来讯通信
NICEUC

Digital PBX / PABX System

NC-AD300X

User Manual

（All anolog version）

Foreword

The purpose of this manual is to supply operating, set up and configure with the information needed to properly and quickly set up and configure the NiceUC's NC-AD300X.

We had made every effort to ensure that the information in this manual is accurate and adequate.

If you use this manual when you encounter any problems and have any good suggestions , please contact us:

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Chapter 1 Product introduction

1.1 System Introduction

NC-AD300X Programmable Digital PABX is designed and manufactured by Niceuc Communication, with its plug-in module structure, combined with E1, FXO and FXS access port, can flexibly configured for different requirement, also NC-AD300X provide CTI control interface, supporting SS7, ISDN PRI, V5 signaling, can be programmed for call center and other value-added business.

AD300X use the plug-in hardware structure, with flexible configuration and scalability, the powerful Arm 9 serial CPU can handle a large number of independent tasks, reducing the burden on the main board, increasing the overall call handling capacity.

1.2 Specification

Main feature

- Support SS7, ISDN PRI, V5.2, SS1, R2 Signaling
- Flexible route management, inter-office management, Intelligent router distribute and telephone traffic sharing
- Grouping switching management
- User identifier, can provide black and white name list or connect to the database
- Powerful calling function to provide customize calling mode.
- Voice management function with voice record and voice play
- Calling number and called number modification
- Provide CTILink API interface for user program control
- Conference call resources

PABX function

- Convenient and Flexible Coding: extension can set different prefix and different number

- Adding/changing prefix
- Multiform new operation: Leave Transfer, Don't disturb, Call Protection, call Transfer, Act for Pick-Up, Act for dialing, busy call back, Wake-Up Service, Hot Line Service and so on
- Call restriction with different level setting
- Interactive Voice Response

Main resources

- 64 MFC receive and send
- 64 Voice codec
- 64 Conference call
- Embedded 4 E1, E1 can be expanded with plug in module
- Maxima support 192 FXS (can be replace by FXO by different module)
- Signaling support：No.1, NO.7, ISDN-PRI（Q.931）, V5.2
- Environment
  - Temperature：0℃－50℃
  - Humidity：20－80% relative
- Power：DC-48V, with 220VAC to -48V DC adaptor
- Size and Weight
  - Dimension：6U height，19 inches width
  - Weight：Depends on different configuration

1.3 Parts information

Part number	Description	Notes
NC-S0001	6U chassis	Must
NC-S0002	220V AC to -48V DC adaptor	Must
NC-S0003	Main control board	Must
NC-S0004	Power supply board	Must

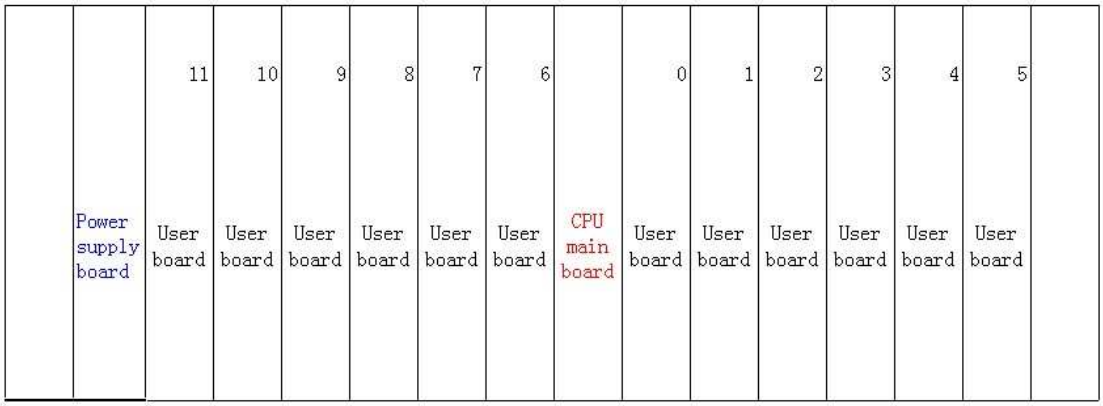
NC-S0005	Network board	Must
NC-S0006	Mother board	Must
NC-S0007	User board (16 FXS or FXO)	Optional
NC-S0008	E1 board (8E1)	Optional

Chapter 2 Hardware introduction

2.1 Overview

AD300X is a 6U hight box-type structure, wide 19-inch. The motherboard can have 12 user boards, 1 CPU board, 1 power supply board, 1-48V power supply connector, 4 E1 interfaces, 1Console port, one LAN port, three Ethernet port. The user board can have analog board and digital E1 board, for digital E1 board, each board can support 8 E1, for analog board, each board can support 16 subscribers.

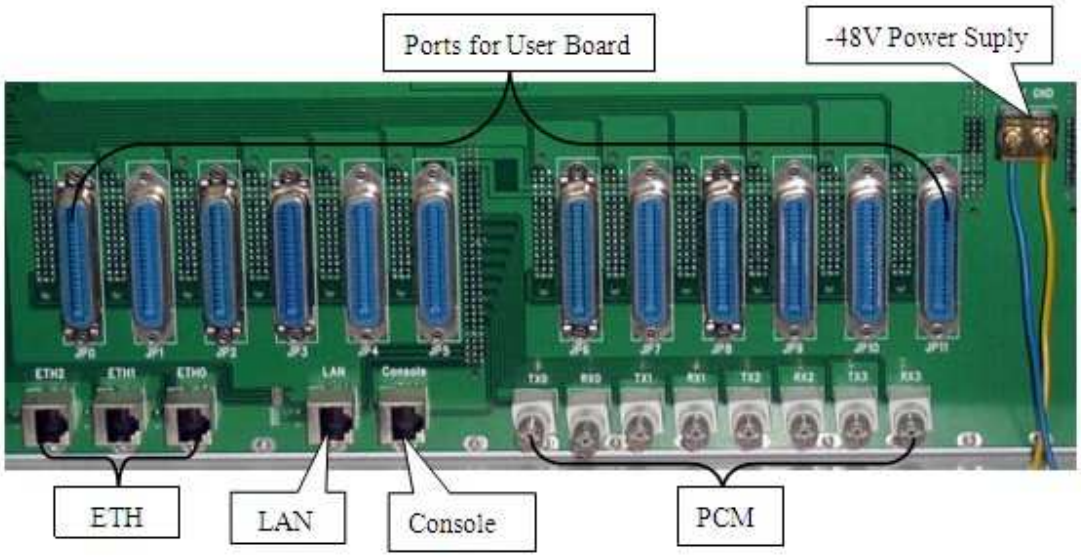
Front panel diagram is as follows:



The middle is the CPU board, near the CPU board are analog boards to connect analog lines. On the left is the power board. Analog board serial number is as shown above, to the right is from 0 to 5, to the left followed by 6 to 11.

