



CRYSTAL 40ZX USER GUIDE

1. INTRODUCTION

This guide will help you find and learn the dialing codes, so that you can use your CRYSTAL EPABX system exactly the way you want it. Take a little time to read through it and try out some of the codes on your extension.

1.1 Extension Telephone

Electronic push button instruments approved by DOT should be used on the CRYSTAL EPABX. You may use either pulse or DTMF phone on any extension.

1.2 Power Failure

In case of power failure and UPS not attached to the system, the EPABX operates in power-fail mode. Intercom operation stops and all trunks are connected to different extns directly. Calls can be made from these extns. Incoming calls will come on respective extns. This helps to maintain communication with the outside world even during dark outs. The table below shows how various extns are used as power down extns.

Trunk	Extn.
61	201
62	202
63	207
64	208
65	213
66	214
67	219
68	220
69	225
60	226

When mains returns, normal operation shall resume. Changeover from normal to power fail operation and back, is automatic.



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1.3 Optimum utilisation

The ring and ring back tones are automatically shut off if the called party does not reply within approximately 45 seconds. Similarly, the dial tone/busy tone are also shut off after approximately 5 seconds.

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2. INSTALLATION & COMMISSIONING

2.1 Requirements

Installation should be done by authorised & trained personnel only in compliance with D.O.T. (Indian Deptt. of Telecommunication) standards.

2.2 Site requirements

CRYSTAL is designed to work in a normal office environment. The unit should be sited beside's the operator in the reception area and should be away from :

- Processes producing electricity, fumes, dust, gasses or radiation (e.g. silicon or halon contamination from photo copying or fire protection equipment)
- Electrical meters or switchgears
- Water pipe, gas meters, pipes or appliances
- Dampness
- Vibration

2.3 General

Ensure a good power point for the exchange with a 5 pin socket & switch. If possible, the customer should be asked to provide a " clean" power supply direct from the power distribution board. CRYSTAL is set to work at 220V AC, 50Hz mains supply.

Establish a firm ground outside the building. The ground resistance should be within tolerance limit. Connect this ground to earth terminal on the MDF.

NOTE :

A good earth is very essential for protection of junction lines and proper functioning of the system.



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WARNING: ANTI-STATIC PRECAUTIONS MUST BE TAKEN WHEN WORKING WITH THE CARDS OR COMPONENTS OF PIGEON EPABX.

CAUTION: Never insert or pull cards from the equipment with the "power on" under any circumstances. In fixed systems, do not pull out or insert any flat cable during power ON.

2.4 Commissioning checks

Power-up CRYSTAL system and carry out the following checks:

- A)** On each extension check:
 - Internal dial tone
 - Dialling
 - Ringing
- B)** Seize each outside line circuit in turn, dialling 61 for the first circuit, 62 for the second, etc. & check that the line seized LED operates.
- C)** From a DOT extension dial a Jn. number and verify that calls are successfully landing on the main equipment and properly transferred to local extensions. Repeat for all external lines.
- D)** Switch off the exchange. Check the power fail extension for external dial tone. These extensions should be able to dial out and receive respective incoming calls directly.

The exchange once installed and put into operation needs little routine maintenance. Any line fault can be isolated at the MDF, and exchange faults can be isolated at the card level. Faulty cards can be replaced with service cards while they are repaired at authorised maintenance centre to minimise system down time.



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NOTE:

- 1) **For lightning/high voltage protection, it is necessary that you install protection device on all Jn lines and overhead extension lines. Damage caused on CRYSTAL systems due to high voltages is not covered under warranty.**
- 2) In case of a fault on the main equipment which results in the outside line getting held up, immediately isolate the outside junction line by removing the junction line wires.

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3. NUMBERING SCHEME

Extension numbering is three digit starting from 201, 202....
Junction numbering is 61, 62.... 69, 60. Further 40 ZX is 100%
flexible in terms of Jn line / extn. line combinations -- i.e.
simply by using appropriate cards, one can configure 1030
system as 2+38 or 4+36 or 6+34 and so on.

To enable above flexibility there are two types of line cards
2+6 type (i.e. 2 Jn and 6 extn.) and 0+8 type (i.e. ..8 extn.
only). Any type of card can be plugged into any slot. (Do
not use 0+8 card in the 1st slot. This 1st slot is reserved for
2 + 6 card only.) However, if 2+6/0+8 cards are used, then
first all 2+6 cards will be inserted followed by all 0+8 cards.
The numbering scheme for various options shall be as
follows :

1st slot

2+6 line card Jn 61, 62
EXTN 201, 202, 206

2nd slot

2+6 line card Jn 63, 64
EXTN 207, 208, 212
0+8 line card EXTN 207, 208, 212, 233, 234

3rd slot

2+6 line card Jn 65, 66
EXTN 213, 214, 218
0+8 line card EXTN 213, 214, 218, 235, 236

4th slot

2+6 line card Jn 67, 68
EXTN 219, 220, 224
0+8 line card EXTN 219, 220, 224, 237, 238

5th slot

2+6 line card Jn 69, 60
EXTN 225, 226, 230
0+8 line card EXTN 225, 226, 230, 239, 240



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4.BELLS AND WHISTLES

This section describes the ringing pattern of extension phone. Some of these tones will be familiar, others may be new to you.

4.1 Ringing patterns

Your extension phone will ring with a different cadence (ringing pattern), depending on the type of call waiting to be answered, as shown:-

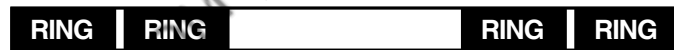
Internal Call



Executive ring



External Call



Alarm Call



Door Phone Ring





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4.2 Tones

To get a demonstration of the various tones, dial from any extrn.,



Users password (By default 89 1111), now

Dial

For dial tone	761-1
For ring back tone	761-2
For busy tone	761-3
For error tone	761-4
For confirmation tone	761-5
For programming tone	761-6
For warning tone	761-9
For music	761-0

To come out of demonstration mode,



Dial 0

NOTE:

Each tone shall be heard for about 20 seconds.



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5. HOOK FLASH

You shall have to use the "Hook-Flash", prior to dialing any facility code.

Hook flash (HF) is a gentle/ slow tap of the cradle switch. After HF, you shall get a slow acceptance tone.

Ex. To transfer a P&T call -

☞ **H/F** (You shall get acceptance beeps)

☞ **Now dial extn. no. and your call is transferred.**

5.1 The Thumb-Rule for using Hook Flash

Whenever dialing any extn. number or code from - dial tone/call forward dial tone/engaged tone, dial straight away.

For dialing extn. number or facility code from ring back tone / conversation mode, first HF and then dial the required number.

NOTE:

1. After completion of any call (internal / external) replace handset for minimum 1 sec for disconnection, before going off hook for the second call.
2. If your instrument is provided with a flash key, enquire the timing of key from your system manager / dealer. If it is below 100 milliseconds, do not use this key (it shall be ignored by the system). You may use the cradle switch for HF. If the timing is between 100-900 msec, you may use this flash key for HF.
3. If while transferring a P&T call, you press any wrong code / extn. no. do not panic. You can HF anytime. You shall come back in speech mode with P&T call. Now, proceed again.



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6 MAKING CALLS

6.1 Internal calls

When you pick-up your phone, you will hear internal dial tone, then :

☞ **Dial extension number**

Extensions are numbered 201 onwards.

6.2 External Calls

Dialing 0/5 automatically gives you an free outside line by rotation. The public dial tone will be different from the internal tone on your CRYSTAL system. So, to make an outside call:

☞ **DIAL 0**

⌚ **Wait for trunk dial tone**

☞ **Dial the required external number**

If for any reason you want to use a specified exchange line to make call,

☞ **DIAL XX**

Where XX is the number of the exchange line (i.e 61 for line no. 1, 62 for line no. 2 and so on)

⌚ **Wait for P&T dial tone**

☞ **Dial the required external number**

Instead of getting trunk dial tone, if you get:

A. CRYSTAL ERROR TONE : This means that your extension is locked from making that type of call.

B. CRYSTAL ENGAGED TONE: It indicates that the junction number is busy.

NOTE:

Do not pause for more than 5 seconds between digits when dialing. After you finish dialing, you must wait for 5 sec. before you dial any facility code (e.g.to transfer a call to another extension etc.)



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7. USERS PROGRAMMABLE FEATURES

Following features/modes can be accessed or changed by any user, provided he knows the users password :

- a) All printing commands
- b) Day/Night/Auto mode chageovers
- c) Forced call disconnecter

To enter users programming mode, dial users password

891111

Now, you can change/access above features. To come out of programming mode,

Dial 0

NOTE:

Above password of '1111' can be changed from the main programming mode.



8. INCOMING TRUNK LINE HUNTING (ROUND ROBIN)

Your system can be programmed such that, incoming P&T calls shall ring directly on the subscriber telephones.

8.1 Round Robin Patterns

A) ROUND ROBIN

The incoming calls shall land directly on the subscriber telephones as per instructions programmed into the system. If an incoming call is not answered within five rings, then the next extn. (as programmed) will ring or, will hear call waiting tone, if busy. A maximum of 5 subscribers can be programmed to ring in a cyclic manner for each junction.

B) DELAYED SIMULTANEOUS

On an incoming call the 1st extn. shall ring. If this extn. does not respond within 5 rings then all balance extns of that group will start ringing simultaneously. Any extn going off hook will get connected to the call.

C) IMMEDIATE SIMULTANEOUS

In this mode, on an incoming call all extns of the group will ring simultaneously.

D) R-ROBIN OFF

In this mode only 1st extn of the programmed group will keep on ringing.

A junction can be set for any of the above four types of ringing pattern separately for day/night mode.



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9. PARKING CALLS

This is the way of putting external calls on hold, so that you can use your extension for making or answering other calls. To park the external call :

H/F and Dial 5

You shall get back the dial tone and the call will be parked on your extension. You can now, for example make or answer outside call.

9.1 Pick Up Of Parked Calls

If you have parked 2-3 calls on your extn, you can selectively pick them as follows -

Dial 15X

where X = 1 for Jn 61
2 for Jn 62
0 for Jn 60

To randomly pick any parked call, dial
15*

NOTE:

- A.** Any number of external lines can be parked by dialing 5.
- B.** In any case, if you have parked a call, you may hang-up your phone. The call will automatically ring you back after 30 seconds. Do not worry that you may forget or loose parked calls.



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10. CALL TOGGLE

When you are in conversation mode and hear intrusion beeps (be it of an intercom call or incoming round-robin call) you can toggle between the present call & the incoming call by



Flash 1

Whenever you dial flash 1, the current call will go on hold & you shall be connected to the new call.

You can toggle any number of times by flash 1 between the two calls.

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11. CALL TRANSFER

11.1 Internal Call Transfer

When you are talking to an internal extension and wish to transfer the call to another extension :

- ☞ **HF & dial the desired extension number where the call is to be transferred.**
- ⌚ **Wait for extension to answer.**
- ☞ **Hang-up.**
The call is transferred.

11.2 External Call Transfer

When you are talking to an outside number, and wish to transfer the outside call to another extension:

- ☞ **Hook flash**
 - ⌚ **You shall get acceptance beep.**
 - ☞ **Dial extn. number.**
Outside party goes on hold and gets music tone, and you shall get ring-back tone.
 - ☞ **Replace handset**
The call is automatically transferred to the desired extension. In case the called extn. does not respond within 30 secs. the call shall revert back to you.
Alternately,
 - ☞ **Dial the desired extension number where the call is to be transferred. Outside party automatically goes on hold and gets a music tone.**
 - ⌚ **Wait for the extension to answer. Announce the call.**
 - ☞ **Hang-up.**
The call is automatically transferred.
- A.** In case the called party (Internal extension) does not want to talk with the P&T line and hangs up, you will be automatically connected back to the outside line.



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B. In case the desired extension does not respond, to return to the outside call,

☛ **Hook flash**

You are connected back to the outside line.

11.3 External call Transfer to a busy extension

A) While transferring any junction call to a extn, on getting busy tone simply

☛ **Go on hook**

The call will be camped on the busy extn., and the busy extn shall keep on getting call waiting beeps. The busy extn can toggle between the existing call & the transferred call on hold by

☛ **Flash 1**

NOTE :

This mode of transfer does not work if the extn. is in dialing mode.

For conference between both calls,

Dial

☛ **H/F + 0**

Alternately, on getting waiting beeps, if the busy extension disconnects, then the transferred call shall ring back on his extn.

B) If the call being transferred is urgent, then on getting busy tone

☛ **Dial 83**

On dialing 83 you shall get music, and then you shall be connected to the dialled extn. Announce the call & hang up. The busy extn. will be connected to the transferred call & the existing call with which the extn was speaking will get camped. The busy extn can now toggle between the two calls by

☛ **Flash 1**



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NOTE :

- 1) While transferring, if the extn. goes no reply or is busy and you want to get back to the call-simply **H/F**. You shall be connected back to the external call and now proceed again.
- 2) If already any call is parked/camped on a extn., you cannot transfer another call to that extn.

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12. CALL PICK UP

12.1 Internal call pick-up

If any other extension phone is ringing for an internal call, to answer it from your non-ringing phone,

☎ **Dial 76XX**

Where XX is the extn. number of the ringing phone.

12.2 Common Call Pick-up

If any other extension in your hunting group is ringing, to pick it up from your extension,

☎ **Dial 4**

You shall be connected to the calling extension.

NOTE :

Alarm call ringing on a particular extn. cannot be picked by any other extn.

13. EXTENSION NAME

You can programme the user name for each extension. If your CLIP phone supports Alpha-Numeric display (ie-Name and Number), both name and number of the caller shall be displayed, for any extn to extn. call.

13.1 Programming Of User Name

To programme the user name of some other extn., dial from dial tone

☎ * 19 + Extn. H/w Port + 1 + Name (max 16 Digits) + #

To programme user name of self extn. , dial

☎ * 12 + Name + #



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The alphabets against each number in a normal Push Button Telephone are as follows.

1	ABC 2	DEF 3
GHI 4	JKL 5	MNO 6
PQRS 7	TUV 8	WXYZ 9
* 0		#

Ex : To set Anil for extn 201, dial

A N I L
* 19 + 01+ 1+ 2 66 444 555 + #

Note : If the alphabets are on the same digit, then press * to copy the 1 st alphabet to next location.

i.e 2 = A
*2 = B
*22 = C

Ex.- ABC Will be

A B C
2 *2 *22

AAA will be

A A A
2 * *



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DEEPAK will be

D	E	E	P	A	K
3	*3	*3	7	2	55

13.2 Checking Of Extn. Name

If you have any KTS installed ,you can check the name programmed against any extn. To do so, dial (from dial tone) from any KTS instrument -

☛ * 16904 + Extn number.

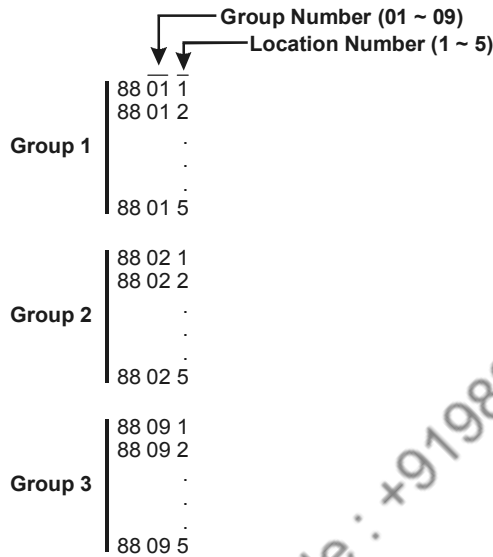
The name shall be displayed on the LCD display.

14. ABBREVIATED DIALING

Abbreviated (memory) dialing lets you dial outside number using only 5 digits instead of having to remember the whole number. Each extension can store up to 9 groups of telephone numbers (with 5 numbers in each group) in their personal memory banks. The numbering scheme of this bank is as follows.



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Each group can also be assigned with a user name. Whenever there shall be an incoming call from any number programmed in the personal \ global memory bank, the name corresponding to this number shall be displayed on the CLIP phone.

Further, against each external number of the above bank, you can define an extension number for "CLI Based Call Routing" feature

14.1 Storage of Telephone Number

To store an external number, dial (from dial tone)

*** 18+ Group No (01~09) + Loc. No (1~5) + Jn. No (1~0) + External No + * + Call Routing Extn. No + #**

- Ex.- ● 01127949260 is to be stored at loc 88011
● It should be dialled out from jn 62
● Any incoming call from this number should be forwarded to extn 204.



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Dial 18 01 1 2 01127949260 * 204 #

To dial out this number ,simply dial - **88011**

Note :

- 1) If you do not want any call routing Extn. no, then simply dial # after *
- 2) If you are not particular to dial out a stored number on any specific junction line, you may programme junction number as 0 or 5. In such case, on dialing 88011 or 88012 etc., your stored number shall be dialed out on any free Jn. line (in 0 group or in 5 group). You cannot store any number specifically on junction number 60 and 65

14.2 Global Dialing

Apart from personal memory bank, there is a central memory pool of 90x5 (450 numbers) at location **88101** to **88995**, which can be commonly accessed by all extensions. For storing of number in the central pool, refer programmers guide

Numbers stored in the global pool, termed emergency numbers, can be dialed out by all extensions irrespective of their class of service. Further, this global pool can be divided into two banks-**88101 to 88545** and **88551 to 88995**. Now any of the above bank can be allowed/denied access to any extn. (Refer Prog. manual).

14.3 Storing Of Name

To feed a name against any personal number, dial (from dial tone).

