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Introduction to TC-2000 system

TC-2000 Seires System is "Private Branch Exchange"(abbreviated as PBX), which is a Telephone System that switches calls between users on internal telephone lines while allowing other users to share a certain number of external telephone lines

Fundamental Technical Information:

We integrate in this model special-purpose telecommunication ICs from American & Japanese companies, for lower energy consumption, small size, compact appearance, disturbance resistance, high reliability, simple installation and programming.

The internal structure

Master control system

- 1.CPU is composed microprocessor, SDRAM and series-parallel conversion circuit.
- 2.DID/DTMF is composed circuits of auto-attendant, music generating, signal tone generating and audio decoding circuit.
- 3.EXT.is compøsed of ringing testing circuit, contra-polar testing circuit and system multi-function testing circuit.
- 4.Voice volume amplifying system, which is made of patented amplifying module that enormously, improves the communication quality.

Extension system

- 5.Extension pick-up & hang-up testing circuit
- 6.Special thunder-strike-discharging circuit & buffer circuit
- 7.Signal exchanging matrix circuit

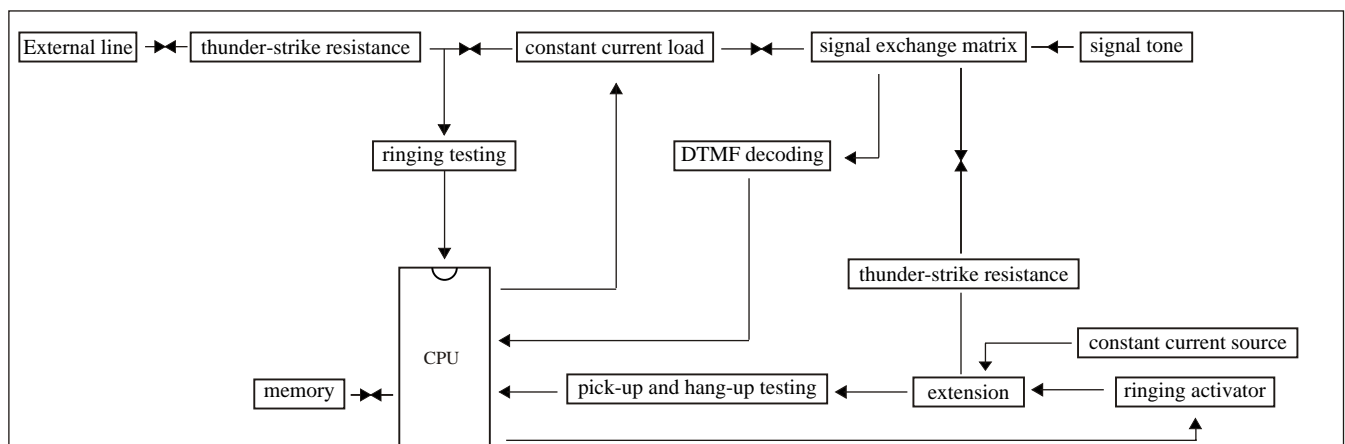
Power control system

- 8.DC48v
- 9.AC65v ringing current generating circuit

Operating Principle

The structure and its operating principle are shown in the following graph.

CO Line, thunder-strike resistance, constant current load, signal exchange matrix, signal tone, ringing testing, DTMF decoding, memory, CPU, pick-up and hang-up testing, extension, constant current source, ringing activator.



Features and Specifications

The TC-2000 Series are designed to provide a family and small office with low cost professional telecom service. The maximum capacity is 1 to 6 CO lines and 8 to 32 Extensions.

The Auto-Attendant Service (DISA: Direct Inward System Access) with OGM (Outgoing Message service) allows the system to make the Maximum use of the CO line.

System Features of TC-2000 Series

There are number of supplementary features to indicate quality of TC-2000 Series System

OGM Recording with DISA(Auto-attendant)

Call Transfer & Call pickup

Music on holding

Ringin Assignment

Flexible Coding

Seven Level Call Restriction

Call duration control

Automatic distinguishes CO Lines

Power Failure Transfer

Three way conference

Intercom dialing

Multiple communication lines

Caller ID

Call Forwarding

Doorbell and door lock

Monitor and recorder

Specifications

1.Capacity: CO Lines: 1 to 6

Extensions: 8 to 32

2.Exterior sockets: Conjunction for extensions,

3.Communication lines: 7

4.Transmission attributes: Extension to extension $\leq 1.5\text{dB}$;

Extension to trunk line $\leq 2.0\text{dB}$;

5.Ringing current: 65v/50Hz;

6.Feeding current: 48v-60v/25mA;

7.Relative unbalance against ground:300Hz-600Hz $\geq 40\text{dB}$;

600Hz-3400Hz $\geq 46\text{dB}$;

8.Dialing mode: DTMF

9.Signal tone:

CO Line: tone from local telephone company;

Internal dialing tone: 450Hz, continuous wave;

Extension echo signal: 450Hz, 1 second on and 4 seconds off;

Extension busy signal: 450Hz, 0.3 second on, 0.3 second off;

Extension confirmation signal: 450Hz, 1 second on;

Extension error signal: 450Hz, 0.3 second on, 0.3 second off ;

10. Power supply: AC220V/110V $\pm 10\%$ Power consumption: $\leq 15\text{VA}$

11. Operational environment: Temperature: 32F-104F(0 C-40 C);

Relative humidity $\leq 90\%$

Before Installation

For easy and quick installation and connection, it is strongly recommended that the user read and follow the following instruction carefully so as not to damage the system accidentally by incorrect operation.

Safety Installation Instructions

When installing telephone wires, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons. Including the following:

- 1). Never install telephone wires during a lighting storm.
- 2). Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- 3). Never touch UN-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- 4). Use caution when installing or modifying telephone lines.

Installation precautions

This set is exclusively made for wall mounting or set on desk. Avoid installing in the following places (Doing so may result in malfunction, noise, or discoloration).

- 1). In direct sunlight, hot, cold, or humid places. (Temperature range: 0 C-40 C / 32F-104F)
- 2). Places in which shocks or vibrations are frequent or strong.
- 3). Dusty places, or places where water or oil may come into contact with the unit.
- 4). Near high-frequency generating devices such as sewing machines or electric welders.
- 5). On or near computers, telexes, or other office equipment, as well as microwave ovens or air conditioners (It is preferable not to install in the same room with the above equipment).
- 6). Install at least 6 feet from radios and televisions.
- 7). Do not obstruct area around the main unit (for reasons of maintenance and inspection be especially careful to allow space for cooling above and at the sides of the main unit).

Power Failure

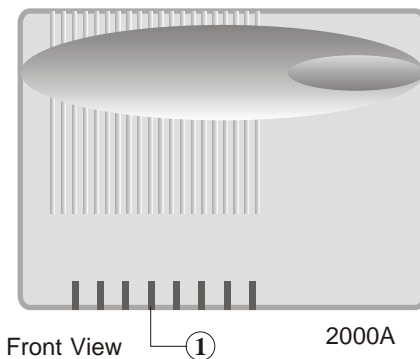
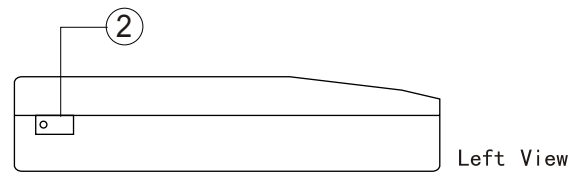
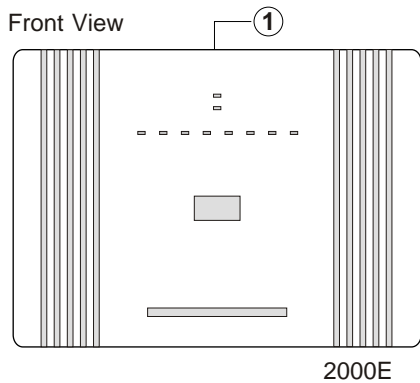
In the event of power failure, CO.1 to CO.4 will be connected to EXT.801--804 automatically. But CO.5 & CO.6 can't be used for 6 CO line unit.

Call ID

FSK/DTMF compatible Caller ID function is successfully equipped on TC-2000 system. The steps are as below:

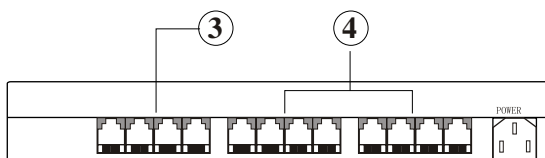
- 1). Go to your telecom office applying the Caller ID service.
- 2). Extension 801-808 can realize the caller ID function.
- 3). An incoming call number will be displayed on the phone with Caller ID function. But the number will disappear when you transfer the call to another extension.
- 4). For some area the Caller ID function is invalid because of the Telecom Singal of the area.

