

# Table of Contents

Chap 1 System synopsis-----	1
Chap 2 Installation-----	2
System Appearance-----	2
Attention-----	3
Warning-----	3
Chap 3 System programming-----	4
How to Enter Programming mode-----	4
Restore the default setting-----	4
Change password-----	4
Flash time (For active the hold and diverting operating) setting-----	5
System date/time setting (Only for 416c/832c)-----	5
Set active charge delay time -----	5
Clear the charge list-----	5
Extension alarm time setting-----	6
CO line incoming ringing delay-----	6
Operator mode /Auto-attendant mode-----	6
Recording outgoing message-----	6
Monitoring the recorded message-----	7
Monitoring the holding music-----	7
Operator setting-----	7
Auto-attendant mode no answer process-----	7
Add digits for intercom CID-----	8
Setting dialing out mode-----	8
C.O Line Ringing Assignment-----	8
Setting service grade-----	8
Setting restriction Group A-----	9
Setting restriction Group B-----	9
Assign special calling number (Item C of Class Setup)-----	9
Private password setting-----	9
Setting call duration for extension-----	10
Assign extension's access CO line righ-----	10
Flexible extension number-----	10

Function brief introduction-----	11
Answering calls at operator mode:-----	11
Answering calls at auto-attendant mode-----	11
Call pick up-----	6
Outward dialing directly-----	11
Outward dialing by dial 9 first -----	11
Exterior-line Booking-----	11
Selecting CO line-----	12
Use the private password. (For 832/416)-----	12
Outgoing call Transfer Function-----	12
Call transfer -----	12
Conference (2 extensions and 1 C.O line) -----	13
C.O Line Reservation:-----	13
R key function:-----	13
Intercom calling at direct outward mode-----	13
Call operator:-----	13
Alarming clock (Optional)-----	13
Query functions:-----	13
System time query-----	14
Call forwarding -----	10
Call busy transfer -----	10
No disturbing-----	11
Call all extensions (Emergency call)-----	15
Troubleshooting-----	16
Technical terms-----	16
Default settings-----	17
System Programming Instruction-----	17

## Chap 1 System synopsis

416AD:

1. Three paragraph of computer operator's voice
2. FSK/DTMF sender chip inside, CO line CID can be transferred from one extension to another freely
3. CO line monitor
4. Outgoing call restrict range
5. Trunk line transfer to trunk line,3-party conference call
6. Call splitting and call forwarding
7. Auto transfer to another when transfer to a busy extension
8. External music input
9. Use PC to program, compatible with manager system

The basic function as 416AD,more powerful function as following:

1. 32 group password
2. Intelligent routing
3. Upgradeable module design (From416 )
4. Internal CID,alarm clock
5. Hi-efficiency safe switching power, back up battery optional
6. 300 charge data can be stored

## Chap 2 Installation

### 1. System Appearance



Front View

## **2. Attention:**

### **Please pay attention to the important items of installation:**

- 1 The telephone exchange shall be installed in a stable indoor place with dry, ventilated environment. (Temperature Range : 0℃—45℃, Humidity Range :20%—80%.Avoid straight sun shine or in the environment of flammable or caustic gas.) Special telephone wire is preferable.
- 2 A marginal space around the exchange should be remained for heat sink, inspection and maintenance of the system.
- 3 A wall bore is available at the underside of mainframe for wall installation. Desk installation is also admitted. But the contact of wall bolt and circuit board inside the mainframe should be avoided.
- 4 Please keep the exchange away from other equipment producing large electromagnetic disturbance (such as motor and large transformer)
- 5 None of the wiring of any extension should share the pipeline with power supply or antenna. Neither should the extension be close to antenna for air broadcasting (including short-wave).
- 6 Avoid damaging the power-supply cable. Keep it away from water. Encountering the leakage of water cut off the power immediately.
- 7 Please don't impact or shake the exchange at any situation. Don't remove the exchange in working status.
- 8 If the wiring pipeline of the extension is disturbed by electromagnetic wave while substitution is unavailable in site, special insulating wire for communication is suggested for substitution, also, the insulating net of which should be grounded.

### **Warning:**

The wiring should not be done in thundering.

Avoid using telephone in thundering.

Please don't use the telephone in flammable and leaking gas environment.

Unless the equipment is disconnected, please don't touch the broken part of the wiring or any connection ends.