*** 19+ group No (01~09) + 2 + Name + #**



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To feed a name against any global number, dial (from dial tone)

☛ * 19 + Group No (10~99) +2+ Name #

14.4 Checking Of The Programmed Name

To check the name against any personal number, dial from any KTS instrument

☛ * 169 +05+ Extn. H/W port + Group No (01~09)

To Check the name against any global number, dial

☛ * 169 + 05+ 41+ Group No (10~99)

15. AUTOMATIC RING BACK

If an extension is busy so that you cannot get through it, you do not have to keep trying the number. You can ask the CRYSTAL system to redial it automatically for you when it becomes free.

15.1 Auto-ring back on internal lines

If you dial another extension and get busy tone, to request a ring back:

☛ **Dial 7**

Hang-up.

When the extension becomes free, your phone will ring (for about 45 sec). Pick-up your phone. The extension you require will then ring, and when the user answers, you will be connected.



15.2 Ring back on exchange lines

If you dial 0/5 or 61, 62.. to get an outside line and get busy tone, meaning no outside line is available, to request a ring back:

☛ **Dial 7**

Hang-up.

When an outside line becomes free, your phone will ring. Pick-up your phone. You will hear public dial tone. You can dial the number you require without having to dial 0/5 again.

15.3 Auto Ring back on No-reply Calls

If you dial for any extn. number and do not get a reply (meaning that the called party is not on his table), you can set for an auto ring-back. As soon as the called party first lifts his handset and goes on-hook, your extn. will ring. As soon as you pick up your phone you will be connected to the dialed extension. To set above facility:

☛ **HF and Dial 7** (While ring is going to the called extn.)

Hang-up.

☛ To cancel any of above auto call back, dial **70**



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16. CLI BASED AUTO CALL ROUTING

Provided you have a CLIP card installed in your system, you can utilize this feature for direct landing of incoming call's on desired extension, w/out any operator assistance.

For a 10+30 system, a total of 1800 external numbers (2160 for 2+38 system) can be programmed in personal / global bank. Against each of these 1800 numbers, you can programme any extension number. Now whenever there is an incoming call, CRYSTAL system shall search this entire bank of 1800 numbers. If the incoming number matches with any of these 1800 numbers, it shall then check for the extn. number programmed against this external number and accordingly forward the call directly to this extension

17. DISPLAY OF NUMBER / NAME ON THE CONSOLE

If you have DSS-30 and have programmed caller names in the personal / global memory , you have an option for display of either the caller number or the name , on any incoming call. (refer prog manual for this)

18. VIEW OF INTERNAL / EXTERNAL NUMBER OF A BUSY EXTN

If you have a CLI / KTS phone and if any extn is busy , you can know the internal / external number (be it incoming / outgoing) with which that extn is busy.

To view from a KTS



Dial

You can now view the number in the message folder



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To view from a CLIP phone

☞ **Dial extn no. and on getting busy tone , simply go on-hook**

The number shall be displayed on your phone

Note:

External number display is available only if a DTMF CLIP card is installed in the system

19. LEAST COST ROUTING

With LCR feature disabled, you can dial out normally by 0/5/61,62.....

With LCR enabled, to make an external call dial

☞ **0 + External number + #**

As soon as you dial above, system shall select the junction with the cheapest service provider for this number and dial out the same.

Note :

- 1) Even with LCR enabled, an extension can be allowed/ disallowed dialing through a specify junction by 61, 62.....
- 2) Console cannot avail this LCR feature.
- 3) Even if you do not dial # after the external number, system shall dial out after a predefined time out.



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20. CONFERENCE CALLS

There are three types of conference calls, those involving an outside line, those involving internal and outside line and those involving only internal extensions.

20.1 Internal

When on an internal call, to bring third extension into conference.

☞ **H/F & dial the desired extension number.**

When the extension answers announce conference and

☞ **H/F & dial 0**

A conference call involving three extensions is established.

20.2 Internal with P&T

One external call can be brought into conference with two internal lines. When you are on an outside call, to convert it into a 3-way conference :

☞ **H/F & dial extension number to be added for conference.**

The outside line goes on hold & gets music tone.

⌚ **Wait for the extension to respond and announce conference.**

☞ **H/F & Dial 0**

Three party conference is established.

NOTE:

For conference, the extn. initiating conference should be in the group with conference feature enabled. (Refer to programmer guide)



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20.3 P&T with internal

Two P&T calls can also be brought into conference with any one internal extension. To establish a conference :

When in conversation with 1st junction,

☎ **H/F and Dial 8**

📞 **Your receiver shall remain silent.**

Now, seize 2nd junction by either '0' or 61/62 (not by '5').
When in conversation with the second call,

☎ **H/F and Dial 0**

A three party conference is established.

NOTE:

Once in conference, you cannot transfer or park these calls again.

20.4 Unsupervised conference

Two P&T calls can be brought into conference without any internal extension also. To establish a conference :

When in conversation with 1st Jn.

☎ **H/F and dial 8**

📞 **Your receiver shall remain silent.**

Now, seize 2nd Junction. When in conversation with the second call,

☎ **H/F and dial 8**

You shall come out of speech mode, and the two junctions can continue talking. A warning beep is given after every 30 sec. wherein they can extend the call by dialing any digit from 0-9.

To disconnect

☎ **Dial #.**



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21. CALL DIVERSION

If you are going to be near another extension phone rather than your own, or if you wish to divert all calls made to you, to your secretary's extn., you can set your phone so that anyone dialing you will be put through to the other extension.

A call forward dial tone is always heard on the phone which has been diverted. This does not mean that you cannot use it for making calls.

21.1 Call Forward

To divert your calls to your secretary's extension from your own extension:

Dial 721 XX and go on hook

Where XX is the secretary's extension number to which calls are to be diverted.

Anyone dialing your number shall land on your secretary's extension & the secretary can then transfer the call to your extn.

NOTE:

Whenever you lift handset you will hear call forward dial tone. Anyone picking up your phone will hear this tone until the diversion is cancelled.

When you no longer want your calls to be diverted, remember to cancel the diversion. You can do this from your own phone. For this,

Dial 70

You will hear normal dial tone.

21.2 Call Forward (Only if your extn is busy)

With this feature, only when you are busy and anyone dials for your extn., the call will be automatically forwarded to the programmed extn. To set for above



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Dial 724 XX

Where XX is the extn no. where calls are to be forwarded.

21.3 Call Forward (If your extn goes no reply)

With this feature, if you do not respond to an incoming call within 20 sec. time, the call will be automatically diverted to the programmed extn. To set for above,

Dial 723 XX

Where XX is the extn. no. where calls are to be forwarded.

21.4 Follow me

If you are temporarily away from your original extn. (say A) and you want all calls made to your original extn. to ring on your new extn. (say B):

Dial (From B)

722 XX YYYY

Where **XX** is the extn. to be followed (i.e. extn. A)

YYYY is your extn password.

Any call now made to A shall land on B.

NOTE :

- 1) After setting for follow me, extension A shall hear call forward dial tone.
- 2) Follow me shall function only after you have changed your personal password (from default 1111)

To cancel :

From A

Dial 70



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22. REDIAL ON EXTERNAL LINE

If you are trying any external number and if the dialed number is engaged, you need not have to redial the complete number again. You can ask your PIGEON system to redial the number for you. To redial:

Dial #

The junction through which the number was last dialed shall be seized ON and the number shall be redialed out automatically.

22.1 Auto Redial

If the external called number is busy, you can ask your CRYSTAL system to automatically redial the number for you. On getting busy tone, disconnect & from dial tone

Dial 711 (Auto Redial Low end)

Dial 712 (Auto Redial High end)

To cancel Auto Redial dial

70

NOTE:-

- 1) Auto redial will stop whenever your extn. is busy & shall resume back as soon as it goes free.
- 2) Number of attempts for Auto Redial High end / Low end can be programmed separately (refer prog. manual)
- 3) Auto redial has to be allowed to required extns. from the class of service programming.
- 4 Only one number can be requested for auto redial at a time.
- 5) The system uses the same trunk type, used earlier. If the no. was dialed on group '0', the system shall take one of the group '0' trunks for auto redial. If the no. was tried on some selected trunk, the system uses the same trunk.
- 6) Auto redial may fail in following cases :



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- a) Junction line condition is very poor with lot of noise.
- b) Called party lifts his handset immediately when his telephone rings (i.e. the EPABX does not get a chance to receive any ring back tone from the P&T).
- c) The ring back tone from the telephone exchange is not of standard frequency and timings, or if there is a musical caller tone instead of normal RBT

22.2 Alternate Number Redial

If a company has 2 or more lines, you can utilize this feature. To do so -

- 1) Programme the numbers in 1st three levels of any personal/global memory bank group.
- 2) Enable alternate number redial feature (reff prog. manual)

Now whenever you make an out going call and on getting busy tone, if you dial # or 711 , Crystal PBX shall search this number in the complete global/personal bank. If the number is located in any group, it shall dial out the number from the next level of this group. It shall keep on trying the number's of 1st three levels of that group in a rotational manner, until the call is through.

Example:

- There are five numbers in a company.
- 27923766, 27921267, 27949260, 27923985, 9312524523
- 1st three numbers are common
- 4th is fax
- 5th is a cell number

(you shall not want 4th \ 5th number in alternate number group)



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Programme

27923766	in	88101
27921267	in	88102
27949260	in	88103
27923985	in	88104
9312524523	in	88105

Now whenever you shall dial 27923766 & find this number busy and if you dial # or 711, Crystal PBX shall try next two numbers in a rotational manner. If you want to call to the fax / mobile number, dial 88104 / 88105

This alternate number dialing feature can be enabled / disabled. (Refer prog. manual)

23. HOOK FLASH ON TRUNK LINE

In new electronic P&T exchanges a call waiting tone is provided when a second call is coming in. A **Hook Flash + 2** puts the 1st call on hold & connects you to the 2nd call & **Hook Flash +1** puts the 2nd call on hold and puts you to your original call. To provide this hook flash +1 / 2 through the EPABX, while you are on any external call & hear the trunk call waiting beeps in the background:

H/F and dial

Now if you dial

Flash 1 or Flash 2

It shall be passed on to the junction line.

Example : To receive a 2nd call

Dial Flash

Now,

Dial Flash 2



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24. CALL INTRUSION

If any important or priority message is to be passed on to an extension which is busy, you can break into the busy extension. Short warning beeps are sounded to caution the extn. that their call is being intruded.

24.1 Barge-in

To pass on any message,

☛ **Dial desired extension number (say A).**

After getting busy tone,

☛ **Dial 83**

The busy extension (A) will get a warning beep and you will get music for 5 seconds. After that you shall be connected to the busy extension. The 3rd extn. will go on hold & get music tone. The busy extn. (A) can toggle between the two extns by **Flash 1**.

NOTE :

Barge - in shall not work if the busy extn. is in conference mode / dialing mode / ringing mode.

24.2 Monitor

With this facility you can monitor the conversation of two extensions without any indication (beeps) to the conversing extensions. To monitor:

☛ **Dial extension number.**

After getting busy tone,

☛ **Dial 80**

You can now monitor the conversation between the busy extensions.



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25. DAY/NIGHT MODE

For a number of features like –Round Robin / ISD, STD, dialing / feature groups etc. different groups can be programmed separately for day/night modes. You can switch over manually between the two modes as follows :

Dial users password (default 1111)



891111

You shall get acceptance tone.

Now,

Dial



851 for day mode



852 for night mode

Alternately, you can programme a set of timings separately for seven days of the week for the system to automatically switch over between the two modes. To programme the timings, refer to the programmers guide. To set the system for auto mode,



Dial 853

Now,



Dial 0

to come out of programming mode.



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26. HOTLINE

This feature comes in useful when a particular extension / junction is to be used continuously and repeatedly over period of time.

26.1 Extension Hotline

☎ **Dial 161+XX+Y**

Where XX = extn number.

Y = time delay (2~ 9 Sec.) after which you want the ring to start.

26.2 Jn. Hotline

☎ **Dial 162 + Jn. number + delay time**

NOTE :

1. As soon as you lift your handset, you will be connected to the desired junction. Now, you can straight away dial the required number.
2. Jn. number '0' and '5' cannot be selected for hotline.

26.3 Jn. number hotline

If you wish that a particular external number be dialed automatically, as soon as you lift your handset,

☎ **Dial 163 + Jn. no. + delay + external number + #**

Example : If you wish that number 732123 is to be dialed out from jn 62 after 5 sec. of lifting your handset then,

Dial

☎ **163 2 5 732123#**

To cancel any type of hotline

☎ **Dial 160**

NOTE:

Use 1 for Jn line 61, 2 for 62 & 3 for 63 & so on.



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27. ALARM CALLS

You can use your PIGEON system as an alarm clock, for example to remind you that an appointment is due.

At the specified time your extn. will ring, and as soon as you go off hook, you shall get music, to remind you of your alarm. In case you fail to lift your handset, your extension will continue to ring for 90 seconds. If still your extension goes unanswered, the operator's extn. (extn 21/201) shall get an alarm ring.

27.1 One Time Alarm

To programme your telephone to ring at specified time

☛ **Dial 782 HHMM**

Where HHMM is the time.

Example : For an alarm at 4.05 pm,

☛ **Dial 782 1605**

When your alarm is due, your phone will ring. When you lift, you will get music tone. If your extension is busy at that time, it will ring as soon as you go on hook.

27.2 Repeat Alarm

Alternately you can set your extension to ring daily at the specified time.

To programme a repeat alarm :

☛ **Dial 783 HH MM**

Your extn. shall now ring daily at this specified time till it is not cancelled.

To cancel any of the above alarms:

☛ **Dial 780**



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27.3 Duration

If you want your extn. to ring after a specified duration,

☛ **Dial 781 XX**

where XX is the time from 01 to 99 minutes.

27.4 Alarm Remote

To set alarm for some other extension

☛ **Dial 784 XX Y HH MM**

Where **XX** is the extn. no. for which the alarm is to be set

Y is alarm code (i.e. 2 for one time alarm /
3 for daily alarm)

Example : To set one time alarm at 5.10 pm on extn. 24
Dial,

☛ **784 24 2 1710**

To cancel all alarms,

☛ **Dial 780**

NOTE:

Each extension can individually set any one or all three alarms simultaneously.



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28. DYNAMIC LOCK

To prevent misuse during your absence, you can lock your extension to allow only local or no external calls at all.

28.1 To Set Dynamic lock

Dial

81 + XXXX + Y + ZZ

Where XXXX = your extn. password (Default is 1111)

Y= Accepted / denied table level

ZZ = time in min after which you want your extn. to be locked (01~99 min)

Note :

- 1) In open condition system shall check only the 94 level. In locked condition, system shall check both 94 level and the level set in dynamic lock.
- 2) If any extn. is programmed for level 3 in 94 programming then that extension can set for levels lower than 3 only (i.e.0,1,2) for dynamic locking

28.2 To open lock

To open dynamic lock, dial

82 + Password

To Change Password

Dial

86 + XXXX YYYY

where XXXX = old password

YYYY = new password



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29. HUNTING GROUP

You can define ten hunting groups (of max. 8 extns each) which can be accessed by **370 to 379**. When anyone shall dial 370, 1st extn. of this group shall ring. If 1st extn is busy, then 2nd extn. shall ring and so on. To define these hunting groups , refer to the prog. manual

30. INTERNET PORT

If you shall be using any Junction for internet, you can temporarily disable the Jn, so that no one can access it. To disable any jn., dial (from dial tone mode)

☞ **168+Jn no. +1**

and to enable it back, dial

☞ **168+Jn no. +2**

31. CLEARING OF USER FEATURE'S

Following features of any extension can be cleared by a single command

Auto call Back
Alarms
Call Forwarding
Follow me
Do not Disturb
Extension ECF

To do so , dial

☞ **100**



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32. CENTRAL RINGER

There is a central ringer in the system, which shall ring

- i) During an incoming call
 - ii) When anyone is using ECF/DOSA/Extn. ECF feature
- However, if desired you can switch the ringer off for all or any of the above feature. (refer prog. manual)

33. DO NOT DISTURB

If you do not want to be disturbed during any meeting, dial

☎ **725**

Now anyone calling you, shall get busy tone.

To Cancel DND, dial

☎ **720**

34. FORCED CALL DISCONNECTOR

If desired (and if you know the user password) you can disconnect the external conversation of any extn.

To do so, dial (from user Password)

☎ **87+Extension no.**



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35. AUTO CALL DISCONNECTOR

To cut down on your trunk bills you can have an option to either

- A)** Give only warning beeps after predetermined intervals on either only local or only STD or only on incoming call or on all three types of calls.
- B)** Disconnect any type of selected call after the warning beep.

The duration for the warning beep is programmable from 010 sec. to 240 sec. and can be set separately for local / STD, ISD / incoming calls.

Refer to programmers guide for setting of above.

The above options can be set separately for each extension.

36. WALK IN CLASS OF SERVICE

To use STD / ISD facility from any non - STD / ISD extension,

Dial

ISD

111 XX YYYY

Where **XX** = is your extension number

YYYY = is your extension password

Now, you can make one STD / ISD attempt. After dialing above code, the matured call shall be billed to your extn in the ASMDR buffer.

To make another attempt, you shall have to dial in above code again.

NOTE :

Above facility will be functional only after you have changed your extension password from default '1111'.



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37. CALL BUDGETING

For an effective management on junction call bills you can set a budget amount for a particular extension. Once that extn. crosses the budgeted amount, his extn. will get locked for ISD / STD calls and will open again only on the 1st of the next month. Alternately, to open his extn. in between the month, set a fresh amount. Refer to programmers guide for setting of fresh amount.

38. TRUNK RESERVATION

One can reserve any junction for any important occasion. To reserve,

Dial

112 X

Where **X** = Junction number (1 for 61, 2 for 62...)

Now, only you can access this trunk. To free the junction,

Dial

1120

NOTE:

- 1.) Above junction will also become free automatically if not used for 3 minutes.
- 2.) Jn '0' cannot be reserved.



