible Numbering:

This program resets the flexible numbering and the factory set access codes are assigned to extensions and features.

8 8 6 7

## Saving The Flexible Numbering:

This program saves all the flexible numbering plan to the non-volatile memory of the system.

8 8 6 6

### Notes

The modifications, which have not been saved, can be lost in case of power failure.

## Reloading The Access Table:

This program reloads the recently saved flexible numbering plan to the table.

8 8 6 5

### Notes

Each time the system is powered on and once everyday in normal operation mode, the flexible numbering table is reloaded from the non-volatile memory. The system uses the flexible numbering table in daily operation. If any inconvenience is monitored in this table, this code can be used to reload the table.

## SUMMARY:

### When “8” Cannot be used:

If “8” is accidentally cleared by dialing this code before a new code is assigned for “8”, or if you forget the new access code for “8”, the system will reject every code (including the program codes) beginning with 8. In that case (provided that a KAREL Console or Feature Phone is used):

Press “8” until “88” is seen on the display of the telephone, dial “77777” to enter the *Programming Mode*, press “8” once more until “88” is seen on the display of the telephone and then dial “869” to restart *Flexible Numbering*.

### Entering a New Numbering Plan (Following Reset):

- Fill in the Access Table form.
- If you clear the access codes of some non-existing extensions in the system in order to assign them to the existing extensions, or, in order to utilize the starting figures of them (eg. utilizing 2 in a system without an extension whose number starts with 200), then enter Inaccessible next to that extension in the form.
- Initiate the Flexible Numbering by dialing 8869.
- If there are lots of conflicts in your numbering plan, dial 8868 to erase the existing plan.
- Enter a new numbering plan through the programs 886, 8860, and 88600.
- Check whether the plan has been entered correctly by calling the extensions and accessing the features.
- Transfer the Access Table to the non-volatile memory through the program 8866.
- Keep the Access Table form; it will be necessary in the future, when you would like to make modifications.

### Entering a New Numbering Plan (While there is already another plan):

- Fill in an Access Table form a new.
- If the numbering plan to be entered coincides with the current plan too much, then clear the extension access codes through 8868 or load the default values to the table through 8869.
- Enter the new numbering plan through the programs 886, 8860 and 88600. In case there are coincidences, clear the coinciding access codes temporarily through the code 886 A\*, 8860 P\* or 88600 B\*.
- Check whether the plan has been entered correctly by calling the extensions and accessing the features.
- Transfer the Access Table to the non-volatile memory through the program 8866.
- Keep the Access Table form; it will be necessary in the future, when you would like to make modifications.

### Making Modifications on the Current Numbering Plan:

- Make the necessary modifications on the current Access Table.
- Dial 8865 to reload the current Flexible Numbering Plan on to the table.
- Make the modifications, which have been recorded into the form, through the programs 886, 8860 and 88600.
- Check whether the plan has been entered correctly by calling the extensions and accessing the features.
- Transfer the Access Table to the non-volatile memory through the program 8866.
- Keep the Access Table form; it will be necessary in the future, when you would like to make modifications.

### Resetting the Flexible Numbering:

- Dial 8867 to reset the flexible numbering.
- Dial 8866 to save the modification to non-volatile memory.

### In Case Problems Related to Accessing Occur:

Dial 744 on the operator phone. That code will re-load the program parameter and the Access Table from the non-volatile memory. If the problem persists, then make the necessary corrections on the Flexible Numbering Plan.

# CALL RECORD LISTING PROGRAMS

## Line Pricing Information:

This program determines a different type of pulse price on lines for extensions, provided that CO supports that feature.

8 7 7 8 D P

### Parameters

- D : The line access code  
P : Unit price of at most 5 digits

### Cancellation

8778 D \*

### Default Value

No price has been determined.

### Notes

1. A serial printer can print costs (calculated over the unit price that has been determined) of calls, provided that CO metering pulse is active on lines. The unit pulse price must have been determined for that. That unit, P can be at most 65593.
2. If the price is less than 5 digits than 0 must be used as a filler digit prior to the price to fix the price entry to 5 digits. For example: If 145 will be entered as the pulse price for line 01, then the code must be entered as 8778 01 00145.

## Pulse Price Multiplier:

Used to define a coefficient for the pulse price. So that the pulse price enter by the 8778 coded program is multiplied with the coefficient defined with this program and thus output.

8 7 7 8 9 P

### Parameters

|   |   |   |                     |
|---|---|---|---------------------|
| P | : | 0 | Coefficient is 1    |
|   | : | 1 | Coefficient is 10   |
|   | : | 2 | Coefficient is 100  |
|   | : | 3 | Coefficient is 0.01 |

### Default Value

P=0.

