PREPAX
DELUXE INTERCOM SYSTEMS

Thank you for investing in a PREPAX Deluxe model intercom system. Kindly make sure that the input voltage specifications are maintained and that no external voltage is applied to the extension cabling. Please provide well ventilated environment for installation of the unit and you can expect a long trouble free service from this intercom system.

The unit can well be used in an office environment or for the security of an apartment complex. The equipment can be suitable programmed for the same. All programming can be done on site and can be altered as and when required on site. If your requirement is more than 224 lines then two 128 lines units can be connected through a TIE Line and the total extensions can be increased up to 256 lines but with distributed number of simultaneous conversations. This has been explained elsewhere in this manual.

PREPAX Deluxe Model comes in five ranges

H   16 Lines Expandable to 24 Lines (except Announcement,   Vendors   Call & Night Watchman Facilities)

H   24 Lines Expandable to 48 Lines

H   48 Lines Expandable to 80 Lines

H   80 Lines Expandable to 128 Lines

H   128 Lines Expandable to 224 Lines

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I. SPECIFICATIONS

No. of Extensions   : 16 to 224 in steps of 16 Lines add on cards

No. of Links   : 16 simultaneous conversations are possible

Line Termination   : Extensions are terminated on a MDF located at the side of the equipment. Cables with one side D type connectors are provided which can be extended to krone type MDF.

Numbering Schemes   : Programmable 2 digits or 3 dits or 4 digits

Switching Scheme   : Space Division solid state cross point switch

Input Power   : 230V Ac +/- 10% with SMPS for 12V Battery charging

Battery (optional)   : 12 V Maintenance free 7.5 Ah max

Power consumption   : 25 to 50 Watts depending on the model and traffic

Tones Provided:

Code	Expansion	Frequency	Frame (seconds)
DT	Dial Tone	400 Hz mono tone	Continuous
RBT	Ring Back Tone	400 Hz modulated by 25 Hz	1 sec ON, 2 sec OFF
RT1	Ring Tone 1 for Intercom Calls	50Hz / 60v AC	0.5 sec ON, 0.2 sec OFF
RT 2	Ring Tone 2 for Urgent Ring		1 sec ON, 1 sec OFF
NUT	Number unobtainable Tone	400 Hz mono tone	0.5 sec ON, 0.5 sec OFF 0.4 sec OFF
BT	Busy Tone	400 Hz mono tone	1 sec ON, 0.4 sec OFF
WT	Warning Tone	400 Hz	0.5sec ON, 0.2sec OFF

Dimensions :

16-24 Lines Fixed Model

Height - 7.5 cm
Width   - 20.5 cm
Length - 29.5 cm
Weight - 2.5 Kgs

48 Lines Model

Height - 27.0 cm
Width   - 15.5 cm
Length - 29.5 cm
Weight - 5 Kgs

80 Lines Model

Height - 30.5 cm
Width   - 15.5 cm
Length - 32.5 cm
Weight - 8 Kgs

128 Lines Model

Height - 30.5 cm
Width   - 15.5 cm
Length - 44 cm
Weight - 10 Kgs

224 Lines Model

Height - 58 cm
Width   - 27 cm
Length - 68 cm
Weight - 15 Kgs

Telephone Instruments	:	Any DOT approved tone / pulse push button telephone with the following specifications
a) Dial Speed	:	10 +/- 0.5 impulses/sec
b) Make break ratio	:	33 % and 67 %
c) Tone Pairs	:	Low Group 697, 770, 852, 941 Hz Upper group 1209, 1336, 1477 Hz
Mounting arrangement	:	The unit has to be wall mounted at least 2 feet above the ground level. Two brackets with mounting holes have been provided at the back side of the box.
Environment	:	Temperature 0 to 45 degree centigrade for operation Humidity 90% max non condensing.

II. EXTENSION FACILITIES

1. Intercom facility
2. Security to apartment (extension)
3. Apartment (extension) to security
4. Apartment to apartment, or extension to extension
5. Call consult
6. Call flip flop
7. Three party conference
8. Ring when free
9. Barge in
10. Announcement
11. Alarm/appointment reminder
12. Self Ring Test
13. Call Forward
14. Call Transfer
15. Call pickup
16. Port No. & Extn. No. display on CLI enabled extension telephone

III. DESCRIPTION OF EXTENSION FACILITIES

1. **Intercom Facility:**

   The system can be programmed such that except for a few, others can not call other extensions. This may be needed in an apartment installation if the management decides so. In that case we can program certain extensions like security or the administrator or others subject to maximum of eight extensions who can call other extensions.

2. **Security to Apartment:**

   Lift the handset, dial the required extn no, if the called extn is free, you will receive RBT otherwise you will receive Busy Tone.

3. **Apartment to Security:**

   Lift the handset, dial '9'. If the first extn which is the security extn is free, you will get RBT, otherwise it will hunt the 2nd security (if programmed). Else you will receive Busy Tone.