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39. ACCEPTED & DENIED TABLE

1. This table of accepted & denied numbers has 10 levels (0 to 9).
2. Each level can have a maximum of 12 accepted numbers and 12 denied numbers (The numbers can be from 1 digit to maximum 14 digits).
3. Any level can be assigned to any extension and an extn. can have separate levels for day / night mode.

The accepted & denied table shall be as follows.

Level	Accepted group	Denied group
0	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
1	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
2	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
3	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
4	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
5	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
6	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
7	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
8	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9
9	XX0, XX1, XX2,XX9	YY0, YY1, YY2,YY9

Where

XX0... XX9 are ten numbers (max. 14 digits) for accepted group and

YY0...YY9 are ten numbers (max. 14 digits) for denied group.

4. On an outgoing call the system shall compare the dialed number with all programmed allowed / denied numbers of the particular level programmed for this extn. If the dialed number matches or exceeds any of the programmed no., then corresponding action is taken.
5. If the dialed number does not match any of the allowed numbers then the system shall check for the denied group of numbers. If any of the programmed number matches the dialed number, then the dialing is denied.
6. If the dialed number does not match with any number in the accepted or denied group then dialing is allowed.



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NOTE:

The system shall compare only the programmed digits with the dialed digits. Once the programmed number of digits tally with the dialed digits, then balance digits are dialed without any check.

Example :-

If 022 is programmed in the allowed group, and 0223 in the denied list, then all numbers exceeding 022 (i.e. 022123..... , 022422.....etc.) will be allowed, except for numbers exceeding 0223.....

Similarly, while checking in the denied list, if the programmed digits fully match with the starting digits of the dialed number, then access is denied.

Default accepted / denied table is as follows

Level	Status
0	only Intercom
1	STD/9 lock
2	ISD lock
3~9	All Allowed

40. HOTEL APPLICATIONS

When an EPABX is used in hotels, it is expected to perform certain additional functions that are specially related to hotel industry. These additional features are guest check-in/check-out, temporary check-in/check-out, guest grouping etc.

40.1 Guest/service group programming

This feature helps to classify guests in different groups and also to define service extn. for each group. Broadly there can be following three types of groups :

1) Individual guest group ('0' group) :

This is the group of individual guests who only need to call service group extensions. These guests cannot dial any other room number.

2) Guest group ('1' to '8' group) :

This is for a group of more than one guests and occupying more than one rooms. These guests can not only call service group extensions but can also call each other.



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3) Service group (9 Group) :

This group of extensions includes hotel staff and management. Any extension can call this group and this group can call any other extension.

For assigning of groups refer to programming manual.

40.2 Floor Service destinations

You can set a room service extn. separately for each floor. Access code for room service for all floors shall be same (default 38), but the ring shall go to corresponding room service extn. depending on the caller's floor.

For example :

If room 210 on second floor calls for room service, ring should go to the room service extension on second floor. Similarly, if room 415 on fourth floor calls for room service, ring should go to room service extension on fourth floor. This helps the hotel management staff to address to guest calls in more efficient and quicker manner. This feature is also known as "floor service". In this,

- Each extn. is assigned a floor group.
 - Each group of floors is assigned a service extension and
 - Room / floor service access code is defined.
- For this refer prog. manual

40.3 Check-in and Check-out :

Whenever any new guest shall arrive, check-in function is performed to help normal tasks like

- Room status changed to occupied.
- Class of service (ISD/STD/Local) opened as per 94 programming of that extn.
- New account opened for telephone calls.

For check-in,

☛ **Dial user password (by default 89 1111)**

Now,

☛ **Dial 3 ★ 1 - extn. number - 1**



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Similarly, when any guest leaves, check-out function is performed to

- Change room status to “not-cleaned”
- Lock extn. for any outgoing junction calls
- ASMDR report with summary of that extn. printed.

For check out

☎ **Dial user password (by default 89 1111)**

Now,

☎ **Dial 3 ★ 1 - extn. number - 2**

40.4 Temporary check-in and check out :

When any guest goes out from hotel during day time, it is desirable to lock his extn. temporarily till he returns. This helps to avoid misuse of ISD/STD/local facility by hotel staff or other guests.

So, when the guest goes out temporary **check-out** function is performed as follows,

☎ **Dial user password (by default 89 1111)**

Now,

☎ **Dial 3 ★ 3 - extn. number - 2**

When the guest returns back in the evening temporary **check-in** function is performed again to restore class of service access on his extension. For this

☎ **Dial user password (by default 89 1111)**

Now,

☎ **Dial 3 ★ 3-extn. number-1**



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41. DIRECT INWARD DIALING FACILITY (D.I.S.A)

With the CRYSTAL System, you can set any junction/ junctions for receiving D.I.D. calls (Refer to programming section, for setting D.I.D. Jn.)

41.1 The D.I.S.A. Facility

Whenever there shall be an incoming ring on the D.I.D. junction, the junction shall latch automatically and shall give music tone to the caller for 5 seconds. After that the caller shall get D.I.D. beeps. If in this period the caller dials any extn. no. from his DTMF telephone, the call shall go directly to that extn.

DISA ring is given for 30 sec. If the call is not answered within this time, the ring stops and the call returns to first stage. The caller again gets voice message or music followed by DID beeps after which he can proceed again to try some other extn.

If dialed extn. is busy or any invalid number or no number is dialed during the beeps or voice period, the ring shall go to the round robin group of that jn. and the caller shall get ring back tone, till the call is answered by any extension.



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42. DIAL BY NAME

If desired, you can set a 3 digit character for each extn corresponding to the users name of that extn. The incoming caller on DID mode, can directly reach the extn. by dialling these three initials of the required extn user. The character corresponding to the telephone dial pad are -

- 2 = A,B,C
- 3 = D,E,F
- 4 = G,H,I
- 5 = J,K,L
- 6 = M,N,O
- 7 = P,Q,R,S
- 8 = T,U,V
- 9 = W,X,Y,Z

To dial by name, on DID beeps or on DID voice prompt, the caller shall dial

☛ **# + 1st three characters.**

A N I

Ex: If the caller dials - # 2 6 4, he shall directly land on extn programmed for ANIL

43. REMOTE DIALING (D.O.S.A.)

Provided you have two or more P&T lines connected to your CRYSTAL system, you can utilize the S.T.D. facility of any P&T line to make an outward call even when you are away from the installed site of the system.

Anyone making a DOSA call should know his extension number and the dynamic lock password of his extension.

To activate remote dialing:

☛ **Dial junction number set for DOSA mode.**

Ⓞ **You shall get music & then DOSA beeps.**



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During the beeps, in tone mode

☞ **Dial 1 + Extn No. + Your extn. password**

⦿ **You shall get short beeps if your password is correct.**

If the extension number / password is wrong, you shall get error tone for a short while followed by DOSA beeps again. You may now make a 2nd attempt.

☞ **Now take 2nd Jn. by 0/5 or 61/62 etc.**

☞ **Dial external number.**

To disconnect,

☞ **Dial #**

You shall get DOSA beeps & you can proceed again .

During DOSA, after every 30 secs you shall get reminder beeps and after 10 Secs. of the beep, the call will get disconnected. To extend your call, dial any digit from **0-9** after the beep.

To disconnect between 30 secs,

☞ **Dial #**

The 2nd jn. will be released and you shall get acceptance beep again. Now, you can make a new call by dialing 2nd Jn. no. + number. If you do not wish to make a new call

☞ **Dial #** again.

All DOSA calls are given in the print out and are marked with letter "D".



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44. VIRTUAL EXTENSION

For PCO applications it is desirable to have additional extensions to be used directly by the clients.

In CRYSTAL system you can have 80 such virtual extensions starting from **3900 to 3979**.

Each extension can be allotted a 4 digit password. Now, whoever is allotted this extn. no. + password, can make a DOSA call in the normal DOSA call procedure. The call shall be stored in the ASMDR buffer. For extn. password setting, refer to programmers guide.

Example : Suppose password for virtual extension 3900 is set as 5432. Now, any client who is given this extn no. + password can make a DOSA call by **1 + 3900 + 5432**.

45. EXTERNAL CALL FORWARDING

With this facility, whenever there is an incoming call on a Jn. set for ECF mode, the system shall seize that junction plus a 2nd Jn. & dial out the programmed number from the 2nd Junction line. The caller shall first get a ring back tone for 2 sec. followed by music for 5 sec and then he shall be connected to the 2nd junction. Similar to DOSA call, any party can extend the call after 30 sec by dialing any digit from **0 to 9** or disconnect by dialing #.

You can also change the external number to be dialed out from the 2nd Jn. from a remote end, as follows

☛ **Dial Jn no. set for ECF mode.**

☉ **You shall get EPABX ring back tone for 3 sec.**

During this ring back tone,

☛ **Dial 1 + users password**



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You shall get programming tone.

Now,

☞ **Dial 523 X YYY...#**

Where **X** is 1st Jn line number set for ECF mode
YYY... is the number to be dialed through second jn.

To disconnect,

☞ **Dial #**

46. FLEXIBLE NUMBERING

You can allocate any 1,2,3, or 4 digit number to any extension.

For example: You can programme

☞ **Extn. 201 as 4100**

☞ **Extn. 202 as 5022**

☞ **Extn. 203 as 48 etc.**

Refer to programmers guide for setting of above.

- 1) Digits 2 & 3, reserved specially for extn. numbers can be used freely.
- 2) Digits 1, 4, 5, 6, 7 and 8 are used in feature codes and should therefore be avoided as first digits for office mode, though they can be used.
- 3) If you programme any extn. with 1st digit same as any feature code, then that feature code will now start with "*".

Example : If you programme any extn. as 41 then call pick-up shall become * 4.
Similarly, if any extn. is set as 629, then jn. numbers



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will start with *61, *62,

If first digit of any extn. is 1 or 8, then password will be by *89 XXXX.

- 4) Following extn. numbers are reserved by the system :
39, 399, 3990 to 3999

These can not be assigned to any extn.

- 5) If you shall be using a mix of 2/3/4 digit nos., then number having starting common digits cannot be assigned to any other extn.

For example : If 2022 is used for one extn., then 202 cannot be used for any other extn. Similarly, if 2102 is used, then 210 or 21 or 2 cannot be used.

- 6) Same number cannot be assigned to two ports.
7) After setting flexible number, any extn. programming must be done using revised extn. numbers.

47. PAGING

A paging port is provided in the Pigeon system to which you can connect any amplifier input.
To announce through this port

☛ **Dial 3998**

☉ **You shall get ringback tone for 5 sec. and music shall be heard on the paging speakers.**

☛ **Now you can make your announcement**

When paging port is not being used, you may get a slight hum in the paging speakers. You can route the supply wires of the amplifier through the relay port to eliminate the humming.

To make an announcement

☛ **First switch on the relay (by 165).**

☛ **Make your announcement.**



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- ☛ **Switch off the relay (by 166).**
For paging without music , dial
- ☛ **87**

48. PROGRAMMABLE MUSIC ON HOLD MODULE

In fixed systems you can attach an optional MMOH module in which you can record voice / music of your choice, which shall be replayed whenever an external / internal caller is put on hold.

48.1 Connecting the module

- 1) Remove the 2 pin shorting cap (Near the music transistor).
- 2) Connect the 3-pin cable of the MMOH card to the 3-pin connector near the music transistor.
- 3) Connect the 2-pin connector of the MMOH to any speaker output of a tape recorder with the help of the provided EP cable.
- 4) Start play back of music from the tape recorder.
- 5) (a) Press SW1
(b) Now, Press SW2
(c) Release SW2 (keep SW1 pressed).
- 6) Release SW1 within 55 secs.
- 7) Remove EP jack.
- 8) Press and then release SW2 once to reset the I.C.
- 9) Now try the music on hold.

NOTE :

If the music on hold is of very low volume then record again by increasing the volume level of the tape recorder. If music on hold is too loud & distorted then record again by reducing the volume.

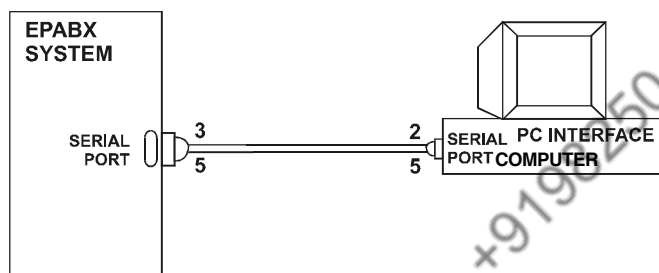


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49. COMPUTER CONNECTIVITY

You can connect your EPABX system to a computer, through the serial port as follows :

- A)** Connect serial port of EPABX to serial port of the computer



- B)** Set computer parameters as following :

1. Baud rate - 2400
2. Parity bit - None
3. Start bit - 1
4. Stop bit - 1
5. Data bit - 8

- C)** Switch on to any serial transfer files on your computer like X talk/Procom/Bitcom etc.

Now, whenever you give any print out command, details shall be transferred to the computer.

Pin connections of the 9 pin port is as follows

Pin No.	Specifications
1	+Ve
2	RXD
3	TXD
4	NC
5	GND
6	+Ve
7	NC
8	NC
9	NC



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49.1 Check-In / Check-Out through PC.

You can do Check-In / Check-Out through the PC also. To do so, type from Hyperterminal / Procom, type

☛ **F 3 * 1 XXX Y**

Where XXX = extn. no.

Y = 1 for Check-In

2 for Check-Out

If your command is accepted, you will get a 'Y' display.

To feed in the name of any extn., type

☛ **F 3 * 2 + Extn. No. + Name** and press **Enter**

49.2 Programming through PC.

You can also programme CRYSTAL 40ZX through the PC. To do so, type

☛ **P + Programming Data**

As soon as you type in any complete programming data, you will get a 'Y' display. You can now type in the next required programming. If you programme in any wrong code, you will get a 'N' display.

Example :

To allow STD dialling to all extension's, type

☛ **P 94 * 22**



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50. EXTENSION ECF

If you shall be going out of your office, you can set as such, that any external call coming on your extension via DID or by Auto CLIP Based Routing, shall be directly forwarded to your new destination number. To do so

- 1) Programme your desired new destination number on personal memory location **88002**
- 2) When leaving your table, dial (from dial tone)

☛ **727 (you shall get a broken dial tone)**

Ex. : If you desire your calls to be forwarded on 93230000, dial

☛ **180020 93230000*#**

☛ **727**

Now wherever there is a direct incoming call on your extn, Crystal PBX shall seize a free jn in the '0' group & dial out your new number.

Once you are connected with the caller, you can extend or disconnect the call on DOSA concept.

To cancel, dial

☛ **720**

51. VIRTUAL OFFICE

You can use the 80 Virtual Extensions (**3900-3979**) as virtual office extensions also. Eighty such PBX users can make outgoing calls using the virtual extension number and password allotted to them. To make on outgoing call, dial

☛ **111 + Virtual Extn. No + Password**

Go off-Hook after getting confirmation tone

You can now make one outgoing attempt.



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A printout of these calls made by any virtual extn. user can be taken out when desired.

Note : Crystal system shall allow outgoing calls by virtual extension's as per the class of service & Jn access as programmed for extension port **231**.

52. DOOR PHONE

You can attach a Crystal Door phone with Crystal PBX system (An optional Door Phone \ Sensor card attachment is required for this.)

Whenever a visitor shall press the D.P. switch, upto five extensions can be programmed to ring in a rotational / simultaneous pattern. Any ringing extn. going off hook ,shall be connected with the visitor.

The ringing pattern of D.P. ring is different from that of Extn.\Jn. ring.

If you want to connect with the D.P. even when the switch is not pressed, dial from any extn.

171

If there is a D.P. ring on any CLIP phone - " **0008 DOOR PHONE RING** " shall be displayed . If desired , you can change this display message to any other desired name (reff. prog manual)



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53. SECURITY SENSOR

If the above (D.P.\ Sensor) card is installed, you can install a sensor with the Crystal PBX system. Whenever there is a panic situation and the sensor is activated, crystal PBX shall dial out any of the free 1st three numbers of global location 88101~88103. When the called number responds, he shall get a repeated message (as feeded in voice bank 9 of the VDC card) for 45 seconds.

After panic situation is restored, to reset panic, dial from User Password

855

Note :

An optional Auto-Operator VDC card is required for this feature.

To feed in the panic message ,dial (from user P.W)

☞ **721+9+1**

Now you can record a message of 6 seconds

Example:

This is a panic message from Please help immediately.

To have a replay of this message ,dial (from user P.W)

☞ **722 91 and**

☞ **722 92**



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54. VOICE FEATURES

A two channel auto operator voice card can be installed in the crystal 40ZX system, for auto guidance of an in-coming caller. Eight guidance messages can be stored in this card as follows.

Message No	Message	Explanation
01	Greeting Message Day (25 sec.)	Day greeting message to an incoming caller
02	Greeting Message Night (25 sec.)	Night greeting message to an incoming caller
03	Alarm message (6 sec.)	Message an extn. user shall get on going off-hook on an alarm call
04	Extn. Busy (6 sec.)	Message to an incoming caller when the dialed extn. is busy
05	Auto redial (6 sec.)	When you set for auto redial, the called person shall get this message until you go off-hook on a Auto Redial maturity ring.
06	No reply (6 sec.)	Message to an incoming caller when the dialled extn goes no-reply
07	Wrong Number (6 sec.)	Message to an incoming caller when he dials any invalid number.
09	Panic Message (6 sec.)	This message shall be played to the called person when panic is initiated



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54.1 Suggested Format For Recording For Auto Operator

01- Greeting Day

Welcome to Please dial required extn no. or wait for operator to respond. If you wish to dial by name, dial # and the 1st three initials of the desired person.

02- Greeting Night

Welcome to Sorry we are closed .Our working hours are 9 am to 5 p.m., Monday to Saturday.