Structural connection:

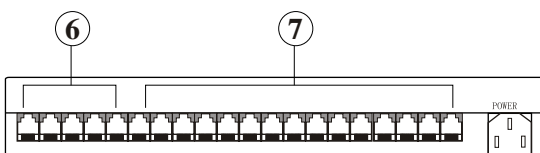


Name of parts:

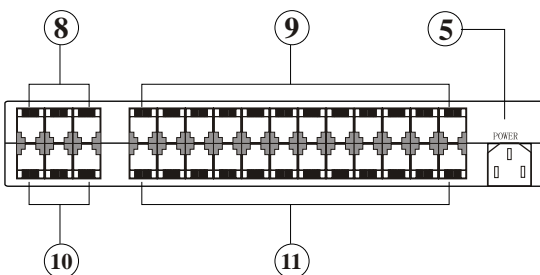
- ① — Led for power supply and working state of CO lines & extensions
- ② — Power supply switch
- ③ — CO line and door bell port
- ④ — Extension jacks for 801 to 808
- ⑤ — Power supply jack
- ⑥ — The first 4 sockets are CO line port 1 to 4
- ⑦ — Extension jacks for 801 to 816
- ⑧ — CO line port 4, 5 & 6
- ⑨ — Extension jacks for 817 to 832
- ⑩ — CO line port 1, 2 & 3
- ⑪ — Extension jacks for 801 to 816



Model TC-108/208/308/408 Back View



Model TC-312/316/416 Back View



Model TC-424/432/624/632 Back View

Connecting Procedures:

1. Connecting CO lines & extensions to the unit:
 - 1). Please connect the monomer-crystal with EXT. line and CO line separately;
 - 2). Make sure to avoid short circuit;
 - 3). Connecting extensions according to the indicated extension positions and CO lines to the corresponding line ports on the unit.
2. Zero-load power-on inspection:
 - 1). The operation voltage of this product is AC220V/110V±10%. Check out the voltage of local power supply. A UPS backup is highly recommended.
 - 2). Plug in the power supply line and turn on the switch; indicating normal power supply and working state of the machine.
 - 3). Pick up the handset of extension 801.A sharper internal dial tone indicates that the system is working normally.You can start to setup operation now.

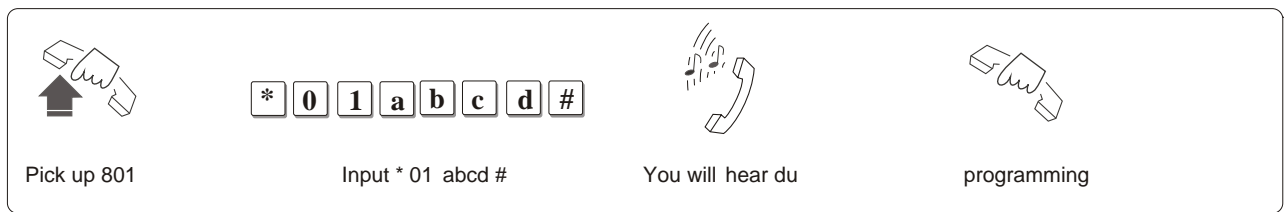
3. 0 . 0 Remarks

- 3. 0. 0. 1 All the function setting must be carried out on extension 801 and un-lock first;
- 3. 0. 0. 2 All the extensions must be of double tone;
- 3. 0. 0. 3 Press * to start setting and press # to end the setting. You don't have to hang up if something wrong occurs during the setting. You may restart the setting by simply pressing * again;
- 3. 0. 0. 4 If extension 801 is in direct dialing out mode, you need to press * to enter the internal system, and press it again to start programming;
- 3. 0. 0. 5 When the setting is finished, a long beep indicates that the setting is done correctly and saved in the system. If instead an array of short chirps is heard, that would indicate an error occurred in the setting. You need to check it out and reset the system;
- 3. 0. 0. 6 All the setting involved multiple users can be carried out in a batch process mode. It will surely increase the speed and accuracy of the setting.

3. 0. 1. 1 Un-locking Programming Password

Format: * 01 abcd #

Explanation: abcd is the password.

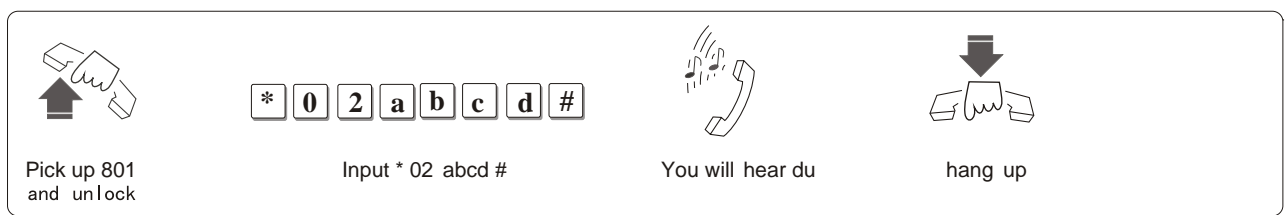


 The default Password is 1234

3. 0. 1. 2 Changing the Password

Format: * 02 abcd #

Explanation: abcd is the new password.



 The system must be unlocked before programming.(see 3.0.1.1)

3.1 CO Line Ringing Assignment

Format: * 1 m abcd #

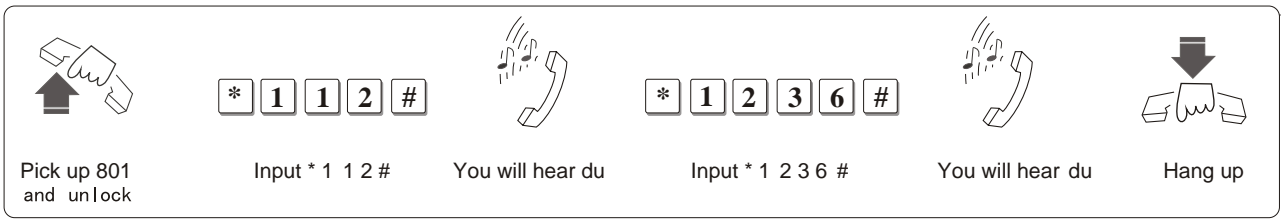
Explanation: [1] Shift to incoming calls program mode;

[m]: CO Line port No.;

[a. b. c. d]: The last digits of extensions(801--808);

Description: Assigns the extensions, which will ring when incoming call from CO lines is received.

Example: If you wish extension 802 to ring from an incoming call for CO line 1, and extensions 803 and 806 to ring for CO line 2 incoming calls, then you may perform the following operation:



- 1>. The default ringing extensions are extensions 801 to 804;
- 2>. Ringing extensions must be among extensions 801 to 808;
- 3>. At most 8 extensions can be set to ring for one CO line, if the ringing extensions less than 8 then end with #;
- 4>. The system must be unlocked before programming.(see 3.0.1.1)

3.2.1 Setting the operating mode

3.2.1.1 Operator mode

Format: * 2 1 #

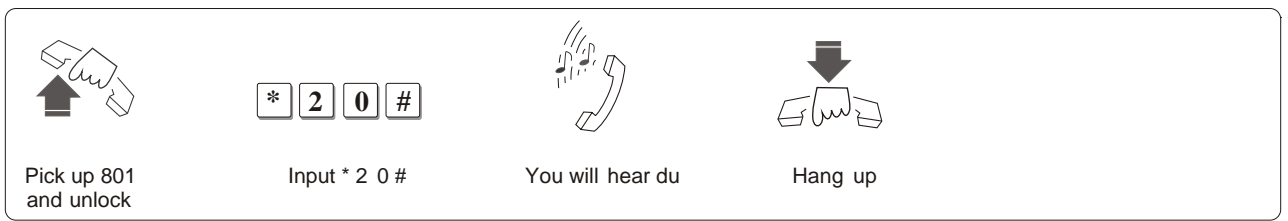
Description: In this mode, the ringing extensions will ring when an incoming call is received.



3.2.2 Set Auto-Attendant (OGM)

Format: * 2 0 #

Description: Caller will hear the OGM recorded message, while all extensions are in MUTE mode.



3.2.3 OGM Recording

Format: * 2 2 #

Description: Used to record an outgoing message for Direct Inward System Access(DISA).

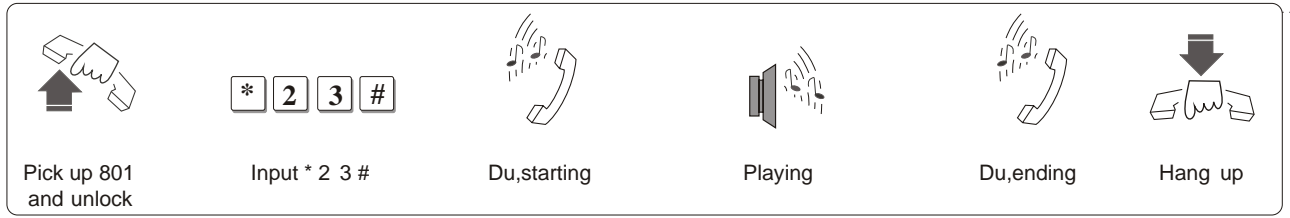


- 1>. The recording time is a maximum of 12 seconds, du is heard to start recording and another du to end recording;
- 2>. No restricting for the recording times and the new message overwrite the old one;
- 3>. Please use high quality telephone to ensure high quality of recording;
- 4>. If the caller dials a number before the system finishes playing the message, the system will terminate playing the message, waiting for the caller to complete dialing;
- 5>. The caller will be connected to extension 802 if he/she dial 0 first for inquiry;
- 6>. If a busy extension is dialed, the system will search for a vacant one increasingly beginning from extension 802.

3E2E04 OGM Play

Format: * 2 3 #

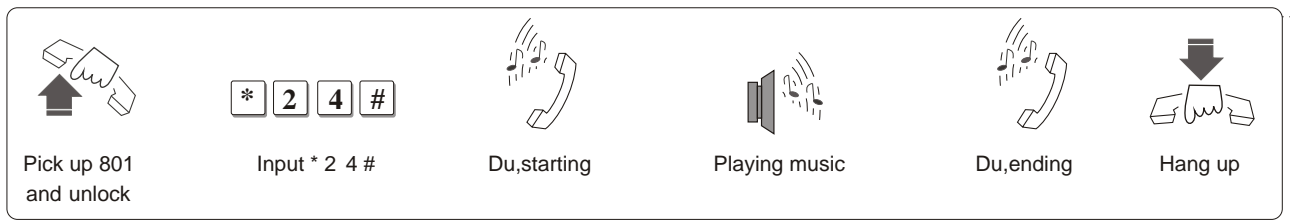
Description: Confirms the recorded message in the OGM recording program.