4. **Apartment to Apartment or extn to extn:**

   Lift the handset, dial the required extn no. If called extn is free, you will receive RBT otherwise you will receive Busy Tone.

5. **Call Consult:**

   When you are in intercom mode with an extn you can consult any other extn by first doing on hook flash and then dialing the required extn no. The first extn will be held in the waiting mode with music fed to him. If the called extn is busy you will get busy tone and then you can get back to the waiting extn by flashing again. If the called extn is free you will be connected to him when he answers. After consultations are over you can get connected to your waiting extn by flashing and dialing 1 and the second extn will be put in waiting mode. The second extn can't drop him self.

6. **Call Flip Flop:**

   After establishing call consult you can flip flop between the two extns by dialing hook flash and dialing 1. The called extns can't drop themselves. If the calling extn puts down all the three will be dropped.

7. **Three Party Conference:**

   After establishing call consult you can bring both the extns in conference with you by flashing and then dialing 9. The called extn can't drop themselves. If the calling extn puts down he will be disconnected, whereas the other two will continue to be in conversation.

8. **Ring When Free:**

   If you find an extn is busy flash and dial 8 over the busy tone. Once the called extn becomes free and your extn also is free then both extns start ringing in the fast ringing mode. Call is established once both answer the call.

9. **Barge-in:**

If you find the extn you have called is busy then you can barge in on that extn if you are allowed to barge in and if the called extension is not Barge in protected. For this, when you get a busy tone flash and dial 9. With a warning tone to the barged in extn, you will be connected to the called extn. So long as you are in conversation the warning tone will continue.

10. **Announcement:**

Any authorised extension can lift the telephone, dial a code and come on the public address system. For this we have brought out pre amp output which can be connected to a public announcement amplifier. For this first switch on the amplifier and lift the phone and dial # 54. Now Music will be switched on for about 5 secs and you will then be connected on to the amplifier and you can start the announcement.

11. Alarm/Appointment Reminder

Lift the phone and dial # 50 and dial the hour and the minute, each in twenty four hour format as you find in the railways.

For example if you want an alarm at 5.O'clock in the morning then dial # 50 05 00 and put down. If you want an alarm at 3:30 in the evening then dial # 50 15 30. At the set time your phone will ring in the fast mode for about 20secs and if you answer you will hear music indicating it was the ring for the alarm you have set. If you had already set a time for alarm then that will be cancelled and the new setting will apply.

12. Self Ring Test

You lift and dial your own extn no. and put down. Now the phone will ring. This will help in testing your own extn. no or to check whether your telephone rings. If your telephone is equipped with CLI, then Port No. and your Tel. No. will be displayed.

13. Call forward

You can inform the exchange to divert all calls to your extensions to another extension. For this you dial #41 and the extension number where your calls are to be diverted. To cancel same dial # and 40.

14. Call Transfer

This is useful when intercom between flats is blocked. Then an extension can dial the security and the security on answering should flash and dial the required extension no. and put down. Now the original extension is connected to the transferred extension.

15. Call Pickup

You can pick up the call ringing at one extension by lifting your handset and dialing '8'. Now the ringing at the called extension will stop and you will be connected to the calling extension.

17. Port No. and Ext No. Display on CLI enabled extension telephone

On your CLI Telephone lift the handset and dial # 00 you get Music on your phone. Now put down the handset. Your phone will display your Port No. and the Extn. No. First three digit indicates the Port No. and next 5 digit indicates the Extn No.

If the service engineer wants to know the number assigned to any extn. and to which port on the MDF this extn. is connected, he should dial from that extn # 00 and put down. Now the phone CLI will display the Port No. (01 to 224) in three digits and in the next 5 digits the No. of that extn. Aslo the extn. will ring. Note down the Nos. lift the phone and put down to stop the ring.

IV. SYSTEM FACILITIES

1. Change system pass word
2. Factory set programme
3. Set time and Date
4. Programmable extn numbers
5. Expandable the system
6. Expanding beyond 128 Lines through TIE Lines
7. Night Watch Man
8. CLI on Extensions
9. Vendors Call
10. Door Lock
11. Hotline

V. DESCRIPTION OF SYSTEM FACILITIES

1. **Change system pass word:**

   This is needed sometimes to protect the Class of service, numbering scheme and other important details and not spoiled by some one who knows the system pass word. The security or the admin extension can alter the pass word. The flow chart given below gives the procedure for changing the pass word.

2. **Factory set Program:**

   When the system is shipped from the factory the following are set

System Pass word	:	1234
Security extensions	:	First Two Ports
Admin extension	:	First Port
Numbering scheme	:	a) 16 Exp 24 Lines 21 to 44
		b) For rest system (24 to 224 lines) 201 to 424
Barge in	:	No body allowed to barge in on others
Barge in protect	:	No protection for all extns.
Night watchman	:	Deactivated
Intercom	:	allowed between all extensions

3. **Set time and date:**

   Though this done prior to the dispatch it is better the time and date is set once the system has been installed. The flow chart given below explains how to do the same.