## **Chap 3 System programming**

### **Notice:**

Using DTMF phone as extension, and all setting must be done on extension 601-604. Commands can be continuously input, press “#” to indicate the end of command. If there is any mistake during programming, just press “\*” to restart without hang up. User will hear a prompt tone “du” when input is correct while three “du” for incorrect input. Notice that input is only allowed when the prompt tone finishes or it will be invalid and incorrect input may happen. Once programming finishes, it can keep on working without restart. When programming, especially notice that the extension sequence number is 01~16 (two digits), and exterior number is 1~4(one digit)

How to Enter Programming mode:

In direct outgoing mode, press **\*#xxxx**

In indirect outgoing mode, press **#\*xxxx**

xxxx: programming password, factory set is 0000

### **1.Restore the default setting**

Instruction: 0000#

Explanation: Please wait the confirm tone, see Appendix 2 for the details of default setting; this will not change the setting of “Flexible coding”.

### **2.Change password**

Instruction: 09 xxxx #

Explanation: xxxx is the original programming password

### **3. Flash time (For active the hold and diverting operating) setting**

Instruction: 00 L #

Explanation: L=1-5

L=1 -----0.8s

L=2 -----1.0s

L=3 -----1.2s

L=4 -----1.5s

L=5 -----1.8s

### **4.System date/time setting (Only for 416AD)**

Instruction: 01 YYMMDD #

Explanation:

YY: year, 00-99

MM: month, 01-12

DD: date, 01-31

Instruction: 02 HHTT #

Explanation:

HH: hour, 00-23, 24 hours mode

TT: minutes, 00-59

### **5.Set active charge delay time**

Instruction: 03 TT #

Explanation: The PC charge software will delay TT( from 00-99) seconds to active the charge time after the user dialed out.

### **6.Clear the charge list**

Instruction: 0400 #

Explanation: Clear the charge list stored in system memory.

## **7.Extension alarm time setting**

Instruction: 05 #

Explanation: Clear all extensions' alarm setting

Instruction: 05N #

Explanation: Clear alarm time setting of extension N( 01-16)

Instruction: 05Nhhtt #

Explanation: Set alarm time( hh: hour, 00-23; tt: minutes, 00-59) of extension N( 01-16).

## **8.CO line incoming ringing delay**

Instruction: 0610 #

Explanation: No delay, extensions will ring at the same time as CO lines.

Instruction: 0611 #

Explanation: Extensions will delay one cycle to ring.

## **9.Operator mode /Auto-attendant mode**

Instruction: 10# All exterior lines are Auto-attendant mode

10M# No M exterior line is Auto-attendant mode (M is exterior line code number that from 1~4)

11M# No M exterior line is operator mode (M is exterior line code number that from 1~4)

11# ----- All exterior lines are operator mode

Explanation: if the setting is operator mode, when there is an incoming by exterior line, the extensions that have already been set will ring simultaneously. Pick up to talk or to transfer, the extensions which do not ringing can also answer it use the call pick up order; if the setting is Auto-attendant mode, when there is an incoming by exterior line, exterior line will hear digital record, and if dial one of the extension number and it will ring, if dial 0 for inquiry, the operator will ring.

## **10.Recording outgoing message:**

Instruction: 1 2 M # ( M=1,2,3the paragraph of the OGM)

Explanation: input 12M# in the state of system programming, it begin 8-second-digital recording when hear "du" and end it when hear "du" again. During recording, please use high quality double

audio frequency phone and pick up handset for recording. User can do recording for several times until satisfy.

### **11. Monitoring the recorded message:**

Instruction: 1 3 M # (M=1,2,3the paragraph of the OGM)

Explanation: In the state of system programming, it begin record listen in when hear “du” and end it when hear “du” again. Record can do several times until satisfy, better makes the practical effect of the exterior line incoming as final standard.

### **12. Monitoring the holding music:**

Instruction: 14#

Explanation: input 14# in the state of system programming, it begin music listen in when hear “du” and end it when hear “du” again.

### **13. Operator setting:**

Instruction: 15N#

Explanation: N is extension sequence number (01~16)

### **14. Auto-attendant mode no answer process**

Instruction: 160# Release the exterior line

161# Transfer to operator

Explanation: When there is an incoming by exterior line, after playing the recorded message, if the caller didn't dial the extension No, use this instruction to set the exterior connect to operator or cut it.

### **15. Add digits for intercom CID**

Instruction: 180 # Disable add digits for intercom CID

180 kk # Add kk in intercom CID number

Explanation: Some CID telephone can't display the CID number less than 4 digits, so we must add more digits for intercom CID.

### **16. Setting dialing out mode**

Instruction: 2N0# (direct outgoing, N is the extension sequence number 01~16)

2N1# (indirect outgoing, press 9 for outgoing N is the extension sequence number 01~16)

20# (all extensions direct outgoing)

21# (all extensions press 9 for outgoing)

### **17.C.O Line Ringing Assignment**

Instruction: 3 M N 0 # Enable one extension

3 M N 1 # Disable one extension

3 M # Disable all

Explanation: "M" means C.O line port No. (1-4).