04- Extn. Busy

The extn you have dialled is busy. Please dial any other extn. after the beep ,or wait for operator.

06- No reply

The extn you have dialled is not responding. Please dial any other extn after the beep or wait for operator.

07- Wrong Number

You have dialled an invalid number. Please dial another extn. after the beep or wait for operator.

54.2 Feeding Of Voice Message

To record desired message, dial (from user P.W)

721 + X 1

where X= message no (01~07)

Disconnect immediately after your message is complete

To have a replay of above message in the 1st channel, dial

722 + X 1

To have a replay of message in the 2nd channel, dial

722 + X 2

Note : Though you shall get the same message in 722 X1 and 722 X2, it is advisable that you check all message's in both channels, to ensure that both channels are working properly.



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54.3 Sequence to be followed for Auto-Operator

- 1) Record all five messages
- 2) Have a replay to confirm proper recording
- 3) Enable voice guidance and DID feature (reff prog manual)

55. MUSIC OPTION ON RING BACK TONE

If desired ,you can attach an optional music card, and set for this music instead of normal ring back tone. This music shall be played during any extrn. to extrn. call

56. FAX HOMING

You can connect a fax machine to any of the extensions of the EPABX. when a Jn. is set for fax mode, during a incoming call, the junction shall be seized automatically & the system shall wait for 6 seconds for fax tone. If fax tone is detected, the call will be forwarded to the corresponding fax extension. If no tone is detected, the call will be transferred to the round-robin group for that junction.

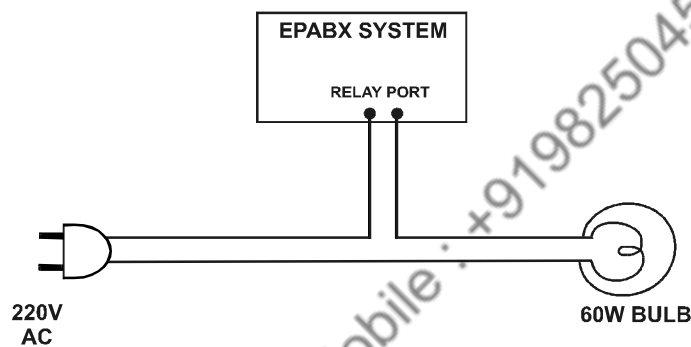
If a voice module is installed, the caller shall first hear the voice announcement. If during this voice period, or within 6 sec. after the voice announcement, the EPABX senses fax beeps, the call will be forwarded to the fax extrn.



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57. RELAY PORT

A relay port is provided in the CRYSTAL systems which can be programmed to switch ON/OFF any electrical appliances at predetermined timings. If the appliance consumes less than 0.5 Amp of current (or 100 W power), you can drive it directly, and if it consumes more, you can drive it through an external relay/contacter.



To switch **ON** relay,
Dial (from dial tone)

☛ **165**

and to switch **OFF**,

☛ **Dial**

☛ **166**

To set relay in auto mode, (from user prog. mode)

☛ **Dial**

☛ **854 3**

For auto mode, up to 24 sets of timings can be programmed for the relay to switch ON/OFF automatically. For setting of timings, refer to programmers guide.

You can also control this relay from a remote end.



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To On / Off relay

☞ **Dial the junction set for Dosa mode .**

You shall get Dosa beeps

☞ **Dial 1+ Extension password**

You shall again get beeps if P.W. is correct

Now, dial

☞ **165** for relay on

☞ **166** for relay off

☞ **#** - to come out of DOSA mode

Further , you can also set this relay for door lock operation
(Reffer Prog. manual)

When set for this mode, dialling 3991 shall turn the relay
ON for 10 sec then again it shall go OFF.

A 2nd relay option is also available to manually switch ON/
OFF any appliance. To switch ON, dial (from dial tone)

☞ **175**

To switch OFF , dial

☞ **176**

For click action, dial

☞ **177**



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58. THE CLI FACILITY

58.1 Intercom number CLI

You can connect a CLI phone to avail this facility. When there is an incoming ring on your extension, the number and name of the calling extension shall be displayed on the CLI display.

58.2 External number CLI

Provided you have the optional CLI attachment connected to your EPABX , you can get the number of the external caller on your CLI display phone. The number shall be displayed on the 1st extn. of the round-robin group. If the 1st extn does not answer the call and the ring passes on to the next extn, then the number shall again be displayed on the new extn. This pattern shall continue until the call is answered.

Further, when any incoming call is transferred to a 2nd extn, the incoming number shall again be displayed on that extension.



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59. ROOM MONITOR

You can attach two mic's on the Crystal 40KX system to monitor the location where these mic's are installed.

To monitor, from any extension, dial



164 X

Where X =1 for 1st mic
2 for 2nd mic

You can also monitor from any remote end. To do so,



Dial jn. number set for DOSA mode .

On getting DOSA beeps, dial



1+ Extn no+ DOSA Password

Now dial



164 + 1 or 2

You can now monitor for 30 secs. To increase this time, dial after the beep



0 ~ 9 (any digit)

To disconnect, dial



#

Note :

An optional mic interface card is required, for this feature



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60. PRINTER SPOOLER

CRYSTAL system has a buffer memory for storage of calls. Once the number of stored calls crosses the warning level, the buffer LED on the front panel starts blinking. The buffer capacity is of 2150 calls. When the buffer is full, it shall glow continuously. Once the buffer is full, the new call shall overwrite the 1st (oldest) call. Following table shows the max. buffer capacity of different models and their respective warning stages, at which buffer LED starts blinking.

Following information is given in each printout :

- A)** Originating / terminating extension number.
- B)** Dialed number.
- C)** Junction number.
- D)** Time / date / duration of the call.
- E)** Pulse rate / total units.
- F)** Amount of the call.
- G)** Type of call.

A summary is also given at the end of each print out report. If desired one can set to have only the summary instead of a complete report (Refer to programmers guide)

Explanation of the symbols of the last column is as follows :

- R** = Reversal detection based call maturity
- C** = ACPD detection based call maturity
- D** = Delay based call maturity
- D** = DOSA call
- E** = ECF call
- ?** = STD code does not exist in the code table
- *** = Call duration more than 3 min.
- **** = Call duration more than 6 min.



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Note :

- 1) Before starting for storage of P&T calls for the 1st time, first clear printer buffer and STD code table. Refer to programmers guide for details.
- 2) Due to various parameters taken into consideration by the P&T department (such as number of calls etc), the P&T billing may not match with EPABX 's buffer print out. Crystal assumes no responsibility for such differences.

For various print out options, first enter users programming mode by dialing

☛ **891111**

Now for

PRINT OUT OF LAST FEW CALLS

Dial

☛ **7144 XXXX**

where XXXX are the last number of calls

Example : To get a print out of last 100 calls, dial 71140100

DELETING CALLS OF A PARTICULAR EXTN

Dial

☛ **7491 + Extn. Number**

DELETING CALLS OF A VIRTUAL EXTN

Dial

☛ **7493 + Virtual Extn. Number**



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PRINT OUT OF CALLS MADE BY AN EXTN. ON A PARTICULAR DATE

Dial

☎ 715 7 DT MM YR + EXTN. NO.

PRINT OUT OF ALL CALLS,

Dial

☎ 711 0

SMDR REPORT #: TYPE-WISE LISTING FOR ALL CALLS AS ON 19-05-07 (SAT) AT 16:35

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	201-201	1	27923985	19-05-07	15:31	33	180.0	1	1.20	d
2	304-207	2	01202456789	19-05-07	15:32	28	8.0	4	6.80	d?
3	227-227	3	0023456789	19-05-27	15:32	19	1.7	1.2	16.40	d?
4	3998-201	1	123567788	19-05-07	15:33	06	**INCOMMING CALL**			
5	3998-304	1	9876543210	19-05-07	15:33	11	**INCOMMING CALL**			
6	201-201	4	022542562568	19-05-07	15:34	21	8.0	3	5.60	d?
7	304-304	1	008956856265	19-05-07	15:34	17	1.7	11	15.20	d?
8	3998-3999	1	01141415252	19-05-07	15:34	0	INCOMMING MISSED CALL			
9	227-227	3	27923766	19-05-07	15:34	35	180.0	1	1.20	d
10	3998-3999	1	01414153	19-05-07	15:35	0	INCOMMING MISSED CALL			
11	201-201	4	005522553668	19-05-07	15:35	20	1.7	12	16.40	d?
12	304-304	1	27921267	19-05-07	15:35	19	180.0	1	1.20	d
13	227-227	2	022546879	19-05-07	15:35	32	8.0	5	8.00	d?
14	3998-304	1	02225633698	19-05-07	15:36	09	**INCOMMING CALL**			
15	3998-3999	1	01147474758	19-05-07	15:36	0	INCOMMING MISSED CALL			
Local	:-	Calls	:3	Time	:	87	Units	:3	Amt:	3.60
STD	:-	Calls	:3	Time	:	81	Units	:12	Amt:	20.40
ISD	:-	Calls	:3	Time	:	56	Units	:35	Amt:	48.00
Total	:-	Calls	:9	Time	:	224	Units	:50	Amt:	72.00

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PRINT OUT OF ALL LOCAL CALLS,

Dial

☎ **7111**

SMDR REPORT # 1: TYPE-WISE LISTING FOR LOCAL CALLS AS ON 19-05-07 (SAT) AT 16:34

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	201-201	1	27923985	19-05-07	15:31	33	180.0	1	1.20	d
2	3998-201	1	123567788	19-05-07	15:33	6	**INCOMMING CALL**			
3	3998-304	1	9876543210	19-05-07	15:33	11	**INCOMMIG CALL**			
4.	227-227	3	27923766	19-05-07	15:34	35	180.0	1	1.20	d
5.	304-304	1	27921267	19-05-07	15:35	19	180.0	1	1.20	d

Local :-	Calls :	3	Time :	87	Units :	3	Amt. :	3.60		
STD :-	Calls :	0	Time :	0	Units :	0	Amt. :	0.00		
ISD :-	Calls :	0	Time :	0	Units :	0	Amt. :	0.00		
Total :-	Calls :	3	Time :	87	Units :	3	Amt. :	3.60		

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PRINT OUT OF ALL STD CALLS,

Dial

☎ **7112**

SMDR REPORT # : TYPE-WISE LISTING FOR STD CALLS AS ON 19-05-07 (SAT) AT 15:36

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	304-304	2	01202456789	19-05-07	15:32	28	8.0	4	6.80	d?
2	201-201	4	022542562568	19-05-07	15:34	21	8.0	3	5.60	d?
3	3998-3999	1	01141415252	19-05-07	15:34	0	INCOMING MISSED CALL			
4	3998-3999	1	01414153	19-05-07	15:35	0	INCOMING MISSED CALL			
5	277-277	2	022546879	19-05-07	15:35	32	8.0	5	8.00	d?
6	3998-304	1	02225633698	19-05-07	15:36	9	**INCOMMING CALL**			
7	3998-3999	1	01147474758	19-05-07	15:36	0	INCOMMING MISSED CALL			

Local:-	Calls :	0	Time :	0	Units :	0	Amt.:	0.00		
STD:-	Calls :	3	Time	81	Units :	12	Amt:	20.40		
STD:-	Calls :	0	Time	0	Units :	0	Amt:	0.00		
Total:-	Calls :	3	Time	81	Units :	12	Amt :	20.40		

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PRINT OUT OF ALL ISD CALLS,

Dial

7113

SMDR REPORT # : TYPE-WISE LISTING FOR ISD CALLS AS ON 19-05-07 (SAT) AT 16:34

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	227-227	3	0023456789	19-05-07	15:32	19	1.7	12	16.40	d?
2	304-304	1	008956856265	19-05-07	15:34	17	1.7	11	15.20	d?
3	201-201	4	00552255668	19-05-07	15:35	20	1.7	12	16.40	d?

Local:-	Calls:0	Time :	0	Units :	0	Amt : 0.00
STD:-	Calls:0	Time :	0	UnitS :	0	Amt : 0.00
ISD:-	Calls:3	Time :	56	Units	35	Amt: 48.00
Total:-	Calls:3	Time :	56	Units	35	Amt: 48.00

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PRINT OUT OF ALL CALLS MADE BY AN EXTENSION,

Dial

712 XX

where **XX** is the extn. number

SMDR REPORT # 2: EXTENSION-WISE LISTING OF EXT#304 AS ON 19-05-07 (SAT) AT 16:35

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	304-304	2	01202456789	19-05-07	15:32	28	8.0	4	6.80	d?
2	3998-304	1	9876543210	19-05-07	15:33	11	**INCOMING CALL**			
3	304-304	1	008956856265	19-05-07	15:34	17	1.7	11	15.20	d?
4	304-304	1	27921267	19-05-07	15:35	19	180.0	1	1.20	d
5	3998-304	1	02225633698	19-05-07	15:36	9	**INCOMING CALL**			

Local:-	Calls:1	Time :	19	Units1		Amt : 1.20
STD:-	Calls:1	Time :	17	Units 4		Amt : 6.80
ISD:-	Calls:1	Time :	28	Units 11		Amt: 15.20
Total:-	Calls:3	Time :	64	Units 16		Amt: 23.20

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**PRINT OUT OF CALLS MADE THROUGH AN JUNCTION,
Dial**

☎ **713 + Jn. No.**

SDMR REPORT # 3: TYPE-WISE LISTING FOR TRUNK # 1 AS ON 19-05-07 (SAT) AT 16:38

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	201-201	1	27923985	19-05-07	15:31	33	180.0	1	1.20	d
2	3998-201	1	123567788	19-05-07	15:33	6	**INCOMMING CALL**			
3	3998-304	1	9876543210	19-05-07	15:33	11	**INCOMMING CALL**			
4	304-304	1	008956856265	19-05-07	15:34	17	1.7	11	15.20	d?
5	3998-3999	1	01141415252	19-05-07	15:34	0	INCOMMING MISSED CALL			
6	3998-3999	1	01414153	19-05-07	15:35	0	INCOMMING MISSED CALL			
7	304-304	1	27921267	19-05-07	15:35	19	180.0	1	1.20	d
8	3998-304	1	02225633698	19-05-07	15:36	9	**INCOMMING CALL**			
9	3998-3999	1	01147474758	19-05-07	15:36	0	**INCOMMING MISSED CALL**			
Local:-		Calls :	2	Time :	52	Units :	2	Amt.:	2.40	
STD:-		Calls :	0	Time :	0	Units :	0	Amt.:	0.00	
STD:-		Calls :	1	Time :	17	Units :	11	Amt.:	15.20	
Total:-		Calls :	3	Time :	69	Units :	13	Amt.:	17.60	

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**PRINT OUT OF CALLS MADE ON A PARTICULAR DATE,
Dial**

☎ **714 Date month year**

SDMR REPORT 4: DATE-WISE LISTING FOR 19-05-07 AS ON 20-05-07 (SUN) AT 09:40

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	201-201	1	279239585	19-05-07	15:31	33	180.0	1	1.20	d
2	304-304	2	01202456789	19-05-07	15:32	28	8.0	4	6.80	d?
3	227-227	3	0023456789	19-05-07	15:32	19	1.7	12	16.40	d?
4	201-201	4	022542562568	19-05-07	15:34	21	8.0	3	5.60	d?
5	304-304	1	008956856265	19-05-07	15:34	17	1.7	11	15.20	d?
6	227-227	3	27923766	19-05-07	15:34	35	180.0	1	1.20	d
7	201-201	4	005522553668	19-05-07	15:35	20	1.7	12	16.40	d?
8	304-304	1	27921267	19-05-07	15:35	19	180.0	1	1.20	d
9	227-227	2	022546879	19-05-07	15:35	32	8.0	5	8.00	d?
10	201-201	1	34	19-05-07	18:48	72	180.0	1	1.20	d
Local:-		Calls :	4	Time :	159	Units :	4	Amt.:	4.80	
STD:-		Calls :	3	Time :	81	Units :	12	Amt.:	20.40	
STD:-		Calls :	3	Time :	56	Units :	35	Amt.:	48.00	
Total:-		Calls :	10	Time :	296	Units :	1	Amt.:	73.20	

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PRINT OUT OF INCOMING CALLS

Dial

712 3998

Set for Originating more from main programming for this print out

SMDR REPORT# 2 : EXTENSION-WISE LISTING OF EXT# 3998AS ON 19-05-07 (Sat) AT 16:37

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	3998-201	1	123567788	19-05-07	15:33	6				**INCOMMING CALL**
2	3998-304	1	9876543210	19-05-07	15:33	11				**INCOMMING CALL**
3	3998-3999	1	01141415252	19-05-07	15:34	0				INCOMMING MISSED CALL
4	3998-3999	1	01414153	19-05-07	15:35	0				INCOMMING MISSED CALL
5	3998-304	1	02225633698	19-05-07	15:36	9				**INCOMMING CALL**
6	3998-3999	1	01147474758	19-05-07	15:36	0				INCOMMING MISSED CALL

Local:-	Calls :	0	Time :	0	Units :	0	Amt.:	0.00		
STD:-	Calls :	0	Time :	0	Units :	0	Amt:	0.00		
STD:-	Calls :	0	Time :	0	Units :	0	Amt:	0.00		
Total:-	Calls :	0	Time :	0	Units :	0	Amt :	0.00		

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PRINT OUT OF INCOMING MISSED CALLS

Dial

712 3999

Set for Terminating more from main programming for this print out

SMDR REPORT# 2 : EXTENSION-WISE LISTING OF EXT # 3999 AS ON 19-05-07 (Sat) AT 16:37

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	3998-3999	1	01141415252	19-05-07	15:34	0				INCOMMING MISSED CALL
2	3998-3999	1	01414153	19-05-07	15:35	0				INCOMMING MISSED CALL
3	3998-3999	1	01147474758	19-05-07	15:36	0				INCOMMING MISSED CALL