2.2 Interface description

All the connect interface is in the back panel of the equipment, as the diagram below:



Position of E1 ports are as follow:

PCM0		PCM1		PCM2		PCM3	
TX0	RX0	TX1	RX1	TX2	RX2	TX3	RX3

PCM connector is DB36;

Console port is for the configuration with RJ45 connector, date rate is 115200.

Eth0 is 10/100Base-T Ethernet port to meet IEEE802.3, connector is RJ45.

LAN is the port for net work.

Eth1and Eth2 is useless when the AD300X support analog subscribers.

Each user board have 16 line suberscribers, the position of user board as below:

back	JP0	JP1	JP2	JP3	JP4	JP5	JP6	JP7	JP8	JP9	JP10	JP11
Front	5	4	3	2	1	0	6	7	8	9	10	11

For each port, we will provide the cable to connect, and the wire colors inside the cable represent the subscriber number.

The chromatogram of each cable																
Line from 1 to 16	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1st color	y	y	y	y	b	b	b	b	r	r	r	r	w	w	w	w
2nd color	br	g	o	bl	br	g	o	bl	br	g	o	bl	br	g	o	bl

Remark: y---yellow, b---black, r---red, w---white, br---brown, g---green, o---orange, bl---blue;

The way to get the sequence of subscriber lines:

First check the map, to get the number on this user board, and then check the poison of the user board in AD300X.

For example, the number in the map is A, and the position of the user board is B, then the final number of this subscriber line will be: C=B×16 + A

Suggestion: when install the subscriber user, please install it from small number to bigger.

Indication of the LED in front of the panel is as below:

Power supply board:

Name	Indicate	Normal	Abnorma	Notes
Ring	Ring currency status	On	Off	Status for anolog
-48V	-48V stauts	On	Off	Power for analog
+5V	+5V status	on	off	Power for CPU board

CPU Board:

Name	Indicate	Normal	Abnorma	Notes
PWR	Power status	On	off	Check power supply
Run	Run status	blink	No blink	Equipment start up
Link	Net status	on	off	If net work connect
100M	Net speed			
L0	PCM0 indicate	Off or on	blink	If E1 connection is OK and signal configuration
L1	PCM1 indicate			

L2	PCM2 indicate			
L3	PCM3 indicate			

Analog User Boards:

Name	**Indicator**	**Normal**	**Abnormal**
Ring	Ring currency status	on	Off
-48V	-48V status	on	off
5V	5V status	on	Off
3.3V	3.3V status	on	Off
0	This will map to the status of 16 subscriber lines using status, on indicate is using and off is indicting not use.		
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Chapter 3 Installation

3.1 Prepare before installation

3.1.1 Accessories

Accessories List		
Name	**Quantity (PCS)**	**Remark**

Power cable	1	
Console cable	1	
Network cable	1	Cross connection
Coaxial cable	4	
Analog cable		Based on requirements
CD-Rom	1	

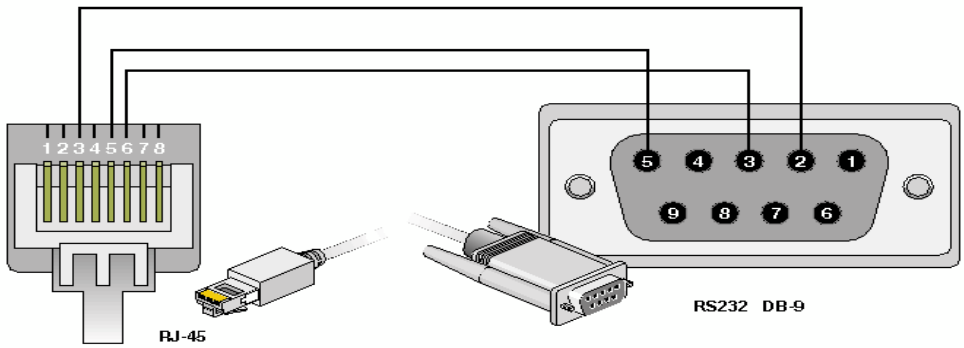
3.1.2 Tools

Essentials: Screwdriver, Wire Cutter.

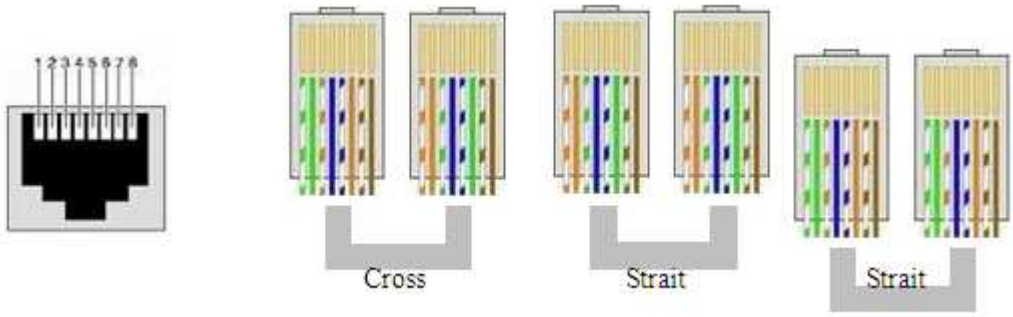
Optional: multimeter, soldering iron, solder wire, knives, pressure pliers, needle nose pliers, etc.

3.1.3 Cables

Console cable:one side is RJ45 to connect to the equipment, the other side is RS232 DB9 female head, connect to the serial port of computer.



Network Cable has two kinds of crossover and straight-through. If the equipment and computers directly connected need to use the crossover cable. If the connection goes through HUB, please use the straight-through cable. RJ45 network cable at both ends of line sequence as shown below:



3.1.4 Environment requirement

a) Power supply

Voltage should be constant, the current should be sufficient; the power can not have too much clutter and interference.

Power supply	UPS or power supply	
Standard value	220V AC	48V DC
	130V～250V	－48V±15％

b) Grounding requirements

The engine room must have a good grounding, have a separate room protected. Room of the lightning protection system should be a separate system, its grounding system and used as a reference to the power system and protected room is not shared.

c) Temperature, humidity

To ensure the equipment works, and to extend the service life of the equipment, equpment room need to maintain a certain temperature and humidity. If the room humidity is too high for a long period, could easily lead to bad insulation or insulation leakage, and materials, mechanical properties will be easy to corrosion of metal parts; if the relative humidity is too low, causing the shrinkage and loose of insulating gasket, in the dry weather conditions, but also prone to static electricity, against device electronic; if the temperature is too high will accelerate the aging process of insulating materials, so that the reliability of the device greatly reduced, seriously affecting their life.

d) Others

Dust is a big danger for the safe operation of equipment, it is lead to electrostatic adsorption, the metal connectors or metal contacts being exposed, not only will affect the service life, but also easily lead to communication failures. When the indoor relative humidity low, the easier to produce this electrostatic adsorption. Therefore, dust needs to be done.