"N" The last 2 digits of original extensions (601-616)

### **18.Setting service grade:**

Order: 40 N L (set service grade is the grade L of extension N)

40 L # (all extension are grade L)

Explanation: L is the grade number, from 0 to 6.

"L"=0----Permit to dial the special calling number only

"L"=1-----no call-out limitation

"L"=2-----call-out with limiting of international distance dialing

"L"=3---- call-out with limiting of domestic distance dialing

"L"=4----- call-out with limiting initial of item A

"L"=5----- call-out with limiting initial of item B

"L"=6-----forbid local call, only intercom is allowed.

### **Setting restriction Group A**

Order: 4 1 Q Q A B C D # (QQ is the group number, from 01 to 16)

4 1 # (Clear all the call out limitation of initial of item A)

4 1 Q Q # (Clear the call out limitation of initial of item QQ in term A)

Explanation: limitation A can lock 16 groups of 4-digit initial, ABCD is the initial of the number, to be locked, it can be ended with # if digit less than 4. User can set for internal or international telephone limitation, or special number.

### **Setting restriction Group B**

Order: 4 2 Q Q A B C D # (Q is the number of group, from 01 to 16)

4 2 # (Clear all the call out limitation of initial of item B)

4 2 Q Q # (Clear the call out limitation of initial of item QQ in term B)

Explanation: User can set limitation of all codes.

### **19.Assign special calling number (Item C of Class Setup)**

Instruction: 43PP A B C D # (PP is the number of group, from 01 to 16)

43# (Clear all the first-digit number of dialing-out)

43PP # □ Clear the licensed first-digit of dialing-out of group PP□

Note: that is to say 16 groups 4-digit first-digit can be used, ABCD is the first-digit of the locking numbers, it could be less than 4 digits, ended with #. Licensed dialing means that the first-digit of



the locking numbers of certain locked extensions can be rescind. More convenience can be achieved when calling these certain telephone number, used for Grade 3.

## **20.Private password setting**

Instruction: 500# clear all private passwords

5 UV WWW L # setting the extension No. UV' private password

5 UV # release the extension No. UV' private password

Explanation: UV is one of number from 1 to 99, it is private password sequence number, WWW is 4 digits password; L is the service grade of private password (refer to "service grade setting"). When using private password user must input private password with sequence number (refer to "private password using in using way"), in other word, must input UV WWW (6 digits)

## **21.Setting call duration for extension**

Instruction: 6 N TT # N is the sequence number of extension, TT is the limited time, counted by minutes, ranges from 1 to 99

Explanation: This function can only limit the time of exterior call. For example, if the calling time of extension 06 must be limited in 8 minutes, the user can dial 60608# while programming.

## **22.Assign extension's access CO line right**

Instruction: 7 M N 0 # Extension N (N=01-16) can access CO line M (M=1-4)

7 M N 1 # Not allowed extension N access CO line M

7 M # All extension can access CO line M

Explanation: If you want to set extension 603 can't access CO line 2, and extension 606, 608 can access CO line 1, please input:

72031#

71060#

71080#

## **23.Flexible extension number:**

Instruction: 9 0 0 0 #(restore the factory setting)

9Nabcd # (change the number of extension N to abcd)

Explanation: N is the sequence number of the extension, abcd is the new number, 1 to 4 digit number, ended by #. The new numbers range from 1-8999; all extensions must not be same number.

(The length of new number must follow the extension No.1; it must be emphasized that if the length of new number changed, all the extensions must be reset after setting extension No.1. Any two new numbers couldn't be the same. Otherwise abnormality will appear. For example, to set the extension's number to 4-digit number (6001-6040),the user should dial 9016001# ,then dial 9026002# 9036003#...one by one, up to 8406040.)

## Function brief introduction

Important Notice: If you choose indirect outgoing dialing out mode, no need to dial \* in following operation.

### Incoming call

#### 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.

#### 2. Answering calls at auto-attendant mode:

No extension will ring when an incoming call is received, the message recorded will be heard before dialing extension number.

Remark: 1. You can set different DISA mode.

2. When a caller dials "0" for inquiry, operator extension will ring. If operator extension is busy, then system can use the function "busy call transfer".

#### 3. Call pick up

The incoming call can be answered by the extension that is not ringing rather than the ringing one, thus makes the answering more convenient.

Operation: Pick up and press \* # 9

### Outgoing call

#### 4. Outward dialing directly:

Pick up the handset and dial external number directly after hearing the C.O line tone.