3E2E05 Music on-holding

Format: * 2 4 #

Description: Allows to hear music on holding melody or to test the quality of telephone unit.



3E2E06 The DISA optional:

A1. Format: * 25 1 #

At auto-attendant mode, if the C.O line doesn't dial the extension number in 8 seconds after hearing the OGM, then the C.O line will be cut off.

A2. Format: * 25 2 #

At auto-attendant mode, if the C.O line doesn't dial the extension number in 8 seconds after hearing the OGM, the C.O line will be transferred to extension 802.

B1. Format: * 25 3 #

At auto-attendant mode, if the C.O line dials the extension number but the called extension doesn't answer the call then the C.O line will be cut off.

B2. Format: * 25 4 #

At auto-attendant mode, if the C.O line dials the extension number but the called extension doesn't answer the call then the C.O line will be transferred to extension 802.

Four kinds of combination for DISA: A1B1, A1B2, A2B1, A2B2.

The default mode is "A1" and "B1".


3E03 Set CO Line

Format: * 3 a b c d e f #

Explanation: [a; b; c; d; e; f] stand for the CO line port number

Description: Set CO line(s) to external line port(s)

Example: If a company has 3 CO lines and he want connect 3 CO lines to CO line ports 1,2 & 4, then he can use the following commands:

			
Pick up 801 and unlock	Input * 3 1 2 4 #	Du	Hang up

- 1>. Normally the order to set the CO line port is from port one to port two, port three - one by one, but for some situation you could ignore one port and jump from port one to port two (for the above example);
- 2>. For the CO line, you'd better set the incoming calls high-frequently-used one to the port of high position, while for the out-going one to the low-position port;
- 3>. If the setting is wrong, you may hear nothing after dialing "0";
- 4>. The system can be used as internal communication system in case of no CO line (You can input: * 3 #).

3E04 Assign Flash time for Call transfer

Format: * 81 m #

Explanation: "m" means flash time class:

"m"=1 means 750ms




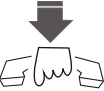
"m"=2 means 1000ms

"m"=3 means 1200ms

"m"=4 means 1500ms

"m"=5 means 2000ms

Forexample: In order to adapt to the flash time of certain telephone, adjust the flash time to 1000ms

			
Pick up 801 and unlock	Input * 81 2 #	Du	Hang up

The default setting is 1000ms.

3. 5 Assign dial-out mode for extension

3. 5. 1 Direct dial-out

Format: * 8 abc n #





Explanation: [abc] The extension number;

[n=0] means extension dial "0" or patting hook to dial out;

[n=1] means extension can directly make outgoing calls.

Description: You can make the outgoing call directly with the direct-out mode extension, while you want to make an internal call, you need to dial * first followed by the extension number.

Example: Set Direct Dial out mode for extension 803


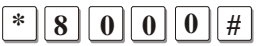


			
Pick up 801 and unlock	Input * 8 803 1 #	Du	Hang up

- 1>. Extensions with direct dial-out mode make internal calls should dial * first followed by extension number;
- 2>. The default mode of dial-out for all extensions are dial 0 first then dial out.

3. 5. 2 Resetting Direct Dial mode

Format: * 8 000 #

Description: To reset Direct Dial Mode to the default setting for all extensions.

			
Pick up 801 and unlock	Input * 8 000 #	Du	Hang up

3. 6 Assign CO line to Exclusive Extension

3. 6. 1 Assign CO line to be exclusively accessed by certain extension(s)

Format: * 4 1 A abc #

Explanation: [41] Shift to program mode; [A] CO line port number; [abc] Extension number;

Description: Assign CO line exclusively be accessed by certain extensions for outgoing calls and other extensions can't use it for outgoing calls.

Example: To assign CO line 2 exclusively for extensions 803 and 807

Pick up 801 and unlock Input * 4 1 2 8 0 3 # Du Input 4 1 2 8 0 7 # Du Hang up

1>. The above operation can be carried out in the followig batch mode:

Pick up 801 and unlock Input * 4 1 2 8 0 3 # Du Input 8 0 7 # Du Hang up

- 1>. CO line can be exclusively set for up to 4 extensions;
- 2>. To cancel this setting, just needs to reset the CO line;(see 3.3)

3. 6. 2 Assign Extension to CO

Format: * 4 2 A abc #

Explanation: [42] Shift to program mode; [A] CO line port number; [abc] Extension number;

Description: Assign extension to make outgoing calls by particular CO line only and can't use other CO line, even if the other CO line is spare.

Example: To restrict extension 806 to use CO 2 only.

Pick up 801 and unlock Input * 4 2 2 8 0 6 # Du Hang up

1>. To cancel this setting, you just need to reset the CO line.(see 3.3)

3. 7 Extension Class Assignment

3. 7. 1 Assign calling class for certain extension

Format: * 5 6 abc n #

Explanation: [abc] Extension number to restrict;

[n=0] Permit to dial the special calling number only;

[n=1] Means the extension be set to class "1";

[n=2] Means the extension be set to class "2";

[n=3] Means the extension be set to class "3";

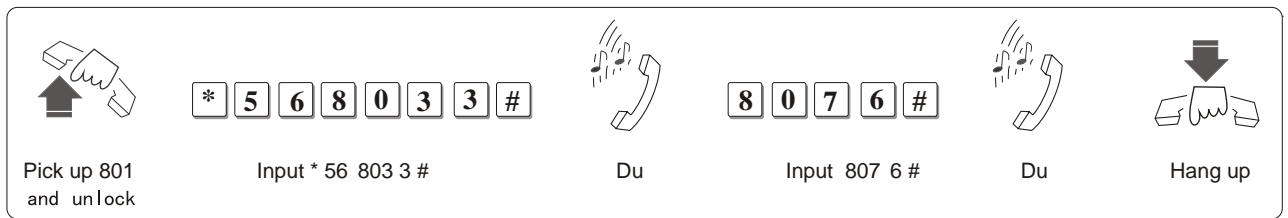
[n=4] Means the extension be set to class "4";

[n=5] Means the extension be set to class "5";

[n=6] Internal communication only;

Description: Assign the outgoing calling right for extension

Example: To assign extension 803 not be able to make calls in class "3", and extension 807 not be able to make outgoing calls.



Pick up 801 and unlock

Input * 5 6 8 0 3 3 #

Du

Input 807 6 #

Du

Hang up

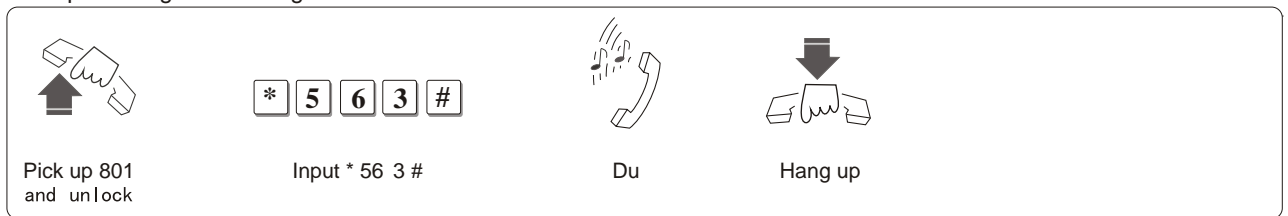
3. 7. 2 Assign calling class for all extensions

Format: * 5 6 n #

Explanation: [abc] Extension number; [n] Class No.;

Description: Assign calling class for all extensions with one command;

Example: Assign the calling class to be 3 for all extensions.



Pick up 801 and unlock

Input * 5 6 3 #

Du

Hang up



1>. This command enables a user to set class restriction on extensions in a fast and convenient way, especially when most extensions have the same class.

For example, if you want set extension 803 to class 3 and extension 808 to class 4, and the rest extensions to class 5, then you can set the restriction rank to be 5 for all extensions and change the restriction class to 3 for extension 803 and 4 to 808;

2>. The outgoing classes for all extensions are 1 at the initial state.

3. 8 Setting Restriction Group

3. 8. 1 Setting leading digits for class "n"

Format: * 5 n abcd # (n=1-5)

Explanation: [abcd] The leading digits of the calling number to block.

Description: Assign class "n" to restrict to place unauthorized calls, which starts with [abcd] digits.

Example: To restrict class 2 to place calls beginning with 573 and 8.

Pick up 801 and un lock Input * 5 2 5 7 3 # Du Input 8 # Du Hang up

- 1>. For each class,a maximum of 20 different groups can be set;
- 2>. Up to 4 leading digits can be used to block, less than 4 digits then ending with #;
- 3>. This setting only applies to the extensions with class1-class5.

3. 8. 2 Clear leading digits for class "n"

Format: * 5 n # (n=1-5)

Description: Clear denied code number on class "n"

3. 8. 3 Assign Special Calling number

Format: * 5 0 abcd #

Explanation: [abcd] The leading (1 to 4) digits of special calling number

Description: Permit to dial the phone numbers starting with [abcd] only

Example: Permit you place calls start with 0757 & 358 only

Pick up 801 and un lock Input * 5 0 0 7 5 7 # Du Input 3 5 8 # Du Hang up

- 1>. Up to 4 leading digits can be used and less than 4 digits then ending with #;
- 2>. Up to 10 different groups can be assigned;
- 3>. This setting only applies to the extensions with class 0.