Despite the anti-lightning equipment has done a lot of considerations, but also taken the necessary design and measures, but the lightning intensity over a certain area, it is still possible to cause damage to equipment. In order to achieve a better lightning effects, it is recommended users: Ensure the equipment chassis of the protected areas with the protection of ground to maintain good contact with the earth.

To enhance the power of the anti-lightning effect, can be considered the input front-end to join in the power supply arrestor, so that power can be greatly enhanced the ability of anti-lightning strike.

Qualify for the equipment itself by the user interface to connect to the outdoor signals, such as telephone lines, E1 lines, in order to achieve better anti-lightning effect, users may wish to consider the input of additional signal lines dedicated lightning devices.

Also need to note that electromagnetic interference, with particular attention to anti-static. When the observation or the transfer of the demolition of the circuit board, please contact the circuit board by hand the outer edges to avoid touching the circuit board by hand directly to components.

3.2 Installation Steps

Fix the Equipment first, then connect the power cord, turn on power switch, observe the led in front of equipment are normal. If normal, connect console cable, network cable, and configure the operating parameters. If use E1 interface, then connect the coaxial E1 cable, and pay attention to the corresponding synchronous LED signal, if red, try to switch TX and RX to see the LED color changing. Finally connect the subscriber user lines to the phone.

3.3 Installation Notes

1. Don’t connect PSTN line to FXS port, otherwise will cause the FXS module damage

2. Must have good grounding resistance less than 5 ohms, preferably less than 0.5 ohms.

3. Make sure all the cable connection be fixed enough and no loosen contact

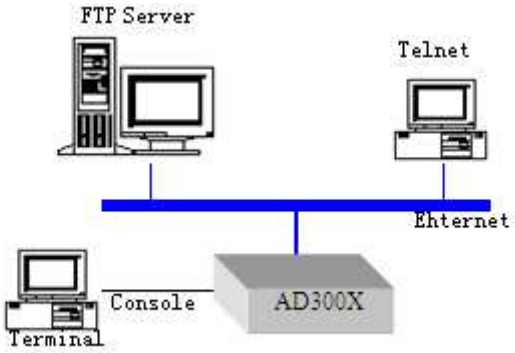
4. Don’t put too much force to pull out the cable otherwise will cause damage to cable connectors.

Chapter 4 Basic configuration

AD300X can be configured by 2 ways:

1. Through Console port to connect with PC.

2. Through Ethernet using Telnet programmer.



But before using Telnet, the IP address of equipment need to know and make sure the network is connected ok.

4.1 Terminal Connection

When connect with equipment through console port, you need to run a super terminal. In the Windows System, usually there is a commonly used "Super Terminal". Or you can also use any other terminal software, recommend to use "SecureCRT". For how to set up "super terminal" please read the reference part II.

When use console port, the configuration of terminal parameters is as shown:

Baud Rate	115200
Data bit	8
Parity	None
Stop bit	1
Flow Control	None

when use telnet to connect through the Ethernet services. In the Windows system, click "Start" menu, select "Run", type "telnet device IP address" , You can also use other third-party software, such as SecureCRT. By default, telnet login user name is: admin, password is: nice.

Note: Console port and telnet connection can only be one at the same time. When telnet connection, Console port session will be limited until the telnet connection stopped, Ethernet can only connect when console connect has been stopped.

4.2 Command States

The equipment has two states, the normal running state after startup and boot state when startup is interrupt.

4.2.1 Boot State

When the device starts, if it has been connected to the terminal, you can see the start of the initialization information.

When the Press any key to stop auto-boot ... are prompted to wait for a few seconds delay, then press any key can stop the system start up and goes to boot state, and "[Boot]:" prompt will be shown.

In boot state, the equipment is waiting for the basic parameter change such as network parameters, boot methods.

4.2.2 Running state

After start up finished the Equipment will go to running state, the prompt is "->" "In PC terminal, you can view and modify the equipment operating parameters. Running a large number of functions under the command will be described later.

Note that all commands are case-sensitive.

4.2.3 From the boot state to running state

In boot state, after the prompt of **"[Boot]:"** enter **"x",** the equipment will be loaded from the Flash started into running state. If the FTP server has been configured, you can also type **"@",** the equipment will be start to load the file from FTP server.

4.3 Startup Parameters

4.3.1 Check boot parameters

If in the boot state, **"[Boot]:"** enter **"p" ;**

If in running state, **"->"** , enter" pboot " ;

boot parameter as follows:

boot device: at **the system boot device name**

unit number: 0 **Number of startup equipment unit**

processor number: 0 **number of processors**

host name: server **host name**

file name: 300x.st **loaded at startup from the network file names**

inet on ethernet (e): 192.168.16.94: FFFFFF00 **device itself IP address: Subnet Mask**

host inet (h): 192.168.16.85 **FTP host IP address of service**

gateway inet (g): 192.168.16.1 **Ethernet Gateway IP Address**

user (u): AD300X **connect FTP service user name**

ftp password (pw): nice **to connect FTP service password**

flags (f): 0x0 **boot parameters**

target name (tn): **name**

DeviceID: 0x0 **Device ID number**

4.3.2 Modify the boot parameters

If in boot state, **"[Boot]:"** type **"c";**

If in running state, **"->"** type **“cboot”;**

Instructions:

Type the new value directly behind the old value, enter the changes, and then move to

the next one.

Enter ".", Then delete the current content.

Enter "-" then return to the previous row to make changes. Enter "Ctrl + D", exit change.

Directly press enter, will move to the next one. boot device: at0 can not be changed

processor number: 0 can not be modified host name: server can be freely modified

file name: 300x.st according to the actual file name changes inet on ethernet (e): 192.168.16.94: FFFFFF00

Modification form must be filled, if not the subnet mask, default taken 255.255.255.0 host inet (h): 192.168.16.85

Upgrade by FTP software to use, usually do not need to modify

gateway inet (g): 192.168.16.1

Internet using to access the gateway address, depending on the network situation.

user (u): AD300X according to practical situation

ftp password (pw): nice according to practical situation flags (f): 0x0

Parameter values can be bitwise combination.

0x04 – go to the boot startup state, rather than running state.

0x08 - Quick Start to run state can not enter to boot state.