#### Outward dialing by dial 9 first:

Pick up the handset and dial "9" first after hearing the internal dialing tone, then dial the C.O line number after hearing the C.O line dialing tone.

## 5.Exterior-line Booking

If exterior line is busy and calling has to be done immediately, a booking of exterior line will be done and will be clue to the current user.

## 6.Selecting CO line

Operation: \* # 1 M (M=1-8, CO line no)

You can use this operation if you want to select a CO line to dial out.

## 7.Use the private password. (For 416)

Operation: \*#5 + private password (including the sequence number).

Remark: (1) private password UV WWWW is 6 digit (2 digit sequence number + 4 digit code).

(2) Use private password dial IP telephone: #5+ private password. (Including: sequence number). Direct dial Long-Distance code+ Telephone number+#(the restriction class serviced by the private password permit you dial Long distance call) after hear the internal tone.

## 8.Outgoing call Transfer 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 C.O line.

## 9.Call transfer

Operation: Pat the hook then dial the extension number

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

Remark:

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-holding (music on holding), whoever hangs 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 C.O 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 from 750ms to 2000ms for patting the hook, you may press FLASH button instead of press 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.

## **10.Conference (2 extensions and 1 C.O line)**

Format: Pat the hook and \* + extension number

Description: Allows you to add a third part to a two-parts conversation and make a three-parts conference. You can have only two extensions with one C.O line.

## **11.C.O Line Reservation:**

Operation: Pat the hook and press # #

The occupying exterior line can be reversed by exchanger. Then another exterior line can be transferred or talked by interphone, which can solve the problem that the incoming call waits long for answering or even no answer. Therefore the function of the exchanger is largely extended.

The exterior lines for incoming or outgoing call are both reserved.

## **12.R key function:**

Operation: # 8 9

Use this to make a R key operation( As telephone's R key) in CO line, this is always used for switching the call waiting.

## **Intercom calling**

### **13.Intercom calling at direct outward mode**

Operation: \* + Extension number

Description: Make internal call between extensions with direct outward mode.

### **Intercom calling at in-direct outward mode**

Operation: Dial the extension number directly.

Remark: Intercom calling is free of charge.

## **14.Call operator:**

Operation: \* 0 (at direct outward mode)  
0 (at indirect outward mode)

## **Other Functions:**

### **15.Alarming clock (Optional)**

Operation: \*# 4 hhtt (at direct outward mode)

hh: hour (00-23)

tt: minutes (00-59)

Notice: System will lost the alarming clock setting after power off.

## **16.Query functions:**

### **Extension number query( Through DU DU tone)**

Operation: \* # 60 (at direct outward mode)

The number of DU DU tone indicate the extension number.

### **Extension number query( Through CID)**

Operation: \* # 62 (at direct outward mode)

When hang down the telephone will ring, and the extension number will be displayed in your caller identify telephone.

### **System time query**

Operation: \* # 63 (at direct outward mode)

After input the command and hang down, telephone will ring, and the time will be displayed in your caller identify telephone.

\* # 66 (at direct outward mode)

After input the command and hang down, telephone will ring, and the date will be displayed in your caller identify telephone.

## **17.Call forwarding.**

Operation for enable: \*#81 abc (at direct outward mode)

Operation for disable: \*#81# (at direct outward mode)

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

Remark: (1) Input “\*” at first if the extension in direct outward mode.

(2) After successful setting, you can hear a beeper. ”abc” is the current extension number .

(3) This setting cannot save if the system power off.

## **18.Call busy transfer**

Operation for enable: \*#82 abc (at direct outward mode)

Operation for disable: \*#82# (at direct outward mode)

Description: When an extension is busy allow it to transfer incoming calls automatically to another extension.

Remark: (1) Input “\*” at first if the extension in direct outward mode.

(2) After successful setting, you can hear a beeper. ”abc” is the current extension number .

(3) This setting cannot save if the system power off.

## **19.No disturbing**

Operation for enable: \*#83 (at direct outward mode)

Operation for disable: It will be disable automatically next time you pick up the phone.

Description: When an extension is setting to no disturbing mode, it will not ring.