4. **Programmable Extns Numbers:**

   The extensions can be allotted any 2 digit or 3 digit or 4 digit numbers. Please see the enclosed flow chart for programming the same. You can also programme 2 digit standard numbering which is 21 to 68 digit or standard numbering which is 201 to 328 or 4 digit standard numbering which is 2001 to 2128. Whenever you want to program flexible numbering scheme first do the standard numbering scheme either 2 digit or 3 digit or 4 digit and then proceed to do the flexible numbering scheme.

5. **Expanding the system:**

   The system can be expanded from 16 Lines to 224 Lines simply by adding 16 Line extension cards. Whenever you are expanding you must program any class of service for the newly added extensions afresh.

6. **Expanding beyond 128 lines:**

   Whenever you need to expand beyond 224 lines you can add one more unit after equipping both with TIE Lines and TIE Line software. Now the total conversation paths of 32 is split into two. First 10 paths are meant for conversations within the respective units and 6 for calls between the units. Thus totally there will be 26

conversation paths or 32 extns can talk to each other. Please note that the following facilities viz. ring when active, ring when free, call forward, barge in are available only when caller and called are same in the unit and not over the TIE Line. Please make sure that you are not allotting the same Number to one extension in one unit and the same number to another extension in the other unit.

7. **Night Watch Man:**

This unique program is useful in apartment security. This facility provides to monitor the security if he was awake from 11 p.m. to 6 a.m. each day.

Once the NIGHT WATCHMAN is activated the security should lift the handset every hour from 11 P.M to 6 A.M. (from 11.05 to 11.15,12.05 and 12.15,1.05 to 1.15,2.05 to 2.15,3.05 to 3.15,4.05 to 4.15,5.05 to 5.15,6.05 to 6.15) and dial **##. If he does not dial within the time limits every hour then his telephone will ring to wake him up and the yellow LED in CPU card will start flashing. If he dials the code every hour the LED will not flash. Next day morning the Administrator can look at the LED and verify if the Security was awake the previous night. The Administrator can dial from his phone **1234 06. And stop the LED from blinking so that we can start from fresh for that day.

8. **CLI on Extensions**

If an extension has a CLI enabled phone then on an intercom call, the calling extn. number will be displayed on the telephone instrument. This extn. should be programmed as CLI phone during the initial programming of the extn.

9. **Vendors Call**

If the management wants to call all the extns. individually and announce any   like some vegetable vendor has arrived at the main gate or Municipal Water Supply has started prepax system has a facility for the same.

Now four such announcements (may be replaced everyday) can be started in the speech IC (optional). This facility is avaible to the administrator.

1. Storing the message: From the Admin. phone dial # 70 to for message No. 1 or 2 or 3.

2. Announcement: The Administrator lifts his phone and dials # 70 and the message No. 1 to 3). Now the exchange will call all the extn in groups of 12, and whenever any extn answers the message will be played to him. After a given duration all these 12 extns are dropped and the next 12 extns will be called and the procedure will be repeated untill all the extns. are called. If during this time the administrator continues to hold his phone he can keep listening to the announcement. Keeping down his phone will not stop the announcement routine. But if he wants to stop the same he has to lift his phone and dial # 700.

10. **Door Lock**

This facility is available if the exchange is equipped with sppech IC. Now the administrator can store a message "we have gone out and please call us again after some time" in Message No. 1.

If any apartment owner is going to be away after locking his apartment. We should lift his phone dial # 61. After this if any other extn. the message will be played on to the calling extn. Whenever the owner returns he should lift his phone and dial # 60. Hereafter if any one calls his extn it will ring in the usual manner.

11. **Hot line:**

If the management decides that there will be no intercom is available between apartments, the admn. should dial.... hereafter whenever any apartment occupent lifts his telephone it will immediately ring the security. But the securing and the ..... lines (max 8) can always dial any other extn.

VI. INSTALLATION OF PREPAX DELUX MODEL

The installation of the system involves the following procedure.

The MDF is built to right side of the system on a PCB. Extns numbers are printed on the MDF PCB. There is an inlet at the bottom corner of the right side panel. During installation bring all the wires through the inlet at the right panel and terminate at any krone type MDF from where all the extension wires can be drawn. For this we have provided two meter length 8 pair cables complete with connectors. Make sure that no two bare wires are touching each other. Connect the power cable to the voltage source 230v 50Hz. Place the unit in a well ventilated area only as wall mounted and also in a safe place.

Please note that warranty is void if any high voltage has spoiled the system.

: NOTE :

The SMPS for PREPAX Delux Model will work satisfactorily for an input range of 190V to 240V. To avoid generator spikes during changeover please use a good CVT/Stabilizer to avoid breakdown of the equipment.