0x20 - Disable Telnet login account authentication.

0x40 - use DHCP to automatically obtain parameters.

0x80 - load the boot image from tftp.

0x100 - use proxy arp service.

0x200 --

0x400 – load from ftp to boot

0x800 - manually set the MAC address.

0x1000 - start the DHCP service.

0x2000 - use watchdog.

target name (tn): e3 can be freely modified startup script (s): must be empty

other (o): must be empty

DeviceID: 0x0 can be freely modified

Note that the modification will be effect after re-start up.

4.4 Device IP Address

4.4.1 View IP address

A) Ipconfig

Use the ipconfig command to query the device IP address for the primary user. Examples are as follows

-> Ipconfig

ip = 192.168.16.100: ffff0000

the device IP address "192.168.16.100", the subnet mask for the hexadecimal form converted to decimal as "255.255.0.0".

B) ifconfig

Use ifconfig command to query the device IP address for the primary user. Examples are as follows

-> Ifconfig

ip = 192.168.16.100: ffff0000

the device IP address "192.168.16.100", the subnet mask for the hexadecimal form converted to decimal as "255.255.0.0".

C) ifShow

Use ifShow command to view the device details of network parameters for advanced users. Examples are as follows

-> IfShow

at (unit number 0):

Flags: (0x8063) UP BROADCAST MULTICAST ARP RUNNING Type: ETHERNET_CSMACD

Internet address: 192.168.6.100

Broadcast address: 192.168.255.255

Netmask 0xffff0000 Subnetmask 0xffff0000

Internet address: 200.0.6.99

Broadcast address: 200.0.6.255

Netmask 0xffffff00 Subnetmask 0xffffff00

Ethernet address is 08:00:3 e: a8: 06:64

Metric is 0

Maximum Transfer Unit size is 1500

323677 octets received

213766 octets sent

4596 packets received

4066 packets sent

2387 non-unicast packets received

7 non-unicast packets sent

2209 unicast packets received

4059 unicast packets sent

0 input discards

0 input unknown protocols

0 input errors

0 output errors

0 collisions; 0 dropped lo (unit number 0):

Flags: (0x8069) UP LOOPBACK MULTICAST ARP RUNNING Type: SOFTWARE_LOOPBACK

Internet address: 127.0.0.1

Netmask 0xff000000 Subnetmask 0xff000000

Metric is 0

Maximum Transfer Unit size is 32768

0 packets received; 0 packets sent

0 multicast packets received

0 multicast packets sent

0 input errors; 0 output errors

0 collisions; 0 dropped

The above example, "inet on ethernet (e):" is the device behind the IP address, and the ifconfig command to see to the format, the device IP address "192.168.16.100", the subnet mask for the hexadecimal form of conversion into a decimal to "255.255.0.0".

4.4.2 Modify the IP address

A) cboot

Use cboot command to modify the device's IP address, operating process is as follows:

-> Cboot

'.' = Clear field; '-' = go to previous field; ^ D = quit boot device: at0 **Enter**

processor number: 0 **Enter**

host name: server **enter**

file name: 300x.st **Enter**

inet on ethernet (e): 192.168.16.100: FFFF0000 **Enter the new IP address + Enter**

inet on backplane (b): **Enter**

host inet (h): 192.168.16.50 **Enter** gateway inet (g): 192.168.16.1 **Enter** user (u): pbxe **Enter**

ftp password (pw) (blank = use rsh): nice **Enter**

flags (f): 0x20 **Enter**

target name (tn): e3 **Enter** startup script (s): **Enter** other (o): **Enter**

DeviceID: 0x0 **Enter**

Instructions:

In the current row directly type the new value, press enter to change, and then move to the next parameter.

Enter ".", Then delete the current content.

Enter "-" and return to the previous row to make changes.

Enter "Ctrl + D", exit changes.

Directly press enter, then move to the next one.

IP address format is still **IP: subnet mask,** for example the IP address need to be changed to 10.1.123.145, subnet mask as 255.255.254.0, then need to type the value as: **10.1.123.145: FFFFFE00**

Note that the modification will be effect after re-start up.

B) ifconfig

Use ifconfig to set IP address can be effective immediately.

Examples are as follows

-> Ifconfig "192.168.16.105: FFFF0000"

ip set 192.168.16.105: ffff0000 ok

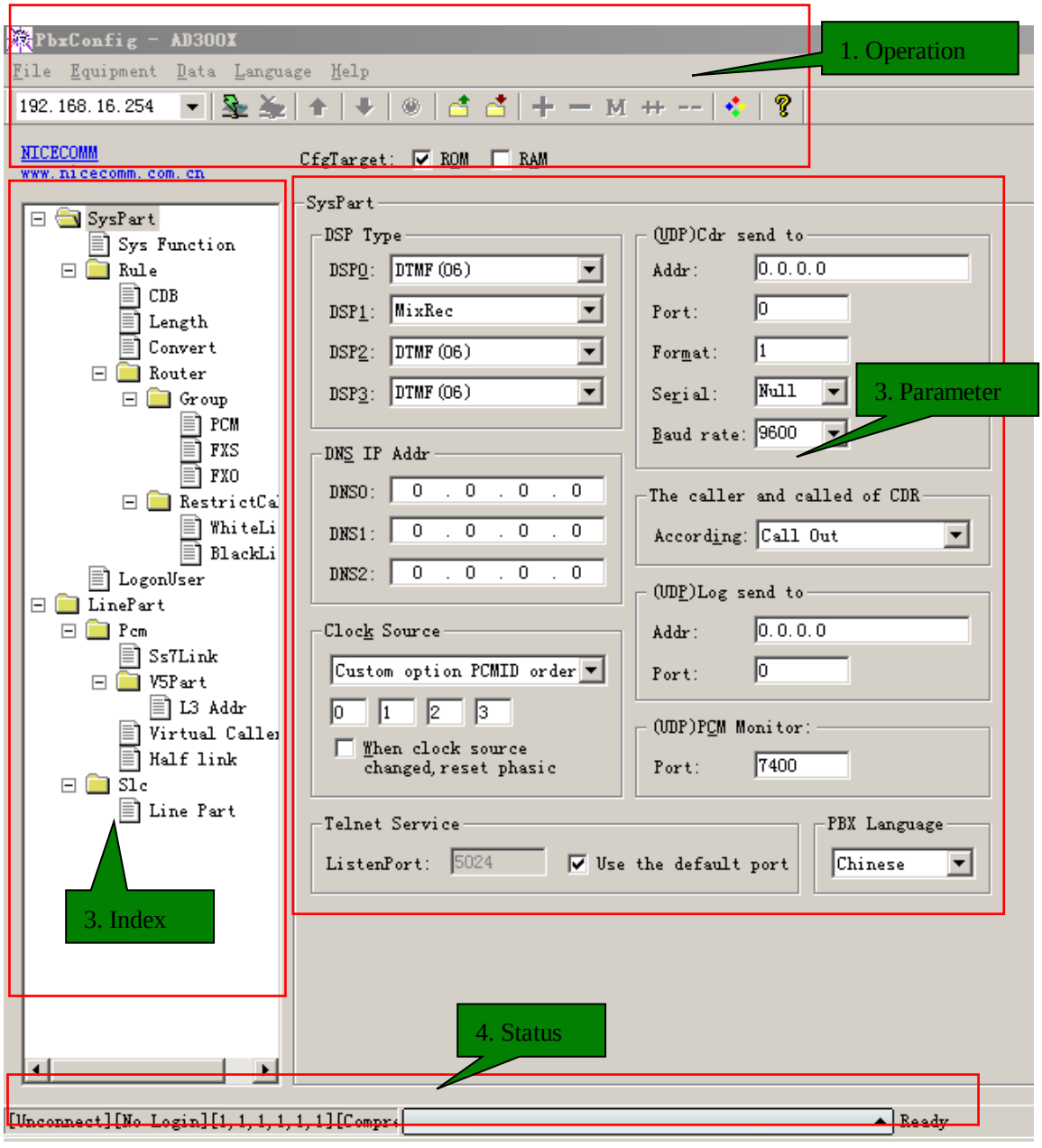
The example set IP address "192.168.16.105", the subnet mask for the hexadecimal form