## 20.Call all extensions (Emergency call)

Operation: \* # 88

### Troubleshooting

BREAKDOWN	CAUSE	SOLUTION
Running light malfunction	Power off	Check the power socket and Power supply
No sound from extension	Disconnected wiring or malfunction of telephone.	Reconnect the wiring or try to remove the telephone's failure
Cacophony	Bad connection	Screw down the joint
	The distributing of line is not reasonable	Leave telephone from the disturbing source
Bad tone	Mix using of non-standard telephones	Use the standard telephones
No incoming telephone display	Devoid function of incoming telephone display	Write application to telecommunication office
	Wrong setting of No-disturbing and it status.	Rescind the No-disturbing and set incoming telephone display
Dial-out malfunction	Exterior line disconnected	Connect to the exterior line
	Exterior line is not connected well	Check whether the line is connected well
Limited calling time	Time limited	Rescind the limit
Cannot program the telephone	Wrong coding	Check the programming extension and use the right code
Others	Others	Refer to professional

## Technical terms

N-----Sequential number of the extensions (01-16 with corresponding input ports 601-616) (two digits)  
M-----Sequential number of the exterior line (No.1-8 with corresponding input ports of Line 1- 8)  
xxxx-----4 digits of programming codes on host extension  
abcd-----Number of the extension(1-8999,except for the digits with the first digit of 0 or 9,in equal length)is accordance with N.  
QQ-----First-digit limitation group number (01-16)  
ABCD-----Licensed or limited number of first 1-4 digits, end for #  
L-----Service grade  
PP-----License Group Number (01-16)  
TT-----01-99,minutes  
UVwww-----6 digits of portable passwords, UV stands for sequential number (01-16,fixed), www stands for 4-digit password, which can be setup.  
Kk-----two digits will be added in your dialing number  
YYMMDD-----YY-year(00-99),MM-month(01-12),DD-date(01-16)  
Hhtt-----hh-hour(00-23),tt-minutes(00-59)

## Default settings

Operating mode -----operator mode  
Ringing extension-----602  
Trunk line grouping-----no setting  
Restriction class -----class 2  
Restrict outgoing digits-----no  
C.O line-----1-4  
Extension numbers-----601-616  
Dialing out mode-----dial "9" or delayed for outgoing call

## System Programming Instruction

<b>Index</b>	<b>System functions</b>		<b>Codes</b>
1	Restore the default setting		0000#
2	Change password		09 XXXX #
3	System date time setting	year/month/date	01YYMMDD#
		hour/minutes	02HHTT
4	Set active charge delay time		03 TT#

5	Clear the charge list		0400#
6	Extension alarm time setting	Clear all extensions' alarm	05#
		Clear alarm time setting of extension N	05N#
		Set alarm time of extension N	05NHHTT#
7	Operator mode	All exterior lines are operator mode	11#
		No M exterior line is operator mode	11M#
		All exterior lines are Auto-attendant mode	10#
		No M exterior line is Auto-attendant mode	10M#
8	Recording outgoing message	paragraph1	121#
	Recording outgoing message	paragraph2	122#
	Recording outgoing message	paragraph3	123#
9	Monitoring the recorded message	paragraph1	131#
	Monitoring the recorded message	paragraph2	132#
	Monitoring the recorded message	paragraph3	133#



10	Monitoring the holding music		1 4 #
11	Operator setting		15N#
12	Auto-attendant mode no answer process Add digits for intercom CID	Release the exterior line	160#
		Transfer to operator	161#
		Disable	180#
		Add kk in intercom CID number	180kk#
13	Setting dialing out mode	direct outgoing N	2N0#
		indirect outgoing N	2N1#
		all extensions direct outgoing	20#
		all extensions press 9 for outgoing	21#
14	C.O Line Ringing Assignment	Enable one extension	3MN0#
		Disable one extension	3MN1#
		Disable all	3M#
15	Setting service grade	set service grade is the grade L of extension N	40NL#
16	Setting restriction Group A	all extension are grade L	40L#
		Add	41 QQ ABCD #
		Clear all the call out limitation of initial of item A	41 #
	Setting restriction Group B	Clear the call out limitation of initial of item QQ in term A	41 QQ #
		Add	42 QQ ABCD #
		Clear all the call out limitation of initial of item B	42 #
		Clear the call out limitation of initial of item QQ in term B	42 QQ #

17	Assign special calling number	Add	43PP ABCD #
		Clear all	43 #
		Clear the licensed first-digit of dialing-out of group PP	43 PP #
18	Private password setting	setting the extension No. UV' private password	5 UV WWW L#
19	clear private passwords	clear all	500#
		release the extension No. UV' private password	5UV#
20	Setting call duration for extension	Enable	6 N TT #
		Disable	6 N 00 #
21	Assign extension's access CO line right	Extension N can access CO line M	7 M N 0 #
		Not allowed extension N access CO line M	7 M N 1 #
		All extension can access CO line M	7 M #
22	Flexible extension number	change the number of extension N to ABCD	9 N ABCD #
		restore the factory setting	9000#