3. 8. 4 Clear the function

Format: * 5 0 #

Description: Clear denied code number from special calling number

3. 9 Call Duration Control

3. 9. 1 Setting call duration for extension

Format: * 9 abc mn #

Explanation: [abc] Extension number; [mn] Call duration (1 -99) minutes

Description: Control extension call duration for using CO line.

Example: Set call duration to within 15 minutes for EXT. 805

The diagram illustrates the process of setting call duration. It consists of four steps: 1. An icon of a hand picking up a phone with an upward arrow, labeled 'Pick up 801 and unlock'. 2. A sequence of buttons: *, 9, 8, 0, 5, 1, 5, #, labeled 'Input * 9 805 15 #'. 3. An icon of a hand holding a phone with sound waves, labeled 'Du'. 4. An icon of a hand hanging up a phone with a downward arrow, labeled 'Hang up'.

The call duration time should be in 1 to 99 minutes.

3. 9. 2 Clear call duration control

Format: * 9 abc #

Description: The maximum calling time up to 99 minutes for extension after cancel the call duration control function.

Example: Cancel the call duration for extension 805.

The diagram illustrates the process of clearing call duration control. It consists of four steps: 1. An icon of a hand picking up a phone with an upward arrow, labeled 'Pick up 801 and unlock'. 2. A sequence of buttons: *, 9, 8, 0, 5, #, labeled 'Input * 9 805 #'. 3. An icon of a hand holding a phone with sound waves, labeled 'Du'. 4. An icon of a hand hanging up a phone with a downward arrow, labeled 'Hang up'.

3. 10 Flexible coding

3. 10. 1 Extension Number Assignment

Format: * 7 abc ABC #

Explanation: [abc] The original or previous extension number; [ABC] The new extension number; Description: Change of extension number.

Example: To change EXT 803 to 333, EXT 804 to 128

Pick up 801 and unlock Input * 7 808 333 # Du Input 804 128 # Du Hang up



- 1>. New extension number must be among 100---999;
- 2>. New extension number should not be chosen from the original extension numbers, namely from 801 to 832.

3. 10. 2 Restoring Original Extension Numbers

Format: * 7 000 #

Description: If user wants to adjust the extension numbers, he/she may use this command to reset the current extension numbers to the original ones to avoid duplicate numbers.

Pick up 801 and unlock Input * 7 000 # Du Hang up

3. 11 Return to System Default Settings

Format: * 6 000 #

Description: When all the programmed data is cleared, the system will restart with the default factory setting.

The diagram illustrates the steps to return to system default settings. It consists of four icons in a row, each with a corresponding text label below it. From left to right: 1. An icon of a hand holding a phone receiver with an upward arrow, labeled "Pick up 801 and unlock". 2. An icon of a keypad with the sequence of numbers * 6 0 0 0 #, labeled "Input * 6 000 #". 3. An icon of a hand holding a phone receiver with a downward arrow, labeled "Du". 4. An icon of a hand holding a phone receiver with a downward arrow, labeled "Hang up".

 The default setting for TC-2000 series:

Operating mode: Operator mode

Ringing extension: 801 to 804

External lines: 1 to 6

Trunk line grouping: not set

Outgoing class: 1

Restrict outgoing digits: No

Original EXT number: 801 to 832

Dialing out mode: Dial "0" or patting hook for outgoing calls

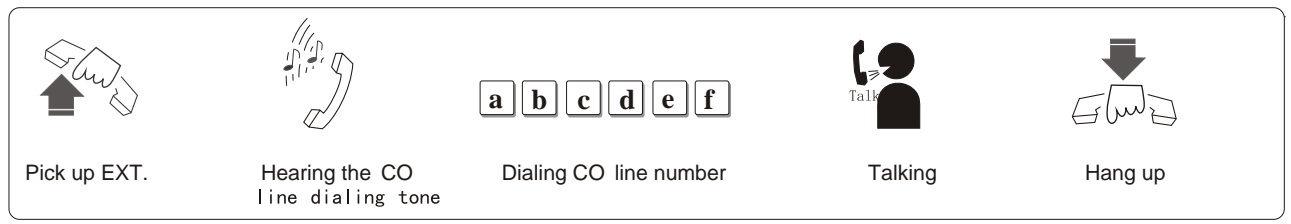
4. 1 Outward Dialing

This system provides 4 dialing modes to meet the different need of customers: direct dialing out, patting hook dialing out, direct out by dialing "0" first and dialing out by a special line.

4. 1. 1 Outward Dialing directly

Format: Pick up the handset and dial extension number directly after hearing the CO line tone.

Description: Making outgoing calls on extensions with direct dialing mode, no line access code required.

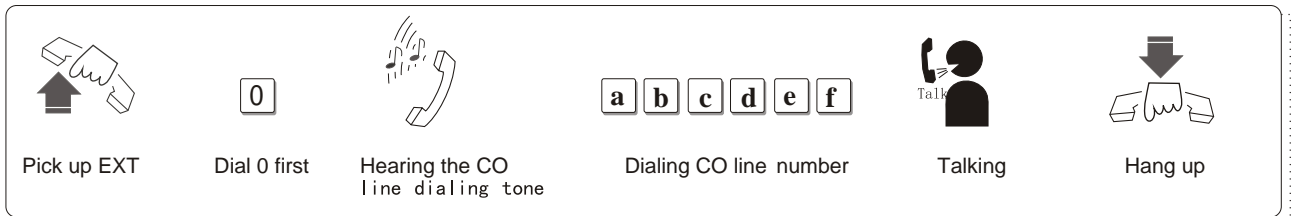


1>. Allows you to redial the last telephone number.

4. 1. 2 Outward dialing by dialing 0 first

Format: Pick up the handset and dial 0 first after hearing the internal dialing tone, then dial the CO line number after hearing the CO line dialing tone.

Description: When the extension isn't assigned to direct outward mode, you will hear the internal dialing tone after picking up the handset, dial 0 then you enter the CO line, you may dial the CO line number after hearing the CO line dialing tone.

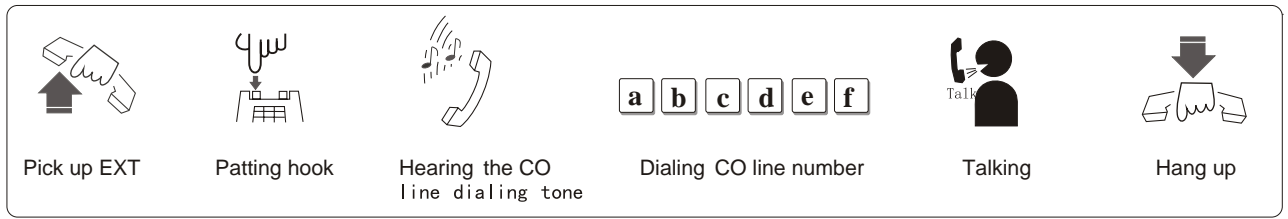


- 1>. The user should dial 0 within 5 seconds after hearing the internal dialing tone;
- 2>. The user can redial the last number by pressing the Pause key on the telephone after dialing 0.

4. 1. 3 Outward dialing by patting hook

Format: Pick up the handset and patting hook, dial the CO line telephone number after hearing the CO line dialing tone.

Description: At in-direct outward dialing mode, pick up the handset and you will hear the internal dialing tone, patting hook then you can dial the CO line telephone number after hearing the CO line dialing tone.



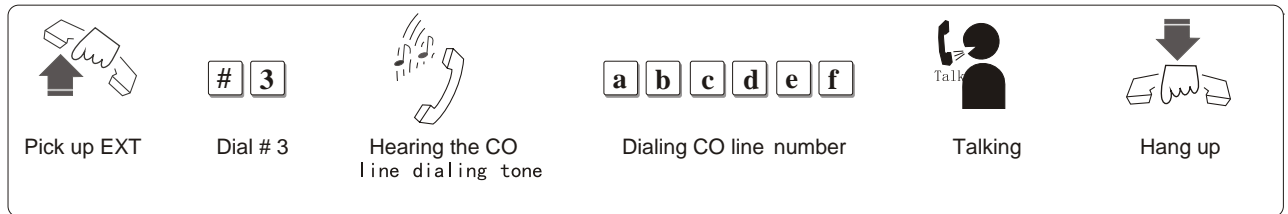
Allows you to redial the last telephone number.

4. 1. 4 Outward dialing by a exclusive line

Format: # and CO line port number

Description: In some occasion, the user may place an outward call by an exclusive line and we definite it as Choosing line dialing.

Example: Place an outward call by CO line 3.



1>. If you hear the busy tone after choosing a CO line that to say the CO line is occupied or not in using.

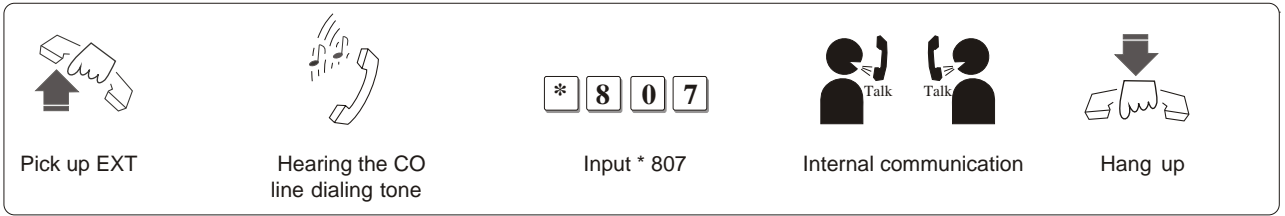
4.2.1 Intercom calling

4.2.1.1 Intercom calling at direct outward mode

Format: * + Extension number

Description: Make internal call from extension with direct outward mode.