converted to decimal as "255.255.0.0". ok means modification has been finished.

Chapter 5 Software configuration

5.1 Tools

Run the tools of WGConfigX.exe， the tools looked as below:



Interface divided into four areas,

1. Equipment operation, **including** menus and toolbars.

2. Parameter index is the device operating parameters of a classified index.

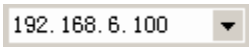
3. Parameters value displays the current parameters of the index of specific parameters.

4. Message showing relevant operational status and results.

5.1.1 Connect device

First, fill in the correct **device IP** address, and then click  Button or in the **"Device"** menu, select **"Connect."** If the connection is successful, IP address bar will turn into gray, such as  , At the same time, the status bar will show "Connect".

5.1.2 Disconnect

Click  Button or in the **"Device"** menu, select **"Disconnect."** If successful disconnect, IP address bar will restore inputable, such as  , At the same time, the status displays "Not Connected."

5.1.3 Read device parameters

After a successful connection, point  Button or in the **"Device"** menu, select **"read."** Will be prompted to enter a user name and password.

The default user name admin, password is nice.

If the parameter was successfully read, read out all parameters will be prompted to complete.

For this operation, you need to pay attention **"to read and write target"** option. **ROM** is like a computer's hard drive, **RAM** is the computer flash memory, can only choose one of them.

5.1.4 Write device parameters

After a successful connection, point Button or in the **"Device"** menu, select **"Write."**

If you write to the success of all the parameters will be prompted to write to finish.

Write operations, you need to pay attention **"to read and write target"** option. Write **ROM** data is not lost after power-down, write **RAM** data will be lost after power-down, but some parameters can take effect immediately (without restarting equipment with immediate effect). Also proposes to select the ROM and RAM in the same time for write operation.

5.1.5 Load Parameters

Device parameters can be saved as a text file form. The text file can be loaded into the device, commonly used to restore the backup configuration. Point Button or in the **"File"** menu, select **"Import."**

Note that the import operation is just the parameters loaded into the buffer configuration tool, and not written to the device.

5.1.6 Export Parameters

Device parameters can be saved as a text file. This is mainly for the back up the configuration

of the devices. Click  Button or in the **"File"** menu, select **"Export."**

Note, remember to read the the device configuration before do the export action.

5.1.7 Reset Device

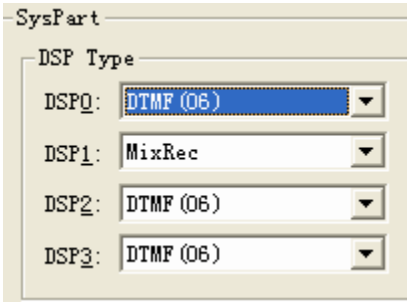
Click  Button or in the "Device" menu, select "Reset", the equipment can be reset.

When modify parameters, it is recommended to read out the parameters of the device and import to back up first, and try to back up for each modification to avoid mistake and can not be recovered.

5.2 Operation Configuration

5.2.1 DSP function

DSP function is the essential function of the device must be properly set up, In the left side of configuration tool click"system parameters" index, and modify the parameters in the right side.

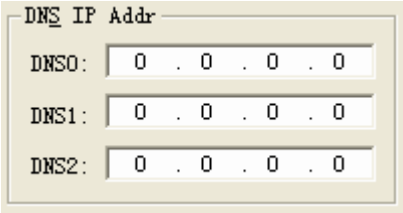


Usually AD300X have two DSP. Therefore only DSP0 and DSP1 need to be defined. For DSP0, we must select MFC/DTMF06 to handle user key presss, the DSP1 will be selected base on actual need.

After completion of editing, write to ROM and restart the device to take effect.

5.2.2 DNS Configuration

When the device needs to access domain name, you need to use Domain Name Service, AD300X can configure up to three DNS server addresses. In the configuration tool on the left of the interface click "system parameters", on the right side to modify the parameters.



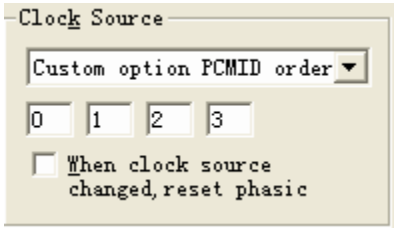
After completion of editing, write to ROM, restart the device to take effect.

5.2.3 E1 Configuration

If you need to use E1 lines, then the configuration of E1 is necessary.

5.2.3.1 Clock Source

E1 clock synchronization signal needs to be unity for working properly. AD300X itself does not provide the clock source, but it can get the clock from other side through E1.



Usually get the clock source through PCM0.

After completion of editing, write to ROM, restart the device for effective.

5.2.3.2 E1 Property

Set the relevant properties of PCM. In the INDEX area select the "PCM", Pamameter area shows as below:

PcmID	Slots	Impedance	CRC4	SignalingType	SignalingParticular
0	-1.0	120 ohm	Disable	ISDN PRI	NetSide, MfcValDelay:4000, Normal
1	-1.1	120 ohm	Disable	ISDN PRI	NetSide, MfcValDelay:4000, Normal
2	-1.2	120 ohm	Disable	ISDN PRI	NetSide, MfcValDelay:4000, Normal

PcmID, PCM's number, see the hardware description.