### Notes

1. The P value of "3" is available on the systems with software 3.11K or better.
2. In case P=3, the call charge is divided to 100 and then sent to CRL device. For example: 8778 01 00120 is entered to define the pulse price as 120 on line 01. If 87789 3 is entered, the total charge of the call (lets assume 360) is sent as 3.60 to the PC or serial printer.

## CRL Time Filter:

If there is no metering pulse or polarity reversal facilities on lines, then this program can be used to calculate the outgoing call duration as appropriate as possible.

8 7 7 7 P

### Parameters

P : 10 ...90 CRL Filter Time in seconds.

### Default Value

P=30

### Notes

1. The minimum value of the parameter P is 10 for export systems.
2. This program is used to record calls as the duration specified with "P" elapsed without any relevant tone (ring back, busy, overflow, etc.) is received through the line.
3. For the extensions to which fax or modem is connected, the tone reception routines used by this program may decrease the communication speed. Therefore, for such extensions the intrusion authority level is set to "6" and thus the CRL Time Filter is not applied to these extensions and thus the communication speed is high enough.

## Polarity Reversal:

Activates the Polarity Reversal detection for lines where the C.O. provides Polarity Reversal facility. Through polarity reversal detection on the lines:

- a) The exact duration of the outgoing call can be calculated.
- b) If an external caller, calling the system through a DISA or ACD line hangs up the telephone before the call is answered by an extension, the line is automatically dropped.
- c) If one of the parties hang up the telephone in Line-Line Connection, External Call Diversion or Remote Line Access features, the two lines are automatically dropped.
- d) If an external party hangs up the telephone, while her/his call has been parked on the system, the line is dropped.

8 0 2 2 2 D P

### Parameters

- D : The line access code
- P : 0 The system cannot detect Polarity Reversal on D.  
 : 1 The system can detect Polarity Reversal on D.

### Default Value

P=0.

### Notes

1. When P = 1, the system does not record the calls established through the lines where the Polarity Reversal is not detected.
2. If the C.O. is providing *Polarity Reversal* facility and if parameter P = 1, the system uses *Polarity Reversal* to calculate the duration of the outgoing external calls in the following way:
  - The polarity is reversed by the C.O. when the external party lifts his handset and this reversal is noted as the starting time of the call.
  - The time when the extension hangs up is noted as the ending time of the call.

Thus,  $\text{Call duration} = \text{Ending time of the call} - \text{Starting time of the call}$



**Tariff Table:**

Allows preparing a Tariff Table for charging the outgoing calls.

8 0 2 3 P R S H H M M<sub>S</sub> H H M M<sub>E</sub>

**Parameters**

|                   |   |                             |                                                                       |
|-------------------|---|-----------------------------|-----------------------------------------------------------------------|
| P                 | : | 1                           | The tariff for local calls is developed.                              |
|                   | : | 2                           | The tariff for long distance calls is developed.                      |
|                   | : | 3                           | The tariff for international calls is developed.                      |
| R                 | : | 0                           | The tariff – 0 is developed.                                          |
|                   | : | 1                           | The tariff – 1 is developed.                                          |
|                   | : | 2                           | The tariff – 2 is developed.                                          |
|                   | : | 3                           | The tariff – 3 is developed.                                          |
| S                 | : | 000,...,250                 | The unit duration (in seconds) which the system uses to charge calls. |
| HHMM <sub>S</sub> | : | Starting time of the tariff |                                                                       |
| HHMM <sub>E</sub> | : | Ending time of the tariff   |                                                                       |

**Notes**

1. This form of the program is available on systems with software 3.11H or better.
2. Starting and ending time parameters of this program can be entered only if R is not "0". Starting time of the period for Tariff-0 is determined by the ending time of the Tariff-3 and ending time of the period for Tariff-0 is determined by the starting time of the Tariff-1.
3. While calculating the cost of calls, the system decides on the Tariff by comparing the starting time of the call with time parameters of this program.
4. Using this program, a table, which can be simply figured as below, can be formed:

|                     | Tariff – 0 | Tariff – 1 | Tariff – 2 | Tariff – 3 |
|---------------------|------------|------------|------------|------------|
| Local Calls         | R01        | R11        | R21        | R31        |
| Long Distance Calls | R02        | R12        | R22        | R32        |
| International Calls | R03        | R13        | R23        | R33        |

**Call Record Media And Status:**

That program defines the device to which the call records are to be output and the type of calls to be recorded.

8 7 7 P R

**Parameters**

|   |   |   |                                                                     |
|---|---|---|---------------------------------------------------------------------|
| P | : | 0 | No recording                                                        |
|   | : | 1 | Only international outgoing calls are recorded.                     |
|   | : | 2 | Only long distance and international outgoing calls are recorded.   |
|   | : | 3 | All outgoing calls on lines are recorded.                           |
|   | : | 4 | Unanswered incoming calls and all outgoing line calls are recorded. |
|   | : | 5 | All incoming and outgoing line calls are recorded.                  |
| R | : | 0 | The call records are sent to PC (Net-CM)                            |
|   | : | 1 | The call records are sent to serial printer                         |
|   | : | 2 | The call records are sent to KY16 Mini Printer                      |

**Default Value**

P=3, R=0.