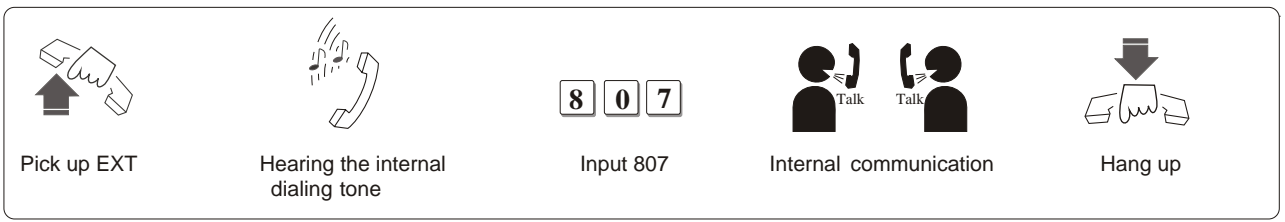
Example: Extension 805 is at direct outward dialing mode and he want call extension 807.




4.2.1.2 Intercom calling at in-direct outward mode

Format: Dial the extension number directly.

Description: Extension 805 is at in-direct outward dialing mode and he want call extension 807, then:

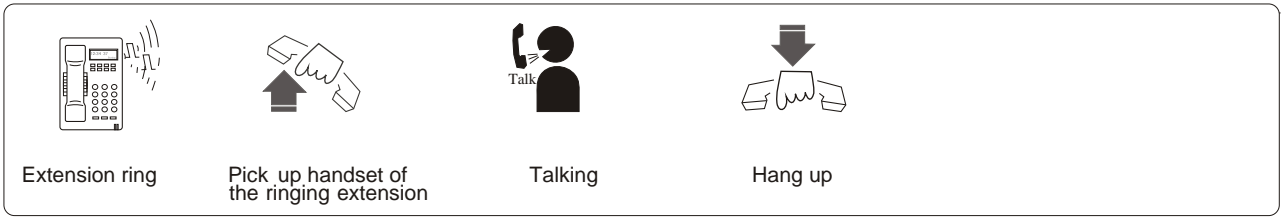


 1>. Intercom calling is free of charge.

4.3.3 Answering call

4.3.3.1 Answering calls at operator mode

The extension(s) set to ring will ring when an incoming call is received, and pick up the handset you may answer the call directly.



4.3.3.2 OGM mode answering calls

No extension will ring when an incoming call is received, the recorder system message will be heard to provide which extension to call.



1>. DISA mode see 3.2.6;

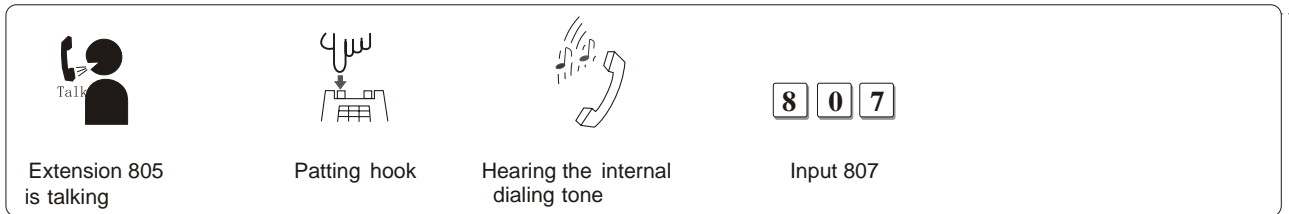
2>. When a caller dials 0 for inquiry, extension 802 will ring. If extension 802 is busy, the system will search for a vacant extension starting from extension 803;

4.1.4 Call transfer

Format: Pat the hook then dial the extension number

Description: Allows you to transfer an incoming call to another extension.

Example: Extension 805 is talking to CO line and want to transfer the CO line to extension 807, then extension 805 can transfer the incoming call to extension 807 by patting the hook and dialing 807.



1>. There may be following 4 cases after a call is transferred from A to B:

a. A does not hang up and B picks up his handset

Then communication between A and B is established while the outside caller is on Hold (music on hold), whoever hang up (A or B), the system transfer outside caller to the other.

b. A does not hang up and B does not answer A within 25 seconds

If Ext. B does not answer A within 25 seconds, then A will restore the connection with CO line, and B will stop ringing.

c. A hangs up and B answers the call

B will answer the outside caller.

d. A hangs up and B does not answer the call within 25 seconds

Call will be back to A and will ring for 25 seconds,if A is busy,the system will cut off.

2>. The FLASH TIME is 100ms to 1500ms for patting the hook, you may press FLASH button instead of pat the hook for transferring the incoming call.

3>. The extension, which transfer the call,has 5 seconds to dial the extension number required otherwise the incoming call will be back to him again.

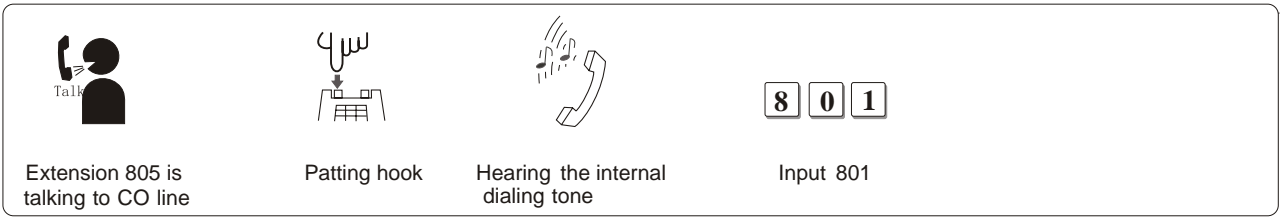
4>. The Flash time can be set (see 3.4).

4.2.5 Boss/Secretary Function

Format: Pat the hook then dial the extension number

Description: This function let you make an outgoing call from one extension then divert and connect other extension to CO line.

Example: Extension 805 makes an outward call then transfer the call to extension 801



- 1>. The FLASH TIME is 100ms to 1500ms for patting the hook, you may press FLASH button instead of patting the hook.
- 2>. You should input the extension number within 5 seconds after patting the hook and hearing the internal dialing tone, otherwise you will be come back to the CO line again.
- 3>. The Flash time can be set (see 3.4).

4.6.6 Conference

4.6.6.1 Conference (1 CO line and 2 extensions)

Format: Pat the hook and * and extension number

Description: Allows you to add a third party to a two-party conversation and make a three-party conference.

You can have only two extensions with one CO line.

Example: Extension 805 is talking to CO line caller and he want to transfer the call to 807, then 805,807 and CO line can talk at the same time.



1>. There may be following 2 cases after a call is transferred from A to B:

a. A does not hang up and B picks up his handset

Then communication between A and B is established while the outside caller is on Hold (music on hold), whoever hang up (A or B), the system transfer outside caller to the other one.

b. A does not hang up and B does not answer A within 25 seconds

If Ext. B does not answer A within 25 seconds, then A will restore the connection with CO line, and B will stop ringing.

2>. The FLASH TIME is 100ms to 1500ms for patting the hook, you may press FLASH button instead of pat the hook for transferring the incoming call.

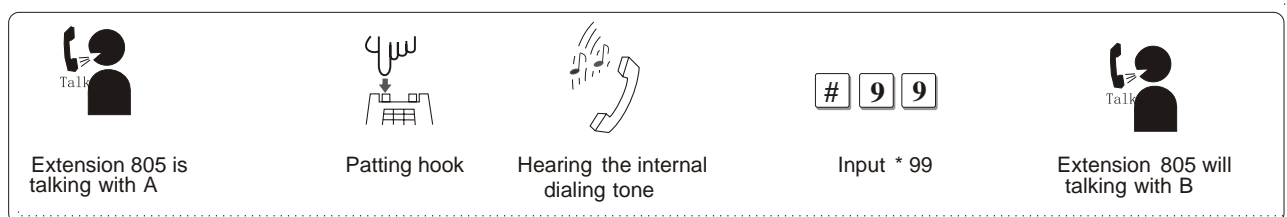
3>. The extension, which transfer the call, has 5 seconds to dial the extension number required otherwise the incoming call will be back to him again.

4.6.6.2 Caller on holding

Format: Pat the hook + #99

Description: If the user applies for the caller on holding function at his Telecom Company then he may use the function to receive two different incoming calls .

For example: Extension 805 is talking with C.O line A, and at this time B calling in, then 805 can make conversation with B after inputting the above format(A is in the state of Caller on holding). After finishing conversation with B. 805 can still connect with A by inputting the format.



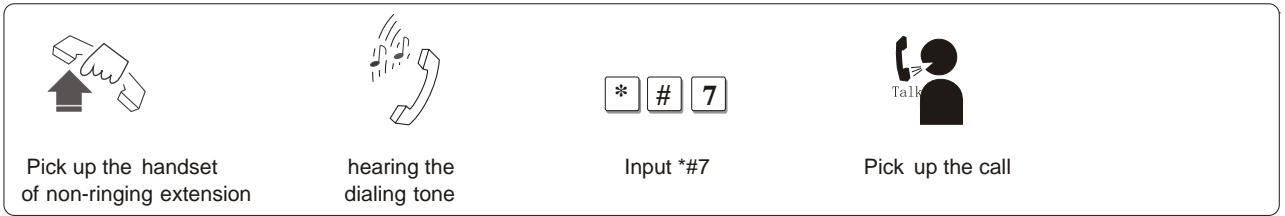
The extension can use the function lonely during receiving the incoming calls, or the function is invalid.