Line impedance, E1 lines using coaxial cable connection typically use two kinds of 120-ohm or 75 ohm impedance. AD300X using a 75 ohm, so there should be fixed at 75 ohms.

CRC4 check, physical frame of the 4-byte cyclic redundancy check. Normally enable.

Signaling type, set the signaling type of PCM. AD300X supports the following signaling.

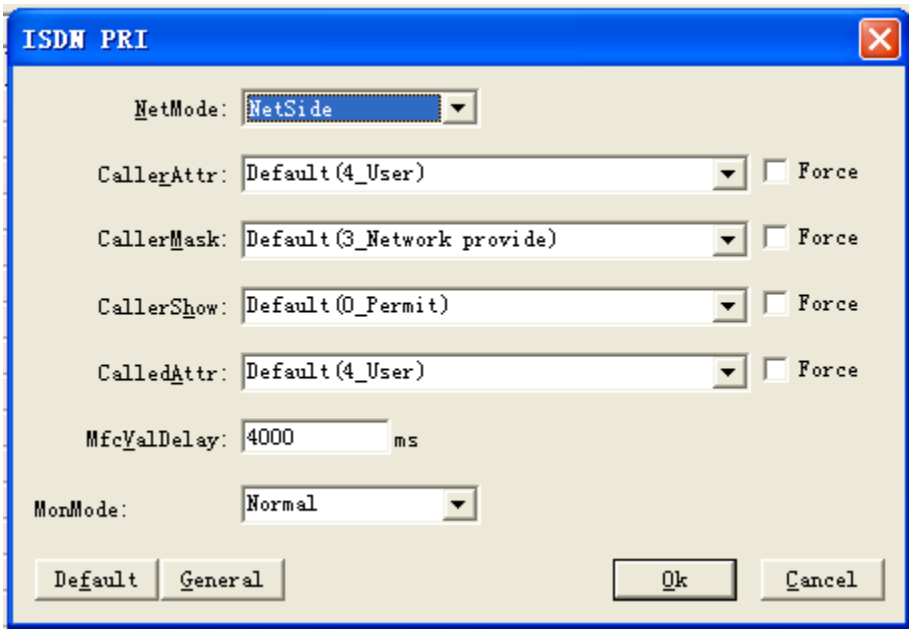
A) ISDN PRI, or Primary Rate ISDN (Primary Rate Access), also known as Digital One (DSS1) signaling, the domestic usually 30 B channels plus one D channel (30B + D) approach.

B) SS7 signaling, SS7 signaling is a common international standard for common channel (Common Channel) signaling system, which uses a layered functional structure and message communication mechanism, the most suited for the use of modern digital communication network.Currently AD300X support TUP (Telephone User Part) and ISUP (ISDN User Part).

C) V5.2, to connect AN (Access Network) access network and the LE (Local Exchange) the local exchange network V-interface.

Signaling parameters, signaling related to the detailed parameters.

ISDN PRI signaling has the following parameters:



Network mode: two options, the network side or user side. There can not be the same at both ends.

Calling attributes, caller screening, caller display, called attributes, set the number of properties, usually select the default value.

MfcVallDelay: When receiver number, if the number is passed by bit, will wait this value of

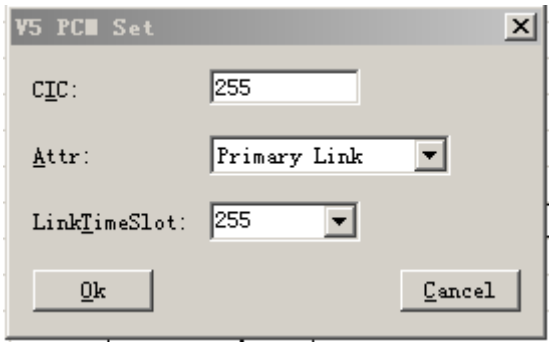
ms(second) for next bit. If longer than this time but did not receive next bit, then the number receiving has been completed.

On the SS7 signaling parameters are as follows:

Link ID, the Link ID in this PCM , see description of SS7 link in later chapter, SS7 link should be added before configuration the SS7 parameters.

CIC, the time slot number in each E1, This CIC number is the number of E1, number of time slot in this E1 will be automatically increased. For example, CIC set to 0, then time slot 0-31 in this E1 will be from 0 to 31; if the CIC set to 1, then the time slot 0-31 in this E1 will be numbered from 32 to 63; If the CIC set 2, then the time slot 0-31 in this E1 will be numbered from 64-95; and so on.

MaskTimeSlot: will mask this timeslot to be non-exist. V5.2 signaling parameters are as follows:



CIC: identity V5 within the PCM-link a logical sequence of numbers, both sides must be consistent.

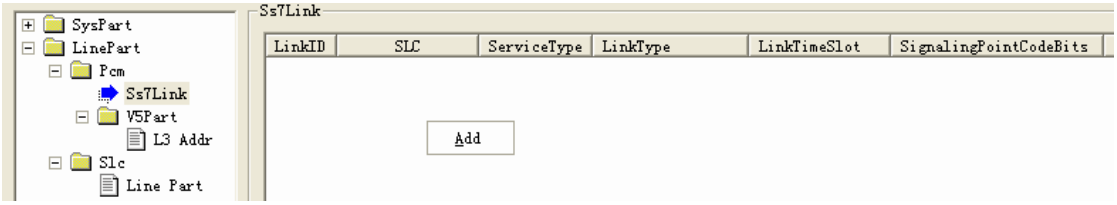
Attr: to specify the primary link, 2nd link or no link.

Link time slot: designated which time slot is C-channel. When you select no link, unused slots can be blocked.

After completion of editing, write to ROM, restart the device for effective.

5.2.3.3 The SS7 Signaling

For use of signaling SS7, you must first add the link parameter. In Index area select SS7 signaling, right click mouse button to add a new SS7 link in Parameter area.



This Can also be done in the "Data" menu, select "Add", or click on the toolbar Button to add a link. Once installed, then modify the parameters one by one.

Link ID, Internal index number for SS7.

Link Code (SLC), the logical link number, must be consistent with the SS7 equipment on other side. Click to Edit.

Business types, currently supports two kinds of **TUP** and **ISUP.** Click to select.

Connection method, specify the link where to connect. Click to select.

No, that there is no link connection, this link is invalid.

Hand Link, the link is from E1.

Netclient, get ss7 link from SWGIP

NetServer, forward SS7 link data through Ethernet (service side).

NetworkServerAndClient, including "NetClient" and "netserver" for cascading multiple devices

SGW, connection from the PCM link, and transfer it to network for secondary development.