**Call Record Counter Reset (Only for operator):**

All the call records are output with a 4 digit counter number. If required this counter can be reset to 0000.

8 7 6 9

**Call Record-Exempt Port:**

This program discards calls of a certain port from the call records. That feature is especially useful if the port is connected to another system via an exchange-exchange connection, or if the external calls of the extension must remain confidential.

8 0 8 3 A P

**Parameters**

- A : The port access code
- P : 0 Calls of the extension / through the line appear in call records.  
 : 1 Calls of the extension / through the line do not appear in call records.

**Default Value**

P = 0 for all ports.

**Notes:**

In order to appear the calls through the line in call records following codes are needed. According to the system capacity these codes are changeable:

| Capacity                                                  | Programming Code |
|-----------------------------------------------------------|------------------|
| Systems with capacity 4/12 or 6/18                        | 8083 D           |
| Systems with other capacities or with Flexible Numbering. | 8083 0 D         |

*D: Line access code.*

# REMOTE PROGRAMMING

The MS Series systems can be remotely programmed over the telephone lines.

The remote programming feature is one of the best and most efficient means of software maintenance especially on customer side.

Instead of spending extra time and making extra effort to reach the customer, a responsible technician can take advantage of the Remote Programming method in order to enter all of the programming codes and to activate some of the user features.

This chapter gives information about the features a technician can make use of through remote programming. The terminology below applies within the chapter:

The technician: The person who performs the remote programming.

The Admin: The system supervisor on the customer side.

## Activation Of The Remote Programming:

# 3 8 2 8 or # 3 7 4 8

The system supervisor can put the system into remote programming mode. In order to realize this, s/he has to make hook flash and dial 3828 (or 3748) while speaking with the technician. In that case the line in use is marked as DISA and the technician can program the system by exploiting all the authority the Admin possesses. The Admin can activate the remote programming for more than one line simultaneously so that more than one technician can program the system at the same time.

## Important Notes For The Technicians Who Will Make Use Of The Remote Programming Feature:

- a) If the technician is the extension of another system:
  1. The technician must be using a DTMF telephone set.
  2. The system, which the technician has employed, must be transmitting the dialed DTMF tones directly to CO. In other words, the system must not be processing those DTMF tones before transmitting to CO. For instance, if the system is an MS48, then the technician must be prohibited by programming to use the keys “\*” / “#”.
- b) If the technician is directly connected to CO and the remote programming line is in DP mode:
  1. In order to start the remote programming, either the operator should call the technician or the technician should use a DP-DTMF convertible telephone set.
  2. The technician should be using her/his telephone in DP mode in order to call the operator.
  3. Afterwards, the technician should enter the necessary codes through remote programming by converting the telephone into DTMF mode.
- c) Once the remote programming is activated, if the technician does not enter any code within 5 minutes, then the line is released automatically.
- d) Following the initiation of the remote programming, the technician starts to hear a special discontinuous dial tone and keeps on hearing it after each successful program or feature code entry.
- e) If the technician enters a program or feature code incorrectly, then s/he receives the error tone. In such a case, s/he can refresh the discontinuous dial tone by pressing the “\*” key.
- f) If the numbering plan of the system, which is remotely programmed, has been previously modified, then the technician must use the new numbering plan.

A technician can use all of the program codes (except for the LCR) that are available in this guide. Additionally, s/he can activate the user and operator features below during the remote programming:

1. The night mode
2. Time setting
3. Date setting
4. Common pool entry
5. Parameter download
6. Call Listing
7. All Call Listing / Stop Listing
8. Total Cost Listing
9. Call Record Clear
10. Remote Follow Me
11. Line Access

Since the line used for the remote programming has been automatically marked as DISA, the technician can access another line only by dialing an extension number and entering the corresponding password of that extension.

If no number is dialed within 15 seconds, after another line is accessed, then the line, which has already been accessed, is automatically released.

The external call, which the technician will make, can take at most 50 seconds.

12. Calling an extension

While using this facility, if the extension of the system hangs up, the line is not released but the technician receives the special dial tone for remote programming, so that s/he can continue with the remote programming of the system.

## Exiting The Remote Programming Mode:

8 2 9 or 7 4 9

After the remote programming is completed, the technician should give information to the Admin about the programming s/he has performed.

In order to exit the remote programming mode:

1. The technician can drop the line by pressing the “#” key on her/his telephone.
2. The Admin drops the line by dialing 829 or 749 and the system exits the remote programming mode.