Local:-	Calls :	0	Time :	0	Units :	0	Amt.:	0.00		
STD:-	Calls :	0	Time :	0	Units :	0	Amt:	0.00		
STD:-	Calls :	0	Time :	0	Units :	0	Amt:	0.00		
Total:-	Calls :	0	Time :	0	Units :	0	Amt :	0.00		

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PRINT OUT OF SUMMARY OF CALLS MADE BY EXTN'S

Dial

☎ 715 4

SMDR REPORT # 10: TOTAL CALL AMOUNT OF ALL EXTS. AS ON 20-05-07 (Sun) AT 10:01:29

Room No.	Amount	Room No.	Amount
201	144.40	202	8.00
203	67.20	204	0.00
205	0.00	206	33.60

PRINT OUT FORMAT DURING CHECK-OUT IS AS FOLLOWS

SMDR REPORT# 9: GUEST CALL REPORT FOR ROOM NO:202 AS NO 20-05-07 (Sun) AT 11:49:41
 GUEST NAME : MANOJ Check-In-Out Serial No. : 1
 CHECK-IN ON : 20-05-07 AT 09:46:59 CHECK-OUT NO : 20-05-07 AT 11:49:41

SR	EXT1-EXT2	T	NUMBER	DATE	TIME	DUR	RATE	UNITS	AMOUNT	REM
1	202-202	1	0895688	20-05-07	09:50	36	8.0	5	8.00	d?
Local:- Calls : 0 Time : 0 Units : 0 Amt.: 0.00 STD:- Calls : 1 Time : 36 Units : 5 Amt: 8.00 STD:- Calls : 0 Time : 0 Units : 0 Amt: 0.00 Total:- Calls : 1 Time : 36 Units : 5 Amt : 8.00										

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PRINT OUT OF GLOBAL / PERSONAL DIRECTORY

Dial

716

GLOBAL DIRECTORY AS ON 20-05-07 (Sun) AT 11:17

GRP.NO.	LOC	TRK	NUMBER	CFEXT.	GRP.NO.	LOC	TRK	NUMBER/NAME	CFEXT.
10	01	1	27923766	201	10	02	2	22792267	202
10	03	1	27949260	203	10	04	3	27923982	201
10	05	2	32905268	203	10	06		SANJAY	
11	01	1	9811114477	205	11	02	4	9811123123	204
11	03	4	9811121221	204	11	04	1	9891112211	204
11	05	4	09897554466	205	11	06		PAWAN	

EXT NO 201 PERSONAL DIRECTORY AS ON 20-05-07 (Sun) AT 11:17

GRP.NO.	LOC	TRK	NUMBER	CFEXT.	GRP.NO.	LOC	TRK	NUMBER/NAME	CFEXT.
01	01	4	456456456	201	01	02	1	07897897898	210
01	03	3	08528528525	207	01	04	2	0852085208	201
01	05	2	32040861	204	01	06		ANIL	

PRINT OUT OF LCR TABLE

Dial

7173 (From main password)

SMDR REPORT# 9: LEAST COST ROUTING (LCR) AS ON 2-05-07 (Sun) AT 14:17

LOC.	JN NO.	NUMBER	LOC.	JN NO.	NUMBER
00	1 2 1 2	1	01	1 2 1 2	2
02	1 2 1 2	3	03	1 2 1 2	4
04	1 2 1 2	5	05	1 2 1 2	6
06	1 2 1 2	7	07	1 2 1 2	8
08	1 2 1 2	9	09	3 4 3 4	01
10			11		
12			13		
14			15		



CRYSTAL 40ZX USER GUIDE

PRINT OUT OF EXTENSION PARAMETERS 1

Dial

715 21

EXTENSION PARAMETERS AS ON 20-05-07 (Sun) AT 11:42

EXT NO.	FO	F1	TRUNK ACCESS										F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	P	P1	P2	P3	P4	P5	DIR	
	DN	DN	1	2	3	4	5	6	7	8	9	0																			
201	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	1	1	1	1	1	4	0	0	0	0	0	0	0	0	Y	Y
202	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	1	1	1	8	0	0	0	0	0	0	0	0	0	0	Y	Y
203	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	1	1	1	9	8	0	0	0	0	0	0	0	0	0	Y	Y
204	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	2	2	2	2	2	8	0	0	0	0	0	0	0	0	Y	Y
205	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	2	2	2	2	6	0	0	0	0	0	0	0	0	0	Y	Y
206	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	2	2	2	5	1	0	0	0	0	0	0	0	0	0	Y	Y
207	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
208	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
209	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
210	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
211	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
212	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
213	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
214	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
215	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
216	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
217	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
218	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
219	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
220	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
221	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
222	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
223	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
224	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
225	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
226	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
227	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
228	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
229	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y
230	88	33	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Y	Y

CB : Call Budgeting ACD : Auto Call Disconnect D:Day N: Night 1:On 0:Off
 F0 : Feature Access Level F5 : CB Proorammed Amount F10 : ACD For IC Calls
 F1 : Class of Service F6 : CB Current Amount F11 : ACD Warning Only
 F2 : DOSA F7 : CB Lock Level F13 : Call Pick-up Group
 F3 : Flash Timer F8 : ACD For Local Calls F14 : Hunt Group
 F4 : CB On/Off F9 : ACD For STD Calls F15 : Voice Mail Port
 F12 : Call Privacies for P1 = IR/BI/Raid, P2 = Trunk Call, P3 = DISA Call



CRYSTAL 40ZX USER GUIDE

PRINT OUT OF EXTENSION PARAMETERS 2

Dial

☎ 715 22

EXTENSION PARAMETERS2 AS ON 19-05-07 (Sat) AT 16:57

EXT NO.	FLEX#	EXTENSION NAME	GUEST GROUP	FLOOR NUMBER
01	201	ANIL PRAJAPATI	PARTY1	1
02	202	AJAY SHARMA	SERVICE	0
03	203	JOSHI JI	PARTY2	2
04	204	DEEPAK	GUEST	2

PRINT OUT OF SYSTEM PARAMETERS

Dial

☎ 715 1

Following details are given in this print out

- 1) All timer setting
- 2) On line off line
- 3) Printer setting
- 4) Relay port setting
- 5) Auto Day Night Setting
- 6) Auto redial Setting
- 7) User password
- 8) Last buffer clear Date time
- 9) Record stored in the buffer
- 10) Record free in the buffer
- 11) Program last Exited
- 12) Last loaded Date time
- 13) Floor service Extn. no.
- 14) Pilot Group setting
- 15) Feature table
- 16) Allowed Denied list



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PRINT OUT OF VIRTUAL EXTN. PASSWORD

Dial

☎ 715 8

VIRTUAL EXTENSION - PASSWORD AS ON 19-05-07 (Sat) AT 17:08

VIRTUAL EXTENSION	PASSWORD	VIRTUAL EXTENSION	PASSOWRD
3900	1234	3901	4321
3902	2222	3903	1111
3904	3333	3905	4444
3906	5555	3907	6666
3908	7777	3909	8888
3910	9999	3911	0000
3912	5678	3913	90*#

PRINT OUT OF ACCEPTED / DENIED TABLE

Dial

☎ 715 6

SYSTEM PARAMETERS AS ON 19-05-07 (Sat) AT 17:04

Class of Service # 0			Class of Service # 1		
Index	Allowed list	Denied list	Index	Allowed list	Denied list
0	022	0	0		00
1	0794301201	98	1		00
2	95012042	3	2		
3		180	3		
4		95	4		
5		6	5		
6		7	6		
7		8	7		
8		9	8		9
9		0	9		
*		*	*		*
#		#	#		#



CRYSTAL 40ZX Programmers Guide

1. PROGRAMMERS GUIDE

To prevent unauthorised users from reprogramming the system, a four digit password has been set in the system which your dealer will disclose to you. This password should be kept confidential to prevent misuse of the facilities. To reprogramme any facility:

☞ **Dial password (by default it is 89 0000).**

Ⓞ **You shall get acceptance beeps.**

Now, you can programme in required facilities. If you make any mistake while programming, simply disconnect and start again (You need not dial in password again). Once your programming is complete

Dial

☞ **0**

to come out of programming mode.

2. CHANGING PASSWORD

2.1 Programmers

To set new password:

☞ **Dial old password**

You shall get C.A.T.

☞ **Dial 891 XXXX**

Where XXXX is any four digit code.

You shall again get C.A.T.

The new password is now **89 XXXX**

NOTE:

The default password is **89 0000**

In case one forgets the main password, then proceed as follows :



CRYSTAL 40ZX Programmers Guide

☛ **Switch off the system. Insert jumper cap on the two pin jumper (near the DR.PH\ Sensor Interface connector).**

Switch ON the system.

When RUN LED starts blinking , switch system OFF and remove jumper and switch system ON again

Password shall revert back to "0000".

2.2 Users

To Change User Password , dial

☛ **892 XXXX**

XXXX = New password

Default users password is **891111**

3. CLEARING ENTIRE MEMORY

To wipe out the entire memory & load the system with default settings

Dial

☛ **89 + password**

You shall get CAT. Now,

Dial

☛ **96 + password**

The system shall restart again.

NOTE :

Whenever you are installing a new system or after clearing the memory by shifting the jumper cap, it is very important to give a memory clear by '96 0000' or else the system shall malfunction.



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3.1 Clearing Features of a Particular Extn.

Following features of a particular extn. can be cleared with a single command

- Auto call back
- Call forward
- Follow me
- Alarms
- Dynamic lock
- Hot line

To clear above features,

Dial

☛ **863 + Extn. number**

4.0 MEMORY BACK-UP OF PROGRAMMED DATA

Whenever you programme any feature from the main password, or if you programme any personal memory number / name, a back-up copy of this programming is automatically made in secondary memory device. If due to any voltage fluctuations / spikes, the main programmed data gets corrupted, you can reprogramme the system again from the back-up memory. To utilize this feature, proceed as follows, when installing a new system

☛ **Clear entire memory by 96 + Password**

When system restarts, dial from main password

☛ **269 + Password + Reverse Password**

This shall load the default settings in the back-up memory

Now programme in all required features. As you programme, all data will automatically be updated in the back-up memory

Now when ever there is any memory corruption, dial

☛ **268 + password + Reverse Password**



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Entire back-up data shall be transferred to the main CPU

Note :

- 1) If there is any memory corruption , it is strongly advised that you clear the entire memory and then do down load of back-up data . However if you desire to save the SMDR call buffer , then you can give a down load command w/out clearing the memory
- 2) During up-load , the system shall remain idle for about 90 secs , and during down-load , for about 60 secs.

5. SETTING TIME/DATE

To set time/date,

Dial

☛ **82 Date Month Year Day HR MN.**

Where Day = 1 for Sun
7 for Sat
Year = 07 for 2007
08 for 2008
HR MN = Time in 24 hour format

Example : To set 2.05 P.M., 1st June, Friday 2007,

Dial

☛ **82 01 06 07 6 14 05**



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6. ROUND – ROBIN

To set extensions in the round-robin group,

Dial

☛ **92 Y XX XX XX XX XX (DAY)**

Where Y = JN. no. 1 for 61, 2 for 62...
XX = 5 extn nos

☛ **93 Y XX XX XX XX XX (NIGHT)**

Where Y = Jn. no. 1 for 61, 2 for 62...
XX = 5 extn nos

Default settings

For all junctions in Day/Night Mode : 201, 202, 203,
204, 205

7. RING NUMBER RING

On your direct Jn line if there is first a small ring then the clip number and then ring again, you shall have to do the same setting for the first R-Robin extension also . To do so, repeat the 1st extension number in the R-Robin group, twice.

8. DOOR PHONE

Similar to a normal Junction, upto five extensions can be programmed separately for Day/Night mode, to ring for the Door Phone application. To do so, dial

☛ **856 2**

☛ **92 6 XX XX XX XX XX (Day Ring Extn's)**

☛ **93 6 XX XX XX XX XX (Night Ring Extn's)**

☛ **466 XY**

Where X = 1 for rotational ring (Day)
3 for simultaneous (Day)
Y = 1 for rotational ring (Night)
3 for simultaneous (Night)



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☛ **0 (To come out of programming mode)**

Note :

It is important that you dial '0' after this programming.
For programming of next feature , dial main password
again and proceed

With Door Phone ring on any CLIP phone - " **0008 DOOR
PHONE RING** " will be displayed . If desired , you can
change this default name . To do so , dial

☛ **218 09 X**

where X = 1 for name change
2 for default name

Now in the global memory bank , on any location ,
programme the desired name against number **0000001**

9. ROUND ROBIN RING ON NORMAL EXTN / CONSOLE

You can programme for all incoming calls to ring only on
console . To do so , dial

☛ **51 Jn. No + XY**

where X = 1 for ring only on console (Day)
2 for ring on normal R.Robin exten. (Day)
Y = 1 for ring only on console (Night)
2 for ring on normal R.Robin exten. (Night)



CRYSTAL 40ZX Programmers Guide

10. RING BACK / MUSIC WHEN CALLING CONSOLE

When calling the console , you have an option of either normal RBT or music . Dial

☞ **218 08 X**

where X = 1 for RBT
2 for music

11. CLI BASED CALL ROUTING

If you wish to activate automatic CLI based incoming call routing, dial

☞ **21805 X**

Where X = 1 for auto routing on
2 for auto routing off

YAMUNAJI TELECOM (Mobile : +919825045681)



CRYSTAL 40ZX Programmers Guide

12. BULK PROGRAMMING

If all junctions/extn. are to be programmed with same parameters, then one can use '*' instead of individual jn. extn. numbers.

For example :

1) If all extensions are to be given STD dialling facility,

Dial 94 ★ 22

Now, if any one or two extns. are to be with different parameters then these can be programmed separately.

2) To set all junctions as round-robin on 202, 203, 206, 207, 207,

Dial 92 ★ 202 203 206 207 207

13. TONE/PULSE

To set a junction for tone/pulse dialling mode,

Dial

90 X Y

Where X = Jn. No. 1 for 61...
Y = 1 for Pulse
2 for Tone

In default, all jns. are in tone dialling mode.



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14. TRUNK GROUPING

Two trunk groups are possible which can be accessed by code "0" and "5". To programme a Jn. in any or both groups,

Dial

91 X YZ

Where X = Junction number
Y = 1 if Jn is to be in "0" group
2 if Jn is not to be in "0" group
Z = 1 if Jn is to be in "5" group
2 if Jn is not to be in "5" group

To set 61/62 in '0' group and 63 in '5' group, programme

91 1 12 (for Jn. 1 in only "0" group)

91 2 12 (for Jn. 2 in only "0" group)

91 3 21 (for Jn. 3 in only "5" group)

In default, all junctions are in both '0' and '5' group.

15. CLI EXTENSION

If you install a CLI telephone on any extn., you can avail following three features

- A) Calling extn. number display.
- B) CLI number of the caller during an incoming call (provided the CLI interface card is attached)
- C) This CLI number is also shown on the extn. on which the call is transferred
- D) If any extn. is busy, you can view the internal/external number with which that extn. is busy, on your CLI phone

If you are connecting a CLI telephone instrument on any extn., you shall have to programme that extn. for CLI.



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For this, Dial

☛ **27 Extn. No. AB1CD 111**

Where A = 1 for External CLIP ON
2 for External CLIP OFF (Default is Off)
B = 1 for view of busy number enable
2 for disable
C = 1 for Direct trunk access by 61,
62...enabled
2 for Direct trunk access by 61, 62...
disabled (default enabled)
D = 1 if KTS is installed on this extension
2 if it is a normal extn. (default is 2)

To enable an extn. for CLIP / Direct trunk access / busy
number view enable but not KTS , dial

☛ **27 Extn. No. 11112 111**

To enable all extensions as above , dial

☛ **27 * 11112 111**

Note :

- 1) If direct Jn access is denied to any extn , then that
extn can access a Jn only by 5 / 0
- 2) In default only internal / external is enabled for extn.



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16. FEATURE GROUP

Following features are available in the CRYSTAL system

Feature name	:	Feature number
Internal dialing	:	00
Call hold + Call park	:	01
Call transfer	:	02
Conference	:	03
Call pick up	:	04
Hot outward dialing	:	05
Dynamic lock	:	06
Alarms	:	07
Call forward	:	08
Call follow me	:	09
Auto call back	:	10
Interrupt+barge-in	:	11
Executive Ring	:	12
Trunk reservation	:	13
Auto redial-low priority	:	14
Auto redial-high priority	:	15



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Following 10 combinations of features are possible

Feature No.	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Group # 0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Group # 1	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Group # 2	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N
Group # 3	Y	Y	Y	N	Y	Y	Y	N	N	N	Y	N	N	N	N	N
Group # 4	Y	Y	Y	N	Y	Y	Y	Y	N	N	Y	N	N	N	N	N
Group # 5	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	N
Group # 6	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	N
Group # 7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Group # 8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Group # 9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

To allot a particular group to any extn

Dial

31 ExtnNo + X Y

Where X = Day group code
Y = Night group code

In default the extns are in group no. 66

16.1 Changing Feature Group Table

You can change the features allotted to any group.

To change,

Dial

250-X-F00 -F01 -F02F15



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Where X = Group number
F00-F15 = Feature number
1 = To enable feature
2 = To disable feature

For Example :

To allot feature no. 2,7 and 8 to group number 5,

Dial

☛ **25-5-2-2-1-2-2-2-1-1-2-2-2-2-2-2**

In this way, all '9' groups can be programmed for different features.