Link time slot, which time slots have the SS7 link.

Signaling point code-bit length, specify the length of the signaling point codes. Usually 24-bit for domestic and international use 14-bit.

Signaling point code, SS7 signaling code, in the format XXX-XXX-XXX.

Backup link slot, If use 2 SS7 link to back each other, time slot for the back SS7 link.(load sharing).

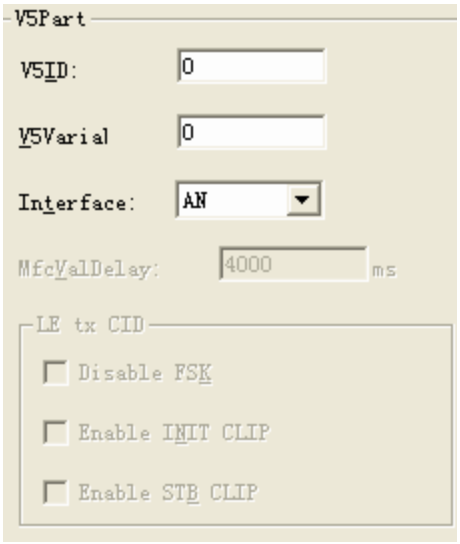
Caller category, caller attributes, caller screening, caller display, called attributes, specify the number of attributes called the primary, usually select the default value.

MfcValdelay, if calling number is received by-bit, over this time the receiving will be finished.

After completion of editing, write to ROM, restart the device for effective.

5.2.3.4 V5.2 Signaling

When using V5.2 signaling, the need to set the link parameters of V5. AD300X maximum support one dirction , two links. Goes to "V5.2 signaling" and see below parameters.

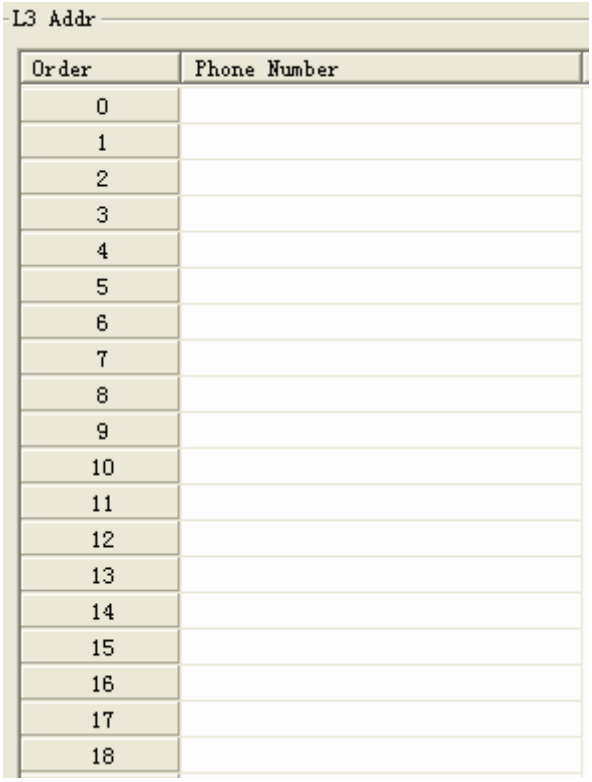


V5 variable and V5ID are the main parameters that must be consistent with the other side. After completion of editing, write to ROM, restart the device for effective.

L3 address, is EFaddr types of PSTN signaling or control protocol message in the third layer of the address.

The aim is for the user port or public control functions provide a unique reference.

Goes to "L3 address" see below L3 address table.



One Phone number is corresponding to one address. In the "Phone Number" column on the right-click pop-up menu can be "incremental", "decreasing" or "Batch Edit" number of the table.

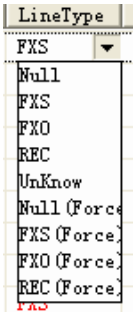
After completion of editing, writing to ROM and RAM, can be effective immediately.

5.2.4 Analog Line Configuration

Analog circuits must be configured correctly, so user can make calls.

5.2.4.1 Line Type settings

Analog circuit is divided into inner (FXS) and outside (FXO) two kinds. Select "analog line" below the "line parameter" appears on the right analog line parameter table, in the **Line Type** column, click in the pop-up list, select the correct type.



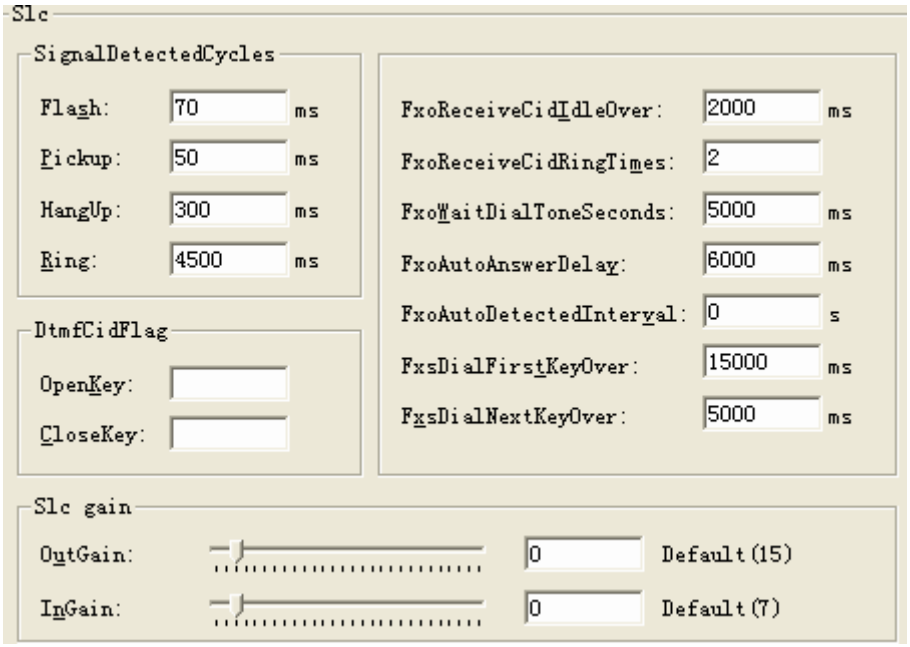
Device will automatically recognize the line module at startup. If automatically recognize failed, select the right line type base on this selection menu.

If you are using a Force type, such as "FXS (forced)", it will not automatic recognize.

After completion of editing, write ROM, restart the device to take effect.