4.1.1 Call pick up

4.1.1.1 Call pick up at extension with direct dialing mode

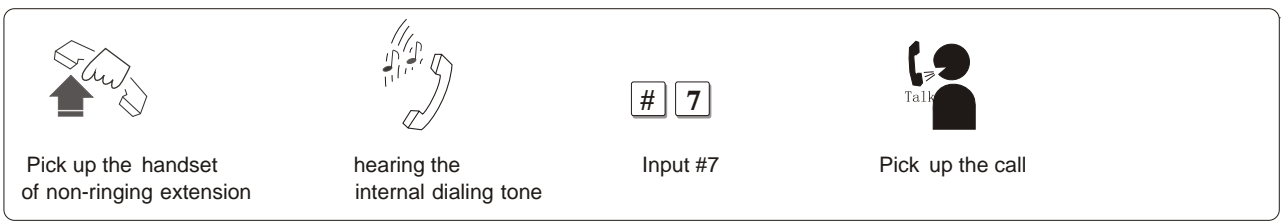
Format: * # 7


Description: Allows you to answer an incoming call (direct or transferred) that is ringing at another extension.



4.1.1.2 Call pick up at extension with in-direct dialing mode

Format: # 7



 Internal call can't be picked up.

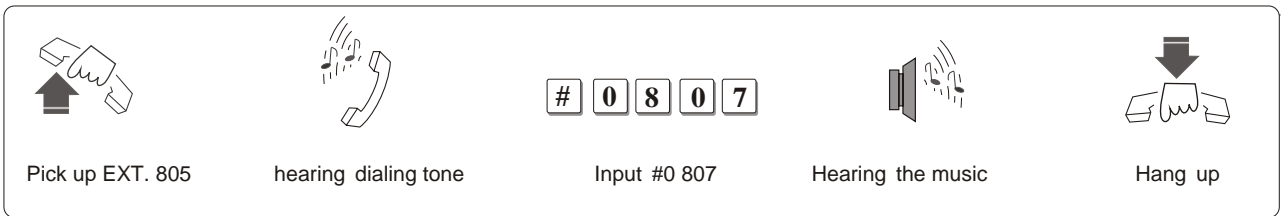
4.1.1 Call Forwarding

4.1.1.1 Setting Call Forwarding

Format: # 0 + extension number

Description: Allows an extension user to transfer incoming calls automatically to another extension.

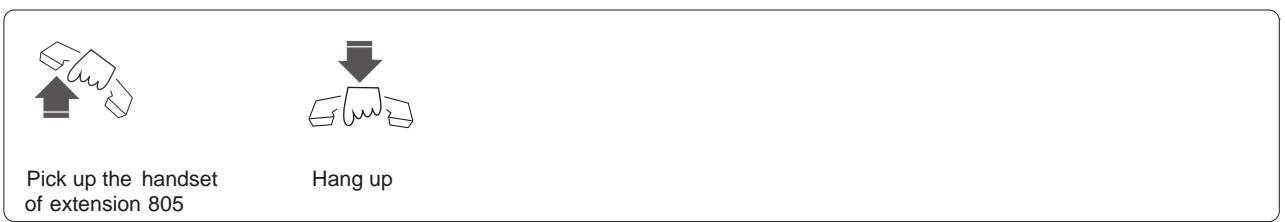
Example: The user of extension 805 want to go to 807 for a work then he can forward all the incoming calls of 805 to 807.



If the extension is at direct dialing out mode, you should input * first to enter internal line.

4.1.1.2 Canceling the setting

Format: Pick up the handset than hang up



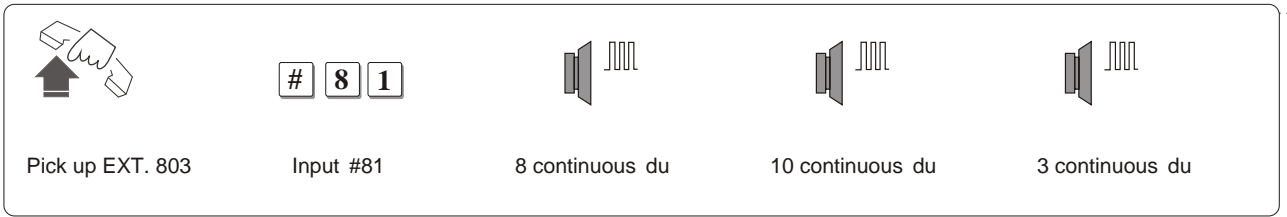
- 1>. Extension which have already been assigned, as a forwarded destination, cannot set the Call Forwarding feature.
- 2>. Pick up the handset of extension with Call Forward function you will hear nothing and can't do any operating, you must hang up to cancel the function first.


4.9.9 Automatic reporting of extension number

Format: # 81

Description: During installing and testing of the system, it is very convenient to find the extension number. The system uses du for this purpose.

Example: After input #81 on extension 803 you may hear 8 continuous du, and you will hear 10 du at about 2 seconds later, at last you may hear another 3 du, that mean the extension number is 803.



 10 continuous du stands for "0".

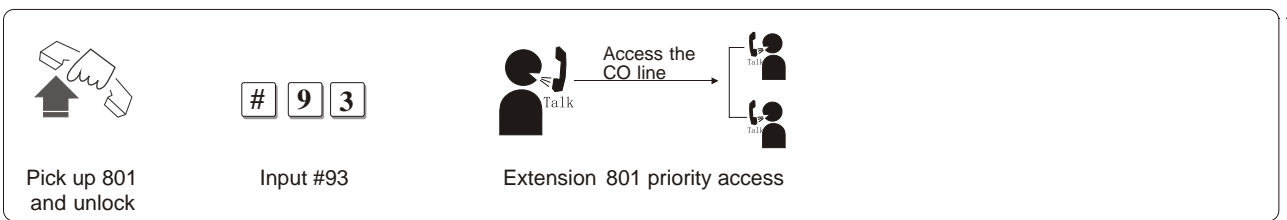
4.9.10 Priority access and monitoring


Format: # 9 n

Explanation: [n] stands for the CO line port number

Description: Establish direct connection with CO line regardless whether or not this line is occupied. This feature ensures the director or owner of a company control the CO line communication.

Example: Priority access to CO line 3



-  1>. Only extension 801 has priority access;
2>. The monitor is responsible for the legal issues resulting from this operation.

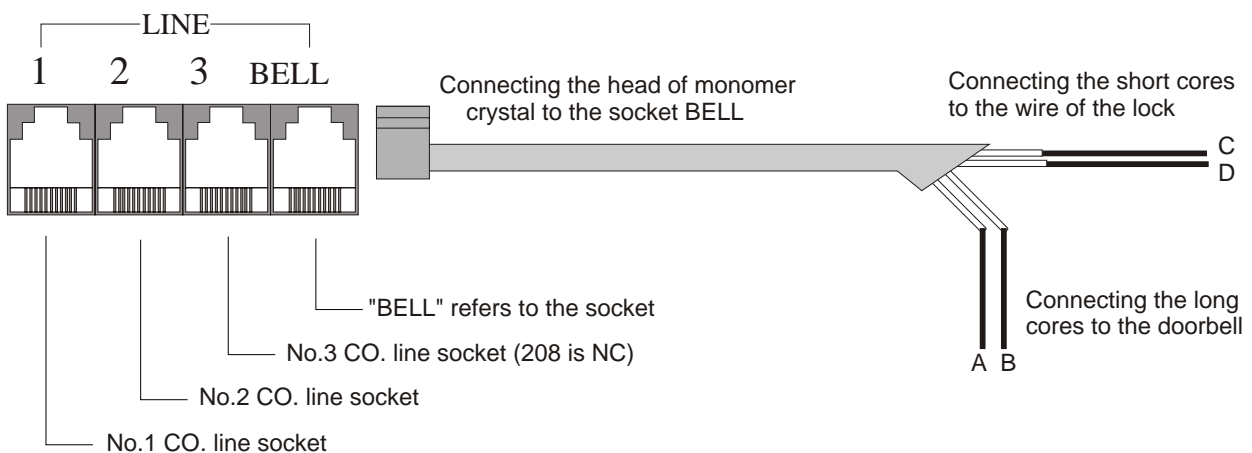
4.11.1 DoorBell & Door Lock (This function for 108A, 208A, 308A, 312A, 316A of TC2000A)

4.11.1 Connection instruction

To meet the need of our customers, two additional functions TALK-BACK DOORBELL & ELECTRON-CONTROLLED LOCK, are adopted to 108A, 208A, 308A, 312A and 316A, which are convenient for you to use as the doorbell and automatically to open/close your door. The products are suitable for the offices and villas.

Connection: Put one head of the monomer-crystal (four-cores inside the connecting line equipped with the units) into the socket BELL of the external line, then connect the two long cores with the doorbell or the mini-telephone, and the left two short cores with the power switch of the electron-controlled lock.

Pls. refer to the below sketch map:



- 1>. For the doorbell, ours are available for their small dimension, nice appearance, good tone and easy installation.
- 2>. Connect the wire of the electron-controlled lock, which are available in the market, to the location C & D (C & D power supply: 48V, 4A, 10ms).