Note :

Whichever extension is allotted level 8, that extn shall automatically have Monitor facility

17. TO SET AUTO DAY NIGHT CHANGE OVER TIMINGS

Dial

☛ **83 Day HH MM (D) HH MM (N)**

Where HH MM (D) = Time for system to come in day mode
HH MM (N) = Time for system to come in night mode
DAY = Day of the week.
SUN = 1
SAT = 7

Default timing for all seven days :

0900 For system to come in day mode.
1800 For system to come in night mode.



CRYSTAL 40ZX Programmers Guide

18. SELECTIVE TRUNK ACCESS

An extension can be programmed to access only selective junction numbers. To programme an extension for the selective junctions for day

Dial

☞ **801 Extn. number + Jn + Jn....#**

and for night, dial

☞ **802 Extn. number + Jn. + Jn....#**

Example : To allow Jn 1 & 3 to extn 203 in day and Jn 1 in night,

Dial

☞ **801 203 13 #**

☞ **802 203 1 #**

In default, all extns can access all trunks.

19. TO CLEAR DYNAMIC LOCK

To open dynamic lock of any extn, and clear the password to default of 1111,

Dial

☞ **862 Extn. number**



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20. FLASH TIMING

Each extension can be programmed to have its own hook flash timings, as per the flash timing of the telephone instrument connected on that extension.

To programme,

Dial

☛ **36 + Extn. number + Y**

Where Y = 2 for H/F time of 200 ms
3 for H/F time of 300 ms
.
.
.
9 for H/F time of 900 ms

In default, the flash timing for all extn. is 600 ms.

21. ACCEPTED AND DENIED TABLE

For setting of allowed numbers,

Dial

☛ **241 X Y ZZZ.... Flash**
and for denied numbers

Dial

☛ **242 X Y ZZZ.... Flash**
where X = level (0 to 9)
Y = location of the number (0 to 9) in this level
ZZZ..= number (max. 14 digits)

To wash the complete table, and extn. level setting,

Dial

☛ **244**



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Example 1:- Extn. 202 is to be allowed all STD numbers of Mumbai and only one particular number 079 4301201 of Ahmedabad and no other STD / ISD numbers then programme "022" in level 0 / location 0, 0794301201 in level 0 / location 1 of allowed table and "0" in level 0 / location 0 of denied table.

Dial

☛	241 0 0 022 Flash	(This shall allow all numbers exceeding 022)
☛	241 0 1 0794301201 Flash	(This shall allow all numbers matching or exceeding 0794301201)
☛	242 0 0 0 Flash	(This shall deny all numbers starting from "0" except those in the allowed group)
☛	94 202 00	(To allot level 0 to extn. 202, both in day/night mode)

Now when 202 dials 0222342012, then the number is allowed as 022 matches with the allowed number. But if he dials 0212342012 then this number shall not match with any number in the allowed group. Now the system shall check in the denied group, where the first digit "0" matches with "0" of the denied list and hence dialing will be denied.

Example 2 :- Extn. 204 is to be allowed all local numbers, except mobile numbers starting with 98, trunk booking by 180, and those starting with 95 except 95012042, then

Dial

☛	241 1 0 95012042 Flash	(To allow this number)
☛	242 1 0 98 Flash	(To deny all numbers matching or exceeding 98)
☛	242 1 1 180 Flash	(To deny all numbers matching or exceeding 180)
☛	242 1 2 95 Flash	(To deny all numbers matching or exceeding 95)
☛	94 204 11	(To allot level 1 to extn. 204)



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Example 3 :- For 95 / STD lock

- ☛ **242 8 0 95 Flash** (To deny all numbers matching or exceeding 95)
- ☛ **242 8 1 0 Flash** (To deny numbers starting with 0)
- ☛ **94 Extn No. 88** (To allot level 8 to that extn.)

With this programming above extn. shall not be able to dial numbers starting with digit 0 and 95

21.1 Class Of Service

To allot an accepted/denied level to any extn. dial

- ☛ **94+Extn no.+Accepted / Denied level (Day) + Accepted / Denied level (Night)**

Default accepted/denied table is as follows

Level	Allowed digits	Denied Digits	Status
0	-	0-9, *, #	Only intercom
1	-	0, 9, *, #	STD/9 dial locked
2	-	00	ISD locked
3 to 9	-	-	All allowed

22. ALTERNATE NUMBER DIALING

To enable alternate number dialing , dial

- ☛ **218 06 X**

where X = 1 for alternate dialing enabled
2 for disabled



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23. NAME / NUMBER DISPLAY OPTION ON THE CONSOLE

If you have programmed caller names in the personal / global directory , you have an option to display either the incoming callers name or the number on any incoming call . Dial

21807 X

where X = 1 for name display
2 for number display

24. HOTEL PROGRAMMING

24.1 Guest / Service group programming

This facility is basically specific for hotels only. It helps to classify each extension under service group or guest group. Broadly there can be following three types of groups:

1) Individual guest group ('0' group) :

This is the group of individual guests who only need to call service group extensions. They cannot call any other room number.

2) Guest group ('1' to '8' group) :

This is for a group of more than one guests and occupying more than one rooms. These guests can call service group extensions and other extensions of the same group

3) Service group ('9' group) :

This group of extensions includes operator/hotel staff and management. Any extension can call this group and this group can call any other extension.

To assign group to an extension,

Dial

38 - Extn. number - Group number



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24.2 Floor service destination

You can set a room service extn. separately for each floor. Access code for room service for all floors shall be same (default 38), but the ring shall go to corresponding room service extn. depending on the caller's floor.

For example :

If the room 210 on second floor calls for room service, ring should go to the room service extension on second floor. Similarly, if room 415 on fourth floor calls for room service, ring should go to room service extension on fourth floor.

This helps the hotel management staff to address to guest's call in more efficient and quicker manner. This feature is also known as "**floor service**".

In this,

- Each extn. is assigned a floor group.
- Each group of floors is assigned a service extension and
- Room / floor service access code is defined.

To assign floor to an extension,

Dial



305 - Extn. number - Floor number

To assign a service extn. to a floor,

Dial



2042 - Floor number - Extn. number

In default floor service extn. for all floors is 22/202.

To assign room/floor service code,

Dial



2041 - XX #

Where XX is any number from 1 to 8999.

Default floor service code is 38.

For Example : Consider a hotel with nine rooms spread over three floors with three rooms on each floor. Room numbers 202, 203, 204, 206, 207 and 208 are used for individual guests (group '0') whereas room numbers 210, 211 and 212 are for guest group ('1' to '8' group).



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The service extn. number for each floor is as shown.

OPERATOR – 201					
INDIVIDUAL GUEST GROUP	202 Room 1	203 Room 2	204 Room 3	205 Room Service	FLOOR 1
	206 Room 4	207 Room 5	208 Room 6	209 Room Service	FLOOR 2
GROUP GUESTS	210 Room 7	211 Room 8	212 Room 9	213 Room Service	FLOOR 3

To programme individual guests,
Dial

☎ 38-202-0
38-203-0
38-204-0

☎ 38-206-0
38-207-0
38-208-0

To programme group guests,
Dial,

☎ 38-210-1
38-211-1
38-212-1

To programme service group extensions,
Dial,

☎ 38-201-9
38-205-9
38-209-9
38-213-9



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Now, to assign floor number to extensions

- ☛ **Dial,**
305-202-1
305-203-1
305-204-1
- ☛ 305-206-2
305-207-2
305-208-2
- ☛ 305-210-3
305-211-3
305-212-3

To assign service extension to different floors,

- ☛ **Dial**
2042-1-205
2042-2-209
2042-3-213

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25. PICK UP GROUP

Ten call pick up groups (from 0 to 9) can be programmed. To set an extn in any group,

Dial

☛ **301 + Extn. number + Group number**

Example : To set extn. 206, 208 & 209 in group 5,

Dial

☛ **301 206 5**
301 208 5
301 209 5

Now, if there is a ring on 206, extn. 208 or 209 can pick up the call on 206, simply by dialing "4"

In default, all extns are placed in group '0'.

26. BUSY HUNTING GROUP

It may be desirable that when a particular extn. is busy, the next programmed extn., should ring instead of giving busy tone to the caller. Nine different groups of such extensions can be formed. To set extn. in any group,

Dial

☛ **304 + Extn. number + Group number**

Example : To set 201, 202, 204 in one group so that if any one dials 201 and 201 is busy then 204 shall ring,

Dial

☛ **304 201 1**
304 202 1
304 204 1

In default, no busy group is defined.

NOTE :

This feature is valid for intercom to intercom call only and not for round-robin call.



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27. CALL PRIVACY

Call privacy from three types of calls is possible

X = Barge-in

Y = Incoming trunk call beeps

Z = D.I.D. calls

To set privacy for any of above,

Dial

303 Extn. number XYZ

Where X = 1 for Privacy ON
 2 for Privacy OFF
 Y = 1 for Privacy ON
 2 for Privacy OFF
 Z = 1 for Privacy ON
 2 for Privacy OFF

Example : To set call privacy from barge-in on extrn. 203,

Dial

303 203 122

In default, only call privacy for incoming beeps is on-
i.e.212

28. MUSIC/RING BACK TONE SETTING

Instead of RBT one can set for music tone. To do so, dial

21803 X

Where X=1 for music
 2 for RBT

Note :

An optional music card is required for this feature



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29. REVERSAL / TIME OUT

For call maturity detection, following options are possible

1 = Time Out (Default)

4 = Reversal

To set for any one of these options, dial

42 Jn. No. + X

where X = 1 / 4

The time out delay is programmable from 01 to 99 sec.

To set this value,

Dial

213 XX

Where XX is time from 01 to 99 sec.

29.1 Jn. Tie Line Count

Sometimes small or medium range EPABX systems may be used behind bigger private EPABX'S to expand their existing capacity. Extns coming from the bigger EPABX shall act as trunks for the smaller EPABX extns.

Now, if any extn connected to smaller EPABX is to be allowed local dialing through bigger system, it shall have to be given STD dialing facility. In this case, these extns may misuse this facility if any P&T line is connected directly to smaller system. This problem may be solved by setting a tie-line digit count for each junction line. This count is the number of digits to be ignored before class - of - service check is begun.

To set this tie-line digit count,

Dial

54 + Jn. No. + X

Where	Jn no. =	1 for 61, 2 for 62.....
	X =	Tie - line digit count (0-9) (If you are not using the Jn. as tie-line, then keep X as 0)



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30. SIMULTANEOUS / R-ROBIN

Dial

☛ **46 JN NO X Y**

Where X (Day mode) = 1 for Round-robin
2 for Delayed simultaneous
3 for Immediate simultaneous
Y (Night mode) = 1 for Round-robin
2 for Delayed simultaneous
3 for Immediate simultaneous

In default, all junctions are in round - robin i.e. '11' mode.

31. GLOBAL NUMBER

To feed in global number , dial

☛ **88 + location number (10~99) + table no (1~5) + Jn. No (1~0) + Number + * + Cli based call forward extn. No. + #**

If you do not want to set call forward extn. number. then dial # after *

32. GLOBAL DIRECTORY ACCESS

Global numbers can be divided into two banks 88101 to 88545 and 88551 to 88995 . Now any of the above bank can be allowed / denied access to any extn

To allow/deny 1st bank, dial

☛ **805+Extn no+ X + Y**

Where X = 1 for Day Access allowed
2 for Day Access denied
Y = 1 for Night access allowed
2 for Night Access denied

To allow/deny 2nd bank, dial

806+Extn. No. + Day access+Night access



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33. HUNTING GROUP

You can programme ten hunting group (of max. 8 extns each) which can be accessed by 370 to 379. When anyone dial 370, 1st extn. of this group shall ring. If 1st extn is busy, then 2nd extn. shall ring and so on. To programme, dial

☛ **251 + Group no (0 to 9) + Extn no. + Extn no#**

(If extensions are less than 8, then dial #)

Group '0' shall be accessed by 370, group 1 by 371 to so on.

34. REMOTE PROGRAMMING

You can programme the Crystal EPABX from a remote end also.

When in speech mode with any extension, ask the user to

☛ **H/F and dial 3999**

You shall come back in speech mode with the user. Now either you or user shall dial

☛ **Main password (i.e. 0000)**

After 5 seconds,

🕒 **You shall get acceptance beeps.**

☛ **Now start programming.**

To come out of prog. mode,

☛ **Dial 0.**

The programmer and the person at called extn. can talk softly during programming also. After dialing '0' the conversation can continue normally again.

Programming can be done in DTMF mode only.



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35. AUTO CALL DISCONNECTOR

35.1 To set ACD for local call

Dial

8031 + Extn. number + XY

Where X (Day mode) = 1 for ACD ON
2 for ACD OFF
Y (Night mode) = 1 for ACD ON
2 for ACD OFF

In default, the ACD is OFF in both day & night modes.

35.2 To set ACD for STD call

Dial

8032 + Extn. number + XY

In default, the ACD is OFF in both day & night modes.

35.3 To set ACD for Incoming call

Dial

8033 + Extn. number + XY

In default, the ACD is OFF in both day & night modes.

35.4 To set ACD beep only without disconnection

Dial

8034 + Extn. number + XY

Where X (Day mode) = 1 for beep only
(Disconnection OFF)
2 for Disconnection ON
Y (Night mode) = 1 for beep only
(Disconnection OFF)
2 for Disconnection ON

In default, disconnection is ON .



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Example :

- A) To set ACD on extn. 21 for local calls in day mode & STD calls both in the day / Night mode

Dial

8031 21 12 — ACD for local call in day mode

8032 21 11 — ACD for STD call in day & night modes

- B) To set for only warning beep on extn. 26 for STD call in both Day / Night modes,

Dial

8032 26 11 — ACD for STD call in day/night mode

8034 26 11 — ACD OFF, only beeps

35.5 ACD warning timers

For ACD a warning beep is given after a programmed time. 60 second after the beep, the junction line will be disconnected. This beep time can be changed as follows.

- 1) To set local call warning timer**

Dial

☎ **21726 + XXX**

Where XXX = time in sec. (010 to 240. Default is 240)

- 2) To set STD call warning timer**

Dial

☎ **21727 + XXX**

Where XXX = time in sec. (010 to 240. Default is 120)

- 3) To set incoming call warning timer**

Dial

☎ **21728 + XXX**

Where XXX = time in sec. (010 to 240. Default is 240)

- 4) To set good bye timer**

☎ **21729 + XX (Default = 60 Sec.)**



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36. CENTRAL RINGER

There is a central ringer in the system which shall ring

- i) During an incoming call
- ii) When any one is using ECF/DOSA feature

However if desired you can switch this ringer Off . To programme, dial (from main password)

840 + XY

where X=1 for R. Robin ringer ON in day mode
2 for R. Robin ringer OFF in day mode
Y=1 for R. Robin ringer ON in night mode
2 for R. Robin ringer OFF in night mode

841 + XY

where X=1 for ECF ringer ON in day mode
2 for ECF ringer OFF in day mode
Y=1 for ECF ringer ON in Night mode
2 for ECF ringer OFF in Night mode

37. CALL BUDGETING

37.1 To activate call budgeting on an extn.

Dial

3021 + Extn. number + X

Where X = 1 for ON
2 for OFF

In default, call budgeting is OFF for all extensions.

37.2 To Set budget amount

You can set a budget amount for any extension. Once the total call amount of that extension crosses the budgeted amount, the extension shall get locked for STD calls. To set this budget amount,

Dial

3022 + Extn. number + YYYY

Where YYYY = Rupees from 0001 to 9999



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37.3 To Set Lock Level

After the budget amount is over you can set the extn. for-
full lock/STD lock/ISD lock. To programme dial

☛ **3023+Extn. number + X**

Where X = 0 for total lock
1 to allow only local dialing
2 to allow local/STD dialing

38. FLEXIBLE NUMBERING

To change any extn no.,

Dial

☛ **371 XX YYYY**

Where **XX** = Hardware port no i.e. 01 for extn 201
02 for extn 202
15 for extn. 215

YYYY = Any flexible number.

NOTE :

Dial # if number is of 1,2 or 3 digits.

Example : To assign number 4000 to 201 and 588 to 206,

Dial

☛ **37 01 4000**

☛ **37 06 588 #**

Numbers with common starting digits cannot be allotted to
other extensions.

For example : If 4012 is used for any extn. then you can
not set 40 or 401 for any other extn.

NOTE :

Remove the first digit to get port number i.e.... 201 is port
number 01, 240 is port number 40 etc.

To clear flex numbering of any particular H/W port, dial

☛ **371 + H/W port no. + #**



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39. TWO DIGIT NUMBERING

Extn. numbers are in 3 digit and start from 201.....
However, if you are installing a 618 system, you have an option to set numbers in 2 digits starting from 21. To convert 1st 16 extensions into two digit,

Dial
281

Now, 1st 16 extensions will be numbered **21 to 36**

While setting flexible numbering, if you would like to allot say number 2110 to any extn. it won't be possible as 211 extension is already there. In such case, one will have to wash out ALL extension numbers. To do so,

Dial
283

With this, all extension numbers will be washed. You shall have to now feed in **ALL** extension numbers.

To revert back to default 3 digit starting from 201,

Dial
282

40. INCOMING RING DELAY TIMER

On direct line, if there is a small ring, then number and then ring again, and if this line is set for DID, then DID shall malfunction. Similarly Auto CLI Based Call Routing shall also not function. For proper functioning of these two features, a small delay has to be set in the system to ignore the 1st small ring. To also dial



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219 XX + YY

Where XX = 00 for 61

01 for 62

09 for 60

YY = 50 for 5 sec. delay

90 for 9 sec delay

41. LEAST COST ROUTING

LCR feature enables you to automatically dial out an external number through the cheapest service provider.

Following parameters need to be programmed for the LCR feature.