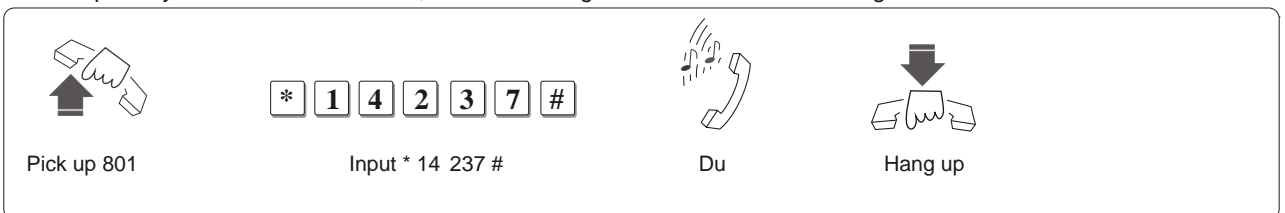
4.11.2 . Ringing Extension Assignment

Format: * 14 abcd #

Explanation: [a,b,c,d] stands for the last digits for the ringing extension

Description: Assign the extensions which will ring when doorbell calls.

Example: If you want extension 802, 803 & 807 ring when there is an incoming call:



Thus a visitor press the doorbell, the extension 802, 803 & 807 will ring at the same time. Any extension will be available for a conversation.

4.11.3 Answering the call

4.11.3.1 Answering the Doorbell call from the ringing extension

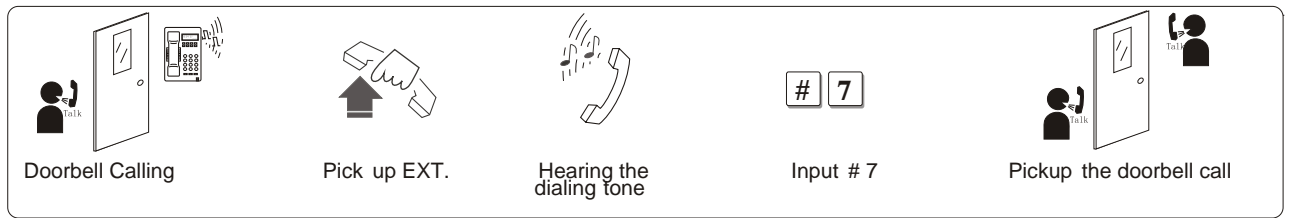
Format: Pick up the EXT.



4.11.3.2 Doorbell Call Pickup

Format: # 7

Description: Allows you to answer doorbell call from a non-ring extension



If the extension is on direct dialing out mode, please input *#7 for doorbell pick.

4.11.4 To open the Lock

4.11.4.1 For the call by Doorbell

Format: Pat the hook and press "#00".



4.11.4.2 Remote Door open

Format: # 4



If the extension is on direct dialing out mode, please input *#4 for open the door.

4.12 Assign Monitor & Recorder (This function for 108E,208E,308E,312E,316E of TC2000E)

4.12.1. Assign certain extension be monitored

Format: * 43 abc n #

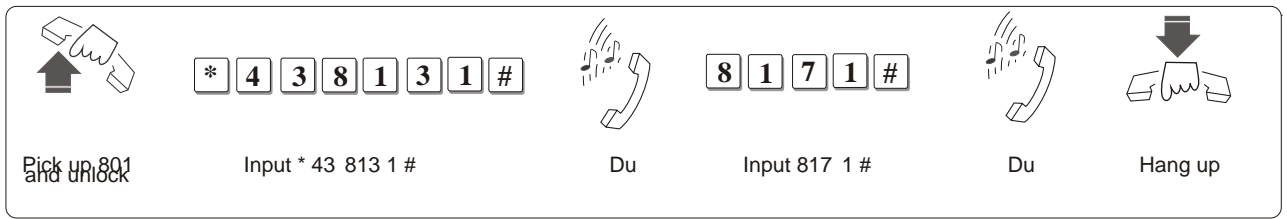
Explanation: "abc" is the extension number you want to assign

n=0 means cancel the function

n=1 means the extension will be recorded

Description: When the function is setting, once the extension pick up the handset the recorder start to record until hang up.

Example: Set extension 813 and 817 as the monitored extension



1. All extensions can be set be monitored and recorded.
2. Extension A is being recorded and at this time extension B pick up handset (which has also set the function), then only extension A be recorded. Extension B will be recorded only after A hang up.

4.12.2. Cancel all monitored Extensions

Format: * 43 #

Description: When user want to cancel all monitored extensions or change most of monitored extensions, then he can use this command.

4.12.3. Assign certain C.O line be monitored

Format: * 44 a n #

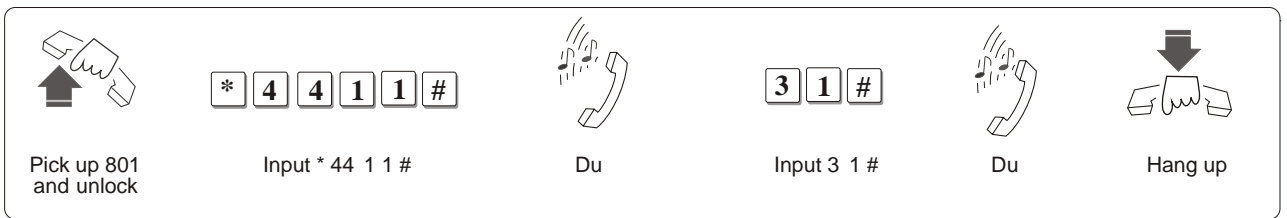
Explanation: "a" is the C.O line port number

n=0 means cancel the function

n=1 means the C.O line will be monitored

Description: After the function has been set, once the CO line is busy the recorder start to record until free;

Example: Assign C.O line 1 and 3 as monitored C.O lines,



4.12.4. Cancel the function

Format: * 44 #

Description: When the user want to cancel all monitored C.O line or change most of monitored C.O line, then he can use this format.

Accessories Introduction:

1. Doorbell

- Two-way communication
- One-touch Calling
- Night-light display
- 2'C line connecting
- Compatible with TC-2000 PBX & Powered by PBX



Doorbell

2. Door-opener

- Both Electronic Control & Manual Control
- Normal Key equipped
- 2'C line connecting
- Compatible with TC-2000 PBX & Powered by PBX



Door-opener

3. Telephone Recorder

- Auto-Record and Monitor when off-hook
- Auto-Stop when on-hook
- Record & Play functions with Normal Tape
- For Type B: Digital Record Automatically
- Answer Machine Function

Applications:

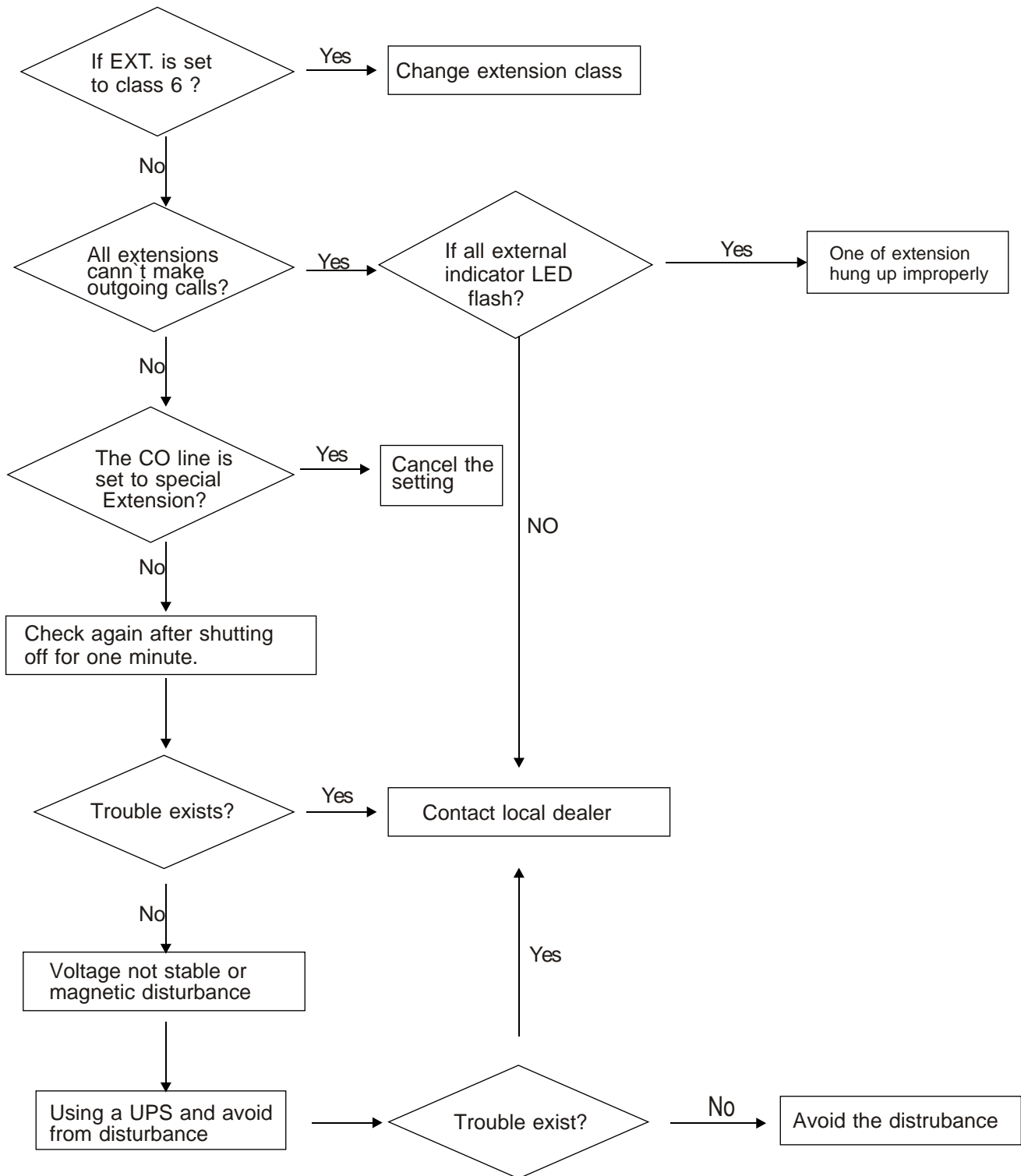
- Telephone charge list intendance in enterprises
- To supervise the behavior of leak/bribe by staffs
- Memorandum during business negotiation
- A Best Co-worker for a harmonious family
- The Evidence Record for Attorney & Police
- The sweet memory between friends and relatives
- Type B, with secretary-call function, can replace telephone answering machine.



Telephone Recorder

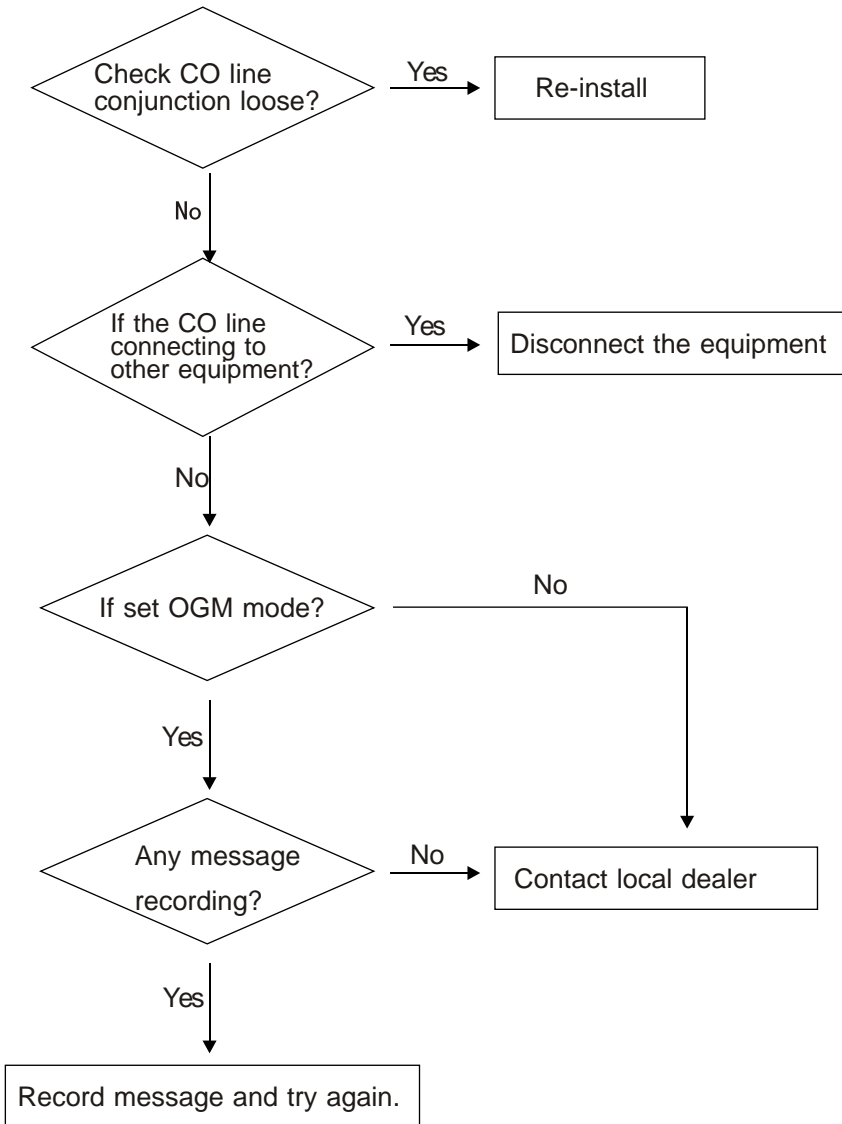
5.1 Outgoing calls can't be made

- 1). Programmed to be in no CO line mode;
- 2). Call restriction class is 6;
- 3). CO line is set to special Extension;
- 4). Extension hung up improperly;
- 5). CPU and internal data is disorder caused by unstable power.



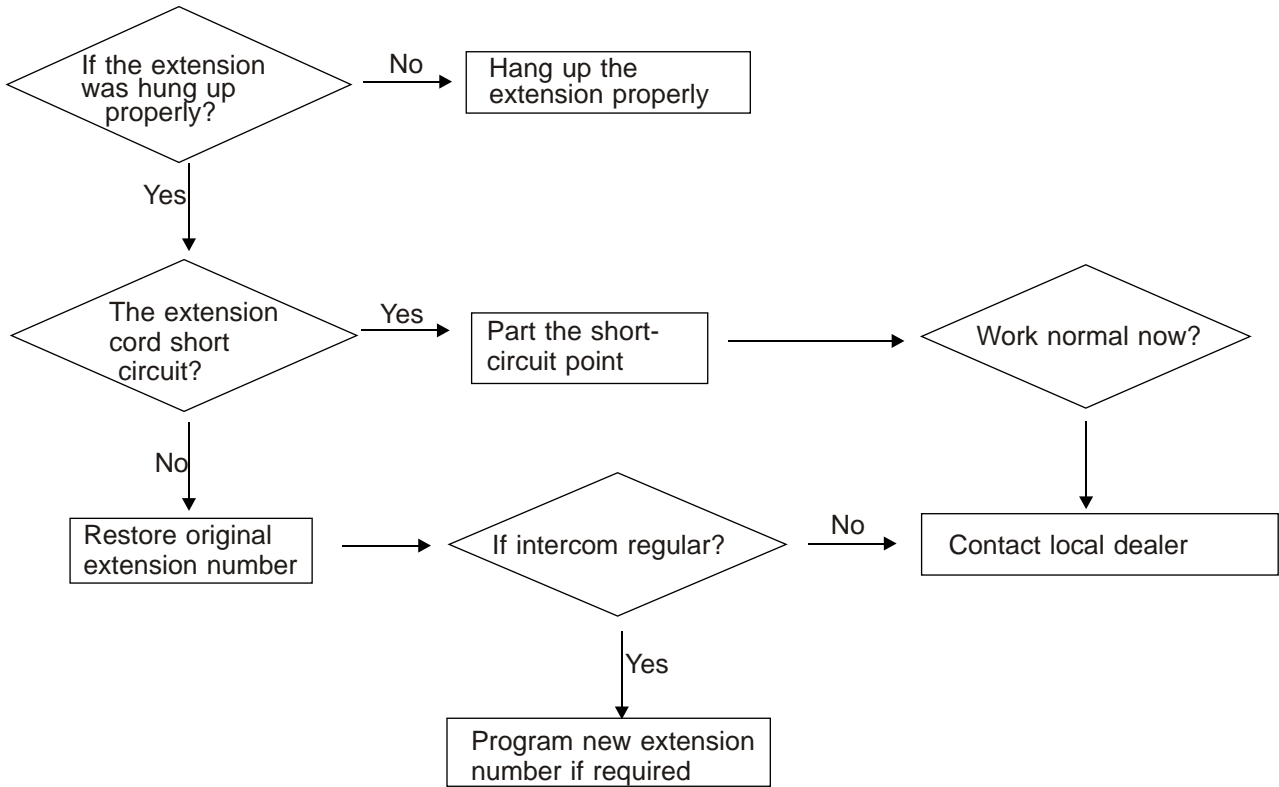
5.2 Outside calls can't dial in

- 1). The conjunction of CO line loose;
- 2). CO line was connect to other equipment;
- 3). No message recording at auto-operator mode.



5.3 Intercom can't be made

- 1). Extension hung up improperly;
- 2). Extension number wrong.



Chapter 6 Warranty

We warrant your product to be free from defects in material and workmanship for one year from the date of purchasing.

This warranty applies only to the original consumer purchaser and only to products employed in normal use and service. If this product is found to be defective, our dealer is only obligated, to repair or replacement of the product, which not been damaged through misuse, abuse, accident, modification, alteration, neglect or mishandling.

This warranty shall not apply to any product which is found to have been improperly installed, configured, or used in any way not in accordance with the instructions supplied with this product. For repair or replacement, call for a Return Authorization Number first. Then send the defective instrument to local dealer. You must include a letter with the return authorization number, describing unambiguously the way in which the product is defective along with a proof of purchase.

We do not warrant and specifically disclaims any warranty, whether express or implied, of the fitness for a particular purpose other than the warranty contained herein. No implied warranty on this product shall extend beyond the term of this warranty unless such law otherwise provides.

We specifically disclaims any liability and shall not be liable for any consequential or incidental loss or damage, including but not limited to damages to any equipment with which this product is used.

No agent, representative, dealer or employee has the authority to increase or alter the obligations or terms of this Warranty.

This Warranty is only valid for merchandise purchased directly from our Agent or dealer.

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5	* 2 1 #	Operator mode	9
6	* 2 2 #	OGM recording	9
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8	* 2 4 #	Music on-holding	10
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