- 1) LCR code table
- 2) LCR enable/disable
- 3) Jump to '0' Group on busy-enable/disable If this feature is disabled, when all junctions for the programmed outgoing number are busy, user shall get a busy tone. If this feature is enabled, when all jns. are busy, Crystal EPABX system shall dial out the number through any free jn. in the '0' group.
- 4) LCR code table-enable/disable
- 5) Direct trunk access-enable/disable If direct trunk access is disabled for an extn. then that extension can make outgoing call only through LCR. He shall not be able to override the LCR feature by taking a selective jn. line.



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41.1 LCR Code Table

To feed in the LCR Code table, dial

246 LL XXXX YYY #

Where LL = Location number (00 to 99)
XXXX = Four Junction number's (61,62...0,5). If junctions are less than four, then repeat any Junction number

YYYY = Code (maximum 8 digits). If the code is of less than 8 digits then dial #

- a) You can feed in 100 numbers in the table, and four junctions against each number. If desired, '0' / '5' group can also be allotted against any number (useful if more than 4 Jns. are required for a particular external number).

Note :

- 1) If you shall be using 0/5 group in this table then keep "jump to '0' group on busy" feature disabled.
 - 2) You can programme any combination of 0, 5, 61, 62.....etc.
- b) Junction 65/60 cannot be programmed as these shall be taken as 0/5 group. If you are particular to use these two Jns. in the LCR table, then set them in the 0/5 group and then allot these group against any code.
- c) Feed in the codes serially starting from 00 location. If any location in the middle is not programmed then LCR feature shall not function.
- d) 200 STD codes (only land line) are already programmed in the system (see table 1). As such you need not feed in the STD codes. Just add '0' to all STD/95 numbers.



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Note :

If this code table check is disabled then you shall have to programme in the complete STD code and the number. The table shall have to be disabled if you require the LCR feature based on the number and not as per service providers. For example, you may so desire that all calls to Kolkatta (033) are dialled through Jn. 61/62 all calls to Bombay (022) through 36/34 & all local calls through 65, then this shall be possible by disabling this STD table check.

- e) If a dialled number is not programmed in the LCR table, then the number shall be dialled out through the '0' group

Example:-

All Reliance numbers (starting with 3/93) to be dialled out through Jn. 61/62/63
 All MTNL Numbers (starting with 2/9868) to be dialled out through Jn. 64/65.
 All TATA Numbers (starting with 5/92) to be dialled out through Jn. 66,
 All ISD numbers to USA to be dialled out through jn. 67, then programme.

246 00 1233	3#	(all local nos. starting with 3 to be dialled out through 61, 62, 63)
246 01 1233	03#	(all STD/95 nos. starting with 3-ex 044 321.... 033328..... 9522328..... etc., to be dialled out through 61, 62, 63)
246 02 1233	93#	(all local mobile nos. starting with 93 to be dialled out through 61, 62, 63)
246 03 1233	093#	(all STD Mobile nos. starting with 93 to be dialled out through 61, 62, 63)
246 04 4545	2#	(all local nos. starting with 2 to be dialled out through 64/5 group)
246 05 4545	02#	(all STD / 95 nos. starting with 2 to be dialled out through 64/5 group)
246 06 4545	9868#	(all local mobile nos. starting with 9698662 dialled out through 64/5 group)



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246 07 4545 09868# (all STD mobile nos. starting with 9698 to be dialled out through 64/5 group).

246 08 6666 5#

246 09 6666 05#

246 10 6666 92#

246 11 6666 092#

246 12 7777 001# (all ISD numbers to USA through jn. 67)

☞ **91 1 12**

91 2 12

91 3 12

91 4 12

91 5 21

91 6 12

91 7 12

To allot only Jn 65 in 5 group.

41.2 LCR Parameters

☞ **248 ABCD 1111111111**

Where A = 1 for liner access of junctions in 0/5 group
2 for Rotational access (Default is rotational)

B = 1 for LCR enable
2 for LCR disable (Default is disabled)

C = 1 for jump to '0' group if all jns. are busy
2 for no jump to '0' group (default is no jump)

D = 1 for LCR code table check enable
2 for LCR code table check disable (default is disabled)

To wash the complete LCR code table, dial

☞ **246 #**

To have a print out of the LCR code dial from main P.W.

☞ **7173**



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Example :

- All MTNL numbers (starting with 2/9868) to be dialled through jn. 61, 62, 63, 64 & 65.
- All Reliance numbers (starting with 3/93) to be dialled through jn. 66, 67.
- All TATA numbers (starting with 5/92) to be dialled through jn. 68, 69, 60.
- All junctions in 0/5 group to be accessed in a rotational manner.
- Extension 202 to be allowed direct access of junction, rest all extension to be barred from direct access.
- Extension's 201 and 202 are with KTS

Dial



91 1 21
91 2 21
91 3 21
91 4 21
91 5 21
91 6 22
91 7 22
91 8 12
91 9 12 For setting 61, 62, 63, 64, 65 in
91 0 12 5 group and 68, 69, 60 in 0 group.

246 00 5555 2# (all local nos. starting with 2 to be
dialled through 5 group)
246 01 5555 02#
246 02 5555 9868#
246 03 5555 09868#
246 04 6767 3# (all local nos. starting with 3 to be
dialled through 66 / 67)
246 05 6767 03#
246 06 6767 93#
246 07 6767 093#
246 08 0000 5# (all local nos. starting with 5 to be
dialled through 0 group)
246 09 0000 05#
246 10 0000 92#
246 11 0000 092#



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248 2121 111111111111 (for Rotation access / LCR enabled / no jump on busy / LCR code table check)
27* 12122111 (for CLIP ON / Busy no. view OFF / direct trunk access disabled for all extns. / all extns. w/ out KTS)
27 201 11121 111 (CLIP ON / Busy No. view ON / direct trunk access disabled / KTS installed on 201)
27 202 11111 111 (for CLIP ON / Busy No. view ON / direct trunk access enabled / KTS installed on 202).

Station	Code	Station	Code	Station	Code
Abohar	01634	Bongaigaon	03664	Gangtok	03592
Agartala	0381	Burdwan	0342	Gaya	0631
Agra	0562	Burnpur	03448	Godhra	02672
Ahmedabad	079	Calcutta	033	Gorakhpur	0551
Ahmednaear	0241	Calicut	0495	Guntur	0863
Aizwal	0389	Cannanore	0497	Gurgaon	0124
Ajmer	0145	Chandigarh	0172	Guwahati	0361
Akola	0724	Chennai	044	Gwalior	0751
Aligarh	0571	Chikamangalur	08262	Hapur	0122
Allahabad	0532	Chinglepat	04114	Hardwar	0133
Alleppey	0477	Chittor	08752	Hissar	01662
Alwar	0144	Coimbatore	0422	Hubli	0836
Ambala	0171	Cochin	0484	Hyderabad	040
Amritsar	0183	Coochbehar	03582	Imphal	03852
Anand(V.V.Nagar)	02692	Cudappah	08562	Indore	0731
Asansol	0341	Cuttack	0671	Itanagar	03781
Aurangabad	0240	Darbanga	06272	Jabalpur	0761
Bangalore	080	Darjeeling	0354	Jaipur	0141
Bareilly	0581	Devangiri	08192	Jaisalmer	02992
Baroda	0265	Dehra Dun	0135	Jalandhar	0181
Belgaum	0831	Dhanbad	0326	Jalgaon	0257
Bellary	08392	Dharwar	0836	Jalpaiguri	03561
Bharatpur	05644	Dibrugarh	0373	Jalandhar	0181
Bharuch	02642	Dimapur	03862	Jalna	02482
Bhatinda	0164	Dindigal	0451	Jalore	02973
Bhavnagar	0278	Dispur	0361	Jamkhandi	08353
Bhiwani	01664	Durgapur	0343	Jammu	0191
Bhillai	0788	Dwarka	02892	Jam Nagar	0288
Bhopal	0755	Emakulam	0484	Jamshedpur	0657
Bhubaneshwar	0674	Erode	0424	Jhansi	0517



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Station	Code	Station	Code	Station	Code
Bhuj	02832	Etah	05742	Jodhpur	0291
Bikaner	0151	Fazabad	05278	Jorhat	0376
Bilaspur	07752	Ferozepur	01632	Junagarh	0285
Bokaro	06542	Gandhinagar	02712	Kakinada	0884
Kalimpong	03552	Mysore	0821	Samastipur	06274
Kalol	02764	Nagpur	0712	Sangrur	01672
Kalpakkam	04117	Nainital	05942	Shillong	0364
Kanchipuram	04112	Nasik	0253	Shimla	0177
Kanpur	0512	Nellore	0861	Silchar	03842
Kanyakumari	04653	New Delhi	011	Siliguri	0353
Karimnagar	08722	Neyveli	04148	Sirsa	01666
Karnal	0184	Ooty	0423	Sivakasi	04560
Kavarathy	04866	Palghat	0491	Solapur	0217
Kharagpur	03222	Panipat	01742	Sonepat	01264
Kodaikanal	04542	Panjim	0832	Srinagar	0194
Kohima	0370	Pathankot	0186	Surat	0261
Kolar	08152	Patiala	0175	Thanjavur	04362
Kolhapur	0231	Patna	0612	Tinsukiya	0374
Kota	0744	Pilibhit	05882	Tiruchirapally	0431
Kottayam	0481	Pondicherry	0413	Tirunelveli	0462
Kurnool	08518	Porbandar	0286	Tirupati	08574
Lucknow	0522	Port Blair	03192	Trichur	0487
Ludhiana	0161	Pune	020	Trivendrum	0471
Machilipatnam	08672	Puri	06752	Tumkur	0816
Madikeri	08272	Quilon	0474	Tuticorin	0461
Madurai	0452	Raibareilly	0535	Udaipur	0294
Mahabalipuram	04113	Raipur (M.P.)	0771	Udipi	08252
Malada	03512	Rajamundry	0883	Ujjain	0734
Manglore	0824	Rajapalayam	04563	Unnao	05144
Mathura	0565	Rajkot	0281	Varansi	0542
Meerut	0121	Ranchi	0651	Vellore	0416
Minicoy Islands	048672	Rewari	01274	Vijayawada	0866
Modinagar	01232	Rohtak	01262	Vishakhapatnam	0891
Moradabad	0591	Roorkee	01332	Vishwanathapura	08119
Mumbai	022	Rourkela	0661	Warangal	08712
Mussoorie	0135632	Sagar	07582	Waradha	07152
Muzafarnagar	0131	Saharanpur	0132	Yamunanagar	01732
Muzzafapur	0612	Salem	0472		



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42. TO SET JN FOR D.I.D MODE

Dial

43 + Jn. number+ XY

Where X (Day mode) = 1 for ON
2 for OFF
Y (Night mode) = 1 for ON
2 for OFF

In default, no junction is set for D.I.D mode.

43. DIAL BY NAME

For dial by name feature, you shall have to set a 3 digit number for each extension port, corresponding to the name of the extn. user as follows.

ABC = 2	MNO = 6
DEF = 3	PQRS = 7
GHI = 4	TUV = 8
JKL = 5	WXYZ = 9

To do so, dial

372 + H/W port no + YYY #

where YYY = 3 digit extension port number

Ex. for ANIL on extn. 203
DEEPAK on ext. 204
JOHN on ext 205

Dial

372 03 264#
372 04 333#
372 05 564#

Now , on DID mode , if any caller dials **#264** , then he shall land on extn 203

Note : If two extension user names have same 1st three character digits then you can feed in for any one these users only.



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44. TO SET JN FOR DOSA

Dial

45 + Jn. number + XY

Where X (Day mode) = 1 for ON
2 for OFF
Y (Night mode) = 1 for ON
2 for OFF

DOSA call is made through an extension and that extn. also has to be allowed DOSA facility. To allow,

Dial

35 XX Y

Where XX = Extn no.
Y = 1 for ON
2 for OFF

In default, no junction or extn. is set for DOSA mode.

45. SETTING OF VIRTUAL EXTN. PASSWOR

Dial

306 + Extn. number + XXXX

where Extn. no. is from 3900-3979
XXXX = Four digit password

Default password for all extensions is "1111".



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47. AUTO REDIAL PARAMETER SETTING

For auto redial

Dial

- ☛ 2143 XX YY (Auto Redial Low End)
- ☛ 2144 XX YY (Auto Redial High End)

Where XX = time delay between two attempts, from 10 to 99 seconds.
YY = the number of redial attempts, from 01 to 99 times.

In default, auto redial takes place only once for both regular and high end extensions.

48. VOICE MODULE PROGRAMMING

The voice module is divided into Eight part's as follows

- 01 = Voice Greeting DAY
- 02 = Voice Greeting NIGHT
- 03 = Alarm
- 04 = Extn. Busy Message
- 05 = Auto Redial Message
- 06 = No Reply Message
- 07 = Wrong Number Message
- 09 = Emergency Message

To enable

A) Voice Greeting \ Auto Operator on any Jn. dial

☛ 532 X YZ

Where X = Jn No
Y (Day) = 1 for Auto operator On
 2 for Auto operator Off
Z (Night) = 1 for Auto operator On
 2 for Auto operator Off



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B) Message 03 ~ 09

203 XX Y

Where XX = Message No. (03 ~ 09)
Y = 1 for enable
2 for disable

In default all messages are disabled

49. TWO LINE CORDLESS TELEPHONE RING

Two line cordless telephones require a different ringing pattern. If you shall be connecting this telephone on any extn, then to programme that extn, Dial

29 Extn. number X

Where X = 1 for cordless ring
2 for normal ring



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50. RELAY PORT ON/OFF TIME SETTING

Up to 24 sets of timings can be programmed for the relay to switch ON/OFF automatically. To set,

Dial

☞ **2051 HH MM SS (ON) HH MM SS (OFF)**

Where HH MM SS (ON) = Time for relay to switch ON
HH MM SS (OFF) = Time for relay to switch OFF

You can programme 24 such sets of timings.

For example: To programme ON/OFF timings as,

ON	OFF
8.00 A.M.	8.40 A.M.
10.00 A.M.	1.00 P.M.
3.00 P.M.	3.30 P.M.

Dial

☞ **2051 08 00 00 08 40 00**
☞ **2051 10 00 00 13 00 00**
☞ **2051 15 00 00 15 30 00**

For programming a new set of timings, you shall have to erase the old table. To do so,

Dial

☞ **2052**

This relay port can also be set for door lock operation, dial

☞ **2091 X**

where X= 1 for door lock operation
2 for On / Off application

For door lock operation ,the relay shall give an ON click of 10 secs. To change this ON click duration, dial

☞ **21734 XX**

where XX=duration in secs



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51. ACCESS TO PAGING PORT

Paging may be allowed or denied to any extn. To do so,

Dial

804 XX YZ

Where XX = extn. number
 Y (Day mode) = 1 for allowing paging
 2 for denying paging
 Z (Night mode) = 1 for allowing paging
 2 for denying paging

In default, the paging port is allowed to all extns in both modes.

52. SENSOR

To activate sensor , dial

21800 X

where X = 1 for Sensor On
 2 for Sensor Off

Further the contacts of the sensor can be normally OPEN or normally CLOSED type. To configure the system accordingly , dial

21801 X

where X = 1 for N.O. contacts
 2 for N.C. Contacts



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8. FAX HOMING53

To programme a junction for receiving fax calls,

Dial

☞ **44 X Y Z**

Where X = junction number
Y (Day mode) = 1 for Fax junction
 2 for Normal junction
Z (Night mode) = 1 for Fax junction
 2 for Normal junction

You shall also have to set the extn. number on which the fax machine is to be connected. To do so,

Dial

☞ **49 X YY**

where X = Junction number
 YY = Fax extn. number

NOTE :

You can also keep separate fax machines for each junction. In default, all junctions are in 22 mode.

54. PRINTER SPOOLER PARAMETERS SETTING

54.1 To clear ASMDR Buffer

To clear all stored calls,

Dial

☞ **710 + XXXX**

Where XXXX is main password

54.2 ON line/OFF line and Local/ STD call storage

If you shall keep a printer permanently connected to the system, you can programme it for ON line mode & if not, keep it for OFF line mode.



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Further, you can also programme to store all calls in the ASMDR buffer or to ignore local calls & store only STD/ISD calls. To programme,

Dial

☎ **22 XY**

Where X = 1 for ON line
 2 for OFF line
 Y = 1 for all calls storage
 2 for only STD/ISD call storage

54.3 Setting of unit rate

To set the amount for 1 unit,

Dial

☎ **2611 RR PP**

where RR = Rupee
 PP = Paise

In default, the amount set for one unit is Rs. 1.20

54.4 Form Feed During Print Out

If you desire to start printing from a fresh page, every time you give a print command, programme

☎ **26721**

To cancel form feed, dial

☎ **26722**



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54.5 Deleting Calls Of A Particular Extn.

To delete calls of any particular extn., dial

- ☛ **7491 + Extn. Number**
- ☛ **7493 + Virtual Extn. no.**

54.6 Print out of On-Line calls on serial port

You can programme as such that, On-Line printing is given on the serial port, where as print out of stored call's / system parameters is given on the parallel port or vice versa. To set for print out of On-Line call's on serial port, dial

- ☛ **26681**

To set print out of On-Line calls on parallel port, dial

- ☛ **26682**

To set for print out of stored call's / system parameters on serial port, dial

- ☛ **26691**

To set for print out of stored call's / system parameters on parallel port, dial

- ☛ **26692**

54.7 Setting Of Time Slab

For call billing one can set eight time slabs . Further, 9 different time zone levels can be programmed and any time zone level can be allotted to any pulse code table.

To set, dial

- ☛ **262+Call Time Level (0 to 9) + Time1 + Time 2.....Time 8**

where Time = Time HH MM in 24 hr. format.

If you need to set only 2-3 time zones, then balance may be set as 0000 Default time slab table is as follow's



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Call Time level	Time#1	Time#2	Time#3	Time#4	Time#5	Time#6	Time#7	Time#8
0	09:00	20:00	09:00	00:00	00:00	00:00	00:00	00:00
1	09:00	20:00	09:00	00:00	00:00	00:00	00:00	00:00
2	08:00	19:00	08:00	00:00	00:00	00:00	00:00	00:00
3	08:00	19:00	08:00	00:00	00:00	00:00	00:00	00:00
4	11:00	22:00	11:00	00:00	00:00	00:00	00:00	00:00
5	11:00	22:00	11:00	00:00	00:00	00:00	00:00	00:00
6	06:00	11:22	18:00	23:59	00:00	00:00	00:00	00:00
7	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
8	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
9	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00

Note : Complete 24 hour cycle has to be feeded

54.8 Change of STD/ISD code table (week days)

Default STD code table is as follow's

Pulse Rate level	Call Time		Normal Pulse Rates							
	level	zone1	zone2	zone3	zone4	zone5	zone6	zone7	zone8	
00	0	180.0	180.0	0.0	0.0	0.0	0.0	0.0	0.0	
01	0	300.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0	
02	0	90.0	90.0	0.0	0.0	0.0	0.0	0.0	0.0	
03	1	120.0	120.0	0.0	0.0	0.0	0.0	0.0	0.0	
04	1	30.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	
05	1	15.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	
06	1	8.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	
07	1	8.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	
08	1	8.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	
09	3	2.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0	
10	3	1.8	2.1	0.0	0.0	0.0	0.0	0.0	0.0	
11	6	1.5	1.7	1.5	1.7	0.0	0.0	0.0	0.0	
12	4	1.8	2.1	0.0	0.0	0.0	0.0	0.0	0.0	
13	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
14	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

To change any level, dial

**2631 + Pulse rate level (00 to 15) +call time level (0 to 9)
+Pulse rate 1+Pulse rate 2+.....Pulse rate 8**

where pulse rate is in XXX.X format.



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54.9 Change of STD/ISD code table (Holidays).

Default holiday STD code tables is as follows

Pulse	zone1	zone2	zone3	zone4	zone5	zone6	zone7	zone8
00	180.0	180.0	0.0	0.0	0.0	0.0	0.0	0.0
01	300.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0
02	90.0	90.0	0.0	0.0	0.0	0.0	0.0	0.0
03	120.0	120.0	0.0	0.0	0.0	0.0	0.0	0.0
04	30.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0
05	30.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0
06	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0
07	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0
08	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0
09	3.3	3.3	0.0	0.0	0.0	0.0	0.0	0.0
10	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0
11	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0
12	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

To change dial

2632+Pulse rate level (00 to 15) + Call Time level (0 to 9) + Pulse rate 1+ Pulse2.....Pulse rate 8
where pulse rate is in XXX.X format.

54.10 To set service charges for local / STD calls

For certain applications, like in hotels, the management may like to add service charge for each local or STD call made by the guest. These service charges are programmable. These service charges will be added to the cost of the call calculated using pulse rate and duration.

Hence, Total cost of call

$$= (\text{call unit charge} \times \text{no. of units}) + (\text{STD service charge})$$

Example:

Assume for any STD Call

Time slab	:	Full rate
Call	:	12 seconds
Pulse	:	2.0/4.0/6.0/8.0
STD service charge	:	2.00



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Unit charge : Rs. 1.50
So,
Call unit = (No of seconds / Pulse rate) + 1
= (12/2) + 1
= 7 Units
Total cost = (1.50X7)+2.00
= Rs. 12.50

A) To set service charge for local call

To add service charge for local calls,

Dial

☎ **26 12 RR PP**

Where RR = Rupee
PP = Paise

In default, no service charge is added.

B) To set service charge for STD / ISD call

To add service charge for STD/ISD calls,

Dial

☎ **26 13 RR PP**

Where RR = Rupee
PP = Paise

In default, no service charge is added.



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54.11 Single / Multiple service charges for local calls

In certain applications like in office , the service charge is added only once for a local call. This does not depend on the duration of the call. Whereas in hotel / motel applications, if the local call duration is more than programmed timer, it may be considered as a fresh call and multiple service charges are added.

For single service charge,

Dial

☎ **2662 -2**

While for multiple service charge,

Dial

☎ **2662 - 1**

For Example : For a local call pulse rate of 180 sec. with unit charge of Rs.1.50 per call and local call service charge of Rs.5.00, if a call is made for 340 seconds the cost of call in case of single service charge is Rs 8.00 while the cost of call in case of multiple service charge is Rs.13.00.

In default, the service charge is single .

54.12 Percentage based service charge for STD calls

Sometimes the hotel STD service charge is based on the percentage of total call cost.

To activate percentage based service charge,

Dial

☎ **2666-1**

and to deactivate the percentage based service charge,

Dial

☎ **2666 - 2**



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To set the service charge percentage,

Dial



2614 - PP

Where PP = Percentage charge on total call cost.

In default, 0 % service charge is set.

For example : Suppose the service charge percentage is set at 5% of the total bill amount. Now, if the amount comes to Rs.100, then the total bill would be Rs. 105.

54.13 Unit increment at the end of STD Call :

The hotel owner may sometimes desire to increase the number of units by one at the end of STD call. This is known as " Jumping". To enable jumping,

Dial



2667-1

and to prevent / disable jumping,

Dial



2667-2

For Example : Assume call duration is 120 sec. with 12 sec/unit rate. In standard normal method, number of units = $(120/12) + 1 = 11$ but after jumping, number of units = $11+1 = 12$

In default, the unit increment for STD call is OFF.

54.14 Print complete report or only summary

Whenever you give a printout command you can have a option to get a detailed printout or to get only the summary.



Dial

2663 - 1 (By default) for complete print out report

2663 - 2 for only summary printout report.



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54.15 Storing of incoming calls

You have an option to store or not to store incoming calls.

To enable storage,

Dial



231

And to disable storage,

Dial



232

In default, incoming call is stored.

54.16 Selection Of Originating / Terminating extn

In extn. wise print out report, you can have an option to choose either the originating extn. or the terminating extn.

Dial



2664 - 1 (By default) for terminating extn. wise report



2664 - 2 for originating extn. wise report

54.17 STD / ISD Code Table

The STD / ISD code table contains list of STD / ISD codes with corresponding pulse rate against each code , for calculating cost of any call. For any outgoing call, the system shall first search for the best matching STD / ISD code and then get the pulse rate against this code. A maximum of 500 codes can be programmed in the system .



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Steps for preparing the code table

- 1) Select STD / ISD codes with common starting digits and with same pulse rates
- 2) Out of this group , select only one code with minimum digits .
- 3) Repeat above step and select smallest common code for each group
- 4) Note down these minimum common codes and programme them against the relevant pulse rate code
- 5) STD / ISD codes which do not make any common groups , have to be programmed individually

To feed in the pulse rate code for a STD code,

Dial

☎ **264 XXXXX YY #**

Where XXXXX is STD code (can be 3 digit to 5 digit)
YY is pulse rate level (00 ~ 15)

Example : To programme 011 for pulse rate level of 07 ,

Dial

☎ **264 011 07 #**

As soon as you dial #, you shall get acceptance tone.

NOTE :

If a number of STD codes have the same 1st 2 digits & their pulse rate is same then, programme any one of them.

For example : If 01672/01661/016/0165 all have pulse rate of 2/4/6/8, 01642 has pulse rate of 3/6/9/12 and 01648 has pulse rate of 8/16/24/36 — then programme only 016 as 2/4/6/8 which shall cover 1st 4 stations and seperately for 01642 / 01648. For this,



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Dial

☞ **264 016 08 #**
264 01642 07 #
264 01648 05 #

To set pulse rate code of 01 for local calls (which can start with digit 2/3/4/5/6/7 or 8),

Dial

☞ **264 2 01 #**
264 3 01 #
264 4 01 #
264 5 01 #
264 6 01 #
264 7 01 #
264 8 01 #

To delete a code from the table,

Dial

☞ **265 XXXXX #**

Where XXXXX is STD code

NOTE :

If you intend to change the unit rate for a particular STD code, first delete the old code and then programme fresh.

To delete the complete code table,

Dial

☞ **260 ABCD DCBA**

Where ABCD is the main password



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54.18 Holiday considerations

On following occasions

- 1) Sundays
- 2) 26th Jan.
- 3) 15th Aug.
- 4) 2nd Oct.

discounted rates apply for STD calls. If you want to follow the same in your ASMDR buffer,

Dial

☛ **2661 1**

and if you don't want above holiday discounts,

Dial

☛ **2661 2** (By default)

54.19 Unit Rate / STD Code Table

To get a print of unit rate / STD code table,

Dial

☛ **717 - 1** (for pulse rate table)

☛ **717 - 2** (for STD code table)



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55. TIMERS

You have an option to change the timer values for following features

To bring all timer values to default setting, dial

☎ **97 pass word**

55.1 Call park (Default value - 30 sec)

☎ **211 - XX**

XX = Time from 01 to 99 sec.

This is the time for which a parked call shall remain parked before it rings back on the extension.

55.2 Round-Robin Ring Timer (Default value - 18 sec.)

☎ **212 - XX**

XX = Time from 01 to 99 sec.

This is the duration for which any extension shall ring during round-robin ring, before the ring is transferred to the next extn.

55.3 Call maturity delay timer (Default - 40 sec)

☎ **213 - XX**

XX = Time from 01 to 99 sec.

This is the time after which an outgoing call shall be assumed to be mature in the time out mode (for storage of call in printer buffer).

55.4 Redial Timer (Default - 03 sec)

☎ **215 - XX**

XX = Time from 01 to 99 sec.

Defines how long the system shall wait after dialing 71/# to dial out the redial number.

55.5 DOSA reminder beep timer (Default - 30 sec)

☎ **216 - XX**

XX = Time from 01 to 99 sec.



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During DOSA, beep is given after every 30 sec, to remind the user to extend the call. This beep duration can be increased by above programming.

55.6 Dial tone present timer (Default - 07 sec)

☎ 21700 - XX

XX = Time from 01 to 99 sec.

Defines how long dial tone should continue after lifting the handset.

55.7 Ring back tone / Transferred ring / DID ring timer (Default - 45 sec)

☎ 21701 - XX

XX = Time from 01 to 99 sec.

It is the time for which

- a) extension shall keep on ringing for any internal call.
- b) Time for which an extn shall ring on a blind call transfer
- c) On an incoming DID call , if the caller does not dial any extn no , then r.robin extension shall ring for this duration

55.8 Busy Tone Timer (Default - 05 seconds)

☎ 21702 - XX

XX = Time from 01 to 99 sec.

It is the time for which the extn receives busy tone after calling on a busy extn.

55.9 Error tone Timer (Default - 07 sec)

☎ 21703 - XX

XX = Time from 01 to 99 sec.

It is the time for which error tone continues after performing any wrong operation.

55.10 Confirmation Tone Timer (Default -05 sec)

☎ 21704 - XX

XX = Time from 01 to 99 sec.



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It is the time for which confirmation tone continues before shifting to dial tone when any feature command is given directly on dial tone.

55.11 Programming tone timer (Default - 15 sec).

☛ 21705 - XX

XX = Time from 01 to 99 sec.

It is the time for which the system waits during programming before changing programming tone to error tone.

55.12 Programme error tone timer (Default -03 sec)

☛ 21706 - XX

XX = Time from 01 to 99 sec.

It is the time, during programming for which the system gives error tone before changing to programming tone automatically.

55.13 Confirmation tone timer during prog.(Default - 02 sec)

☛ 21707 - XX

XX = Time from 01 to 99 sec.

Defines the duration for which you shall get confirmation tone after programming any feature.

55.14 Jn. last digit dialing to speech wait timer/Inter - digit wait timer (Default - 06 sec)

☛ 21708 - XX

XX = Time from 01 to 99 sec.

This is the time for which the system shall wait after dialing the last digit (for any outgoing P&T call) after which it shall not accept any dialing digit and shall go to speech mode (for call transfer etc). This timer is same for inter-digit and last digit wait time in fixed systems.

However, for expandable systems the last digit to speech wait timer is to be set by the command

☛ 21733 - XX



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XX = Time from 01 to 99 sec.

55.15 Jn. first digit dialing wait timer (Default - 15 sec)

21709 - XX

XX = Time from 01 to 99 sec.

After seizing a Jn line, system shall wait for this time duration. If no digit is dialed for this duration, then the call shall go in for transfer mode.

55.16 Auto call back ring timer (Default - 45 sec)

21710 - XX

XX = Time from 01 to 99 sec.

It is the time for which the extn. rings for auto call back request operation after the caller extn. or trunk becomes free.

55.17 Interrupt request timer (Default - 45 sec.)

21711 - XX

XX = Time from 01 to 99 sec.

It is the time for which the caller person gets beeps intimating him about your call.

55.18 Barge - in timer (Default - 05 sec.)

21712 - XX

XX = Time from 01 to 99 sec.

It is the time for which music is heard before getting connected to the busy extn.

55.19 Alarm ring timer (Default - 90 sec)

21713 - XX

XX = Time from 01 to 99 sec.

This is the time for which an extn. shall ring for an alarm call.



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55.20 Return alarm ring timer (Default - 60 sec)

21714 - XX

XX = Time from 01 to 99 sec.

If the extn. on which alarm call is ringing, does not respond within 90 sec then the operator's extn. shall also start ringing for this duration.

55.21 Message wait ring counter (Default - 20)

21715 - XX

XX = Count from 01 to 99.

It is the number of times the extn rings to receive message delivered for it during its absence.

55.22 Message wait ring interval timer (Default - 30 min)

21716 - XX

XX = Time from 01 to 99 min.

It is the time interval between two message wait rings for an extn.

55.23 Message wait ring timer (Default - 15 sec)

21717 - XX

XX = Time from 01 to 99 sec.

It is the time for which the extn. rings to intimate the person there about a message delivered for it during his absence.

55.24 Tone Demo Timer (Default - 20 sec)

21718 - XX

XX = Time from 01 to 99 sec.

It is the time for which different tones ring during their demonstration.

55.25 Transferred call ring timer (Default - 20 sec)

21719 - XX

XX = Time from 01 to 99 sec.



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This is the time for which an extn. to which any P&T call is transferred, shall ring before the call returns back to the original extension.

55.26 DISA - DOSA music timer (Default - 05 sec)

☎ 21720 - XX

XX = Time from 01 to 99 sec.

It is the time for which the caller receives music before hearing DISA/DOSA beeps.

55.27 DISA - DOSA beep Timer (Default - 05 sec)

☎ 21721 - XX

XX = Time from 01 to 99 sec.

It is the time for which the caller receives beeps during which he has to dial the extn. number wanted by him.

Further this timer can be set to function in either sec, or in minutes, dial

☎ 2071 (for above timer to function in minutes)

☎ 2072 (for above timer to function in sec)

55.28 DISA ring Timer (Default - 30 Sec)

☎ 21722 - XX

XX = Time from 01 to 99 sec.

It is the time for which the extn rings to respond to DISA call. If the call is not answered, it returns back to first stage and the caller gets one more chance to try some other extn.

55.29 Fax Detection wait Timer (Default - 06 sec)

☎ 21723 - XX

XX = Time from 01 to 99 sec.

It is the time for which the system waits to detect the fax tone.

55.30 Long call timer 1 (Default - 03 min)

☎ 21724 - XX

XX = Time from 01 to 99 min.

If the call duration exceeds this timer '★' is printed in



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remark column of printout report.

55.31 Long call timer2 (Default - 06 min)

☎ **21725 - XX**

XX = Time from 01 to 99 min.

If the call duration exceeds this timer, '★★' is printed in remark column of printout report.

55.32 ACD timer for local call (Default -240 sec.)

☎ **21726 - XXX**

XXX = Time from 010 to 240 sec.

It is the time allowed for a local call to be made by any extn. after which the calling extn. receives warning tone.

55.33 ACD timer for STD call (Default - 120 sec.)

☎ **21727 - XXX**

XXX = Time from 010 to 240 sec.

It is the time after which the extn. talking on STD call gets warning tone.

55.34 ACD timer for incoming call (Default - 240 Sec)

☎ **21728 - XXX**

XXX = Time from 010 to 240 sec.

It is the time after which the extn gets warning tone while speaking to the incoming caller.

55.35 ACD good-bye timer (Default - 60 Sec.)

☎ **21729 - XX**

XX = Time from 01 to 99 sec.

It is the time for which the system waits after giving warning tone before releasing the junction forcefully.

55.36 Trunk reservation timer (Default - 3 min)

☎ **21731 - X**

X = Time from 1 to 9 min.

When any extn uses trunk reservation & does not use that



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trunk for certain fixed time, the trunk gets freed automatically and is available to other extensions for use. This time can be set using above command.

55.37 ECF ring back timer (Default - 06 sec)

21732 - XX

XX = Time from 01 to 99 sec.

During ECF, you shall get EPABX ring tone as soon as dial for 1st Jn. After this ring back tone, the 2nd Jn. be seized. This ring back tone time can be set by above command.

55.38 P&T tone delay timer (Default - 1 sec)

531 - XY

Where X = Jn. number (1 for 61, 2 for 62...)

Y = Time from 0 to 9 sec.

This is the time after which you get P&T dial tone on dialing 0/5 or 61,62...

55.39 Mic On Duration Timer

21916 XX

XX = Time from 01~99 sec

During room monitor, the mic shall remain ON for this duration and then shall go OFF automatically

55.40 R-Robin Delay Timer

219 Jn. no +XX

XX = 30 for delay of 3 sec

50 for delay of 5 sec

90 for delay of 9 sec



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55.41 Paging Music Timer

☎ **21735 XX**
XX = Music timer in seconds

55.42 Ring Number Ring

Extension CLIP is also ring number ring. You can increase/decrease the duration of 1st small ring. To do so, dial

☎ **321917 XX**
XX = duration in sec

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