5.2.4.2 Analog Signal Set

Adjust the analog signal parameters can make equipment better adapt to the environment and stable operation. Goes to "SLC" in the Index area see the basic parameters as below:



In the part of SignalDetectedCycles: HangUp = 30 ms means that hook after 300 milliseconds the line will be in the status of **hanging up, pickup**=50 ms means that after 50 ms that pick up the line status will be pick up. Flsh=70ms means if the hook up time is larger than 70ms and less than 300ms, the hook acation will cause the line status change to flash. **Ring=4500ms means the ringing** period is 4500 ms.

FxoReceivCidIdleOver: When call is incoming through analog trunk (FXO), the device will detect it and receive Caller ID (CID). If the FXO ringing time over this time interval (which has become a normal ringing) will be judged to have been finish the CID receiving. If less than or equal to 200 milliseconds will not detected FSK CID. Recommended value: 2000. fill the value of 0 will be the default values: 2200.

FxoReceiveCidRingTimes: If after FXO rings this value times but CID have not yet received, the action will be stopped. Recommended value: 2, fill in 0 to take the default value: 2.

FxoWaitDialToneSeconds: When call out through analog trunk (FXO), you need to detect the dial tone in order to call out. If more than 5000 milliseconds have not yet detected dial tone, then stop to detection; If this value is less than 2000 milliseconds, don't do dial tone detection, line will be

call out after the time value equal to **FXOAutoAnswerDealy**

FXOAutoAnswerDealy: when call out FXO, if this value is 0, indicating only polarity reversal signal is detected then connected, if it is (1 ~ 9), indicating a direct connect (not detect polarity reversal, nor delay.); if equal or greater than 10, then the delay specified milliseconds to automatically connect. For example, as here, fill in 6000, then delay 6000 milliseconds to connect.

FXOAutoDetectedInterval, you can set a long time to detect FXO lines, 0 means not detected.

FxsDialFirstKeyOver, if user pick up phone but no dial-up, after this vlue then the line will be busy. Set to 0 will always wait no busy.

FxsDialNextKeyOver, if user pick up the phone and dial number, but more than this time no more button pressed, then device think the dial-up has been completed. Set to 0 will be always waiting and no time out

When the **FxsDialFirstKeyOver** and **FxsDialNextKeyOver** are set to 0 at the same time, AD300X

will not process and called number but directly route to the other side.

After completion of editing, write to ROM and RAM can be effective immediately.

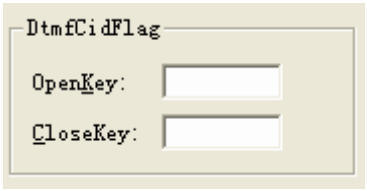
5.2.4.3 Call Detection Settings

When the line type is FXO, you can specify whether you detect DTMF. If you do not detect

DTMF

caller, the default detection is FSK. In Index area select "Line Part" goes to "LineProperty" to see the table.

When you need to determine the beginning and end of DTMF call signs, in the "analog line" parameter setting page as below:



Flag can only be one of the symbols in the "ABCD * #".

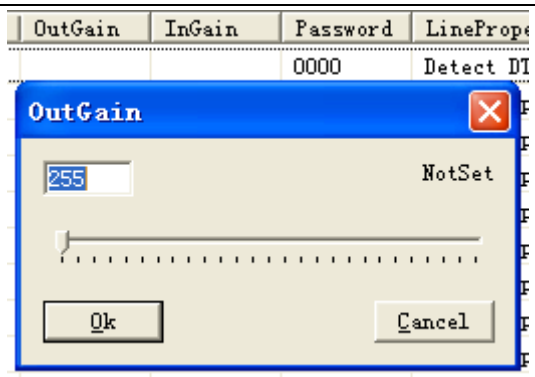
After completion of editing, write to ROM, restart the device to take effect.

5.2.4.4 Line Volume Set

In the "SLC" parameter page, you can set the circuit gain and attenuation.

Move the slider to the right to increase volume, move to the left to decrease. OutGain corresponds to the voice heared by other side, inGain corresponding to the volume of this side.

The “line Part”, you can set the volume for each line, such as:



After completion of editing, write to ROM and RAM to be effective immediately.

5.2.5 Call Control

In Index area select “Rule”

First need to group the same type of interface, as shown below:

Rule

Order	LineType	LineRange (Sta...	LineRange (E...	LengthRuleID	ConvertRuleID (In)
0	Trunk	0	32	0	255
1	SlcFXS	0	65535	0	255
2	SlcFXO	0	4	0	255

Right click in the table, pop-up action menu, can add and delete. User Can also goes to "Data" menu operation. Or use the toolbar + − M ++ -- Button operation.

Once added, first select the "Line Type", then select line range (Note that the end value of LineRange is excluded), at last select the rules for these LineType.

Rules including Length rules, number conversion rules and routing rules. Number conversion rule can be applied to call in and call out. Each rule table can define multiple groups, each group there are multiple rules.

Note that the call in and call out is base on the AD300X itself

5.2.5.1 Length Rules

When the AD300X is receving the caller ID, we need to determine the length of each number. In

Index aera , select "SysPart->Rule->Length" will see the length table in the right, Use "Data" menu or toolbar, or right-click menu, to add the length table.

LengthRule

RuleID	Grade	SID	ThisLength	MinLength	MaxLength	FindingResult
0	0	**		4	20	Finded, End
0	0	*8		2	0	Finded, End
0	0	*90		5	0	Finded, End
0	0	?	0	1		Continue to find, Next length:8
0	1	17909	5	0		Continue to find, Length unknow
0	2	0755	4	3		Continue to find, Next length:7
0	0		0	0		Continue to find, Length unknow

Length rule to search the caller ID by divided it into several parts, maixma 8 parts. Fisrt to match it with the smallest grade, if the "FindingResult" is "Finded, End", then the search stop, otherwise, to subtract ThisLength for alreading found, and continue searching for next part. If you can not find

match for the next part, then number will be the "default length of the follow-up," or serch failed if this value not be set.

See figure above configuration, for example, in RuleID 0, when called number is

17909075526520000 then search process is as follows: First, check rules in grade 0, SID = ? (SID = surfix of caller ID), ? = all numbers), "The length" is 0, and FindResult is Continued to Find, Next Length = 8, then keep searching in grade 1, in grade 1 there is a rule SID = 17909, match with this caller ID, "ThisLength" = 5, and FindingResult is “Continue to Find, Length unknown”, so thisLength will be cut, the number will change to 075526520000, and we keep searchingi n Grade 2, SID = 0755 to match with the number.

5.2.5.2 Routing Rule

In Index area, select "SysPart->Rules->router" to see the router table, Use "Data" menu or toolbar, or right-click menu, to add and delete the table.

RouterRule

Secondary router ☐ Trunk ☐ Slc ☐ Voip ☐ Wireless

RuleID	Priority	SID	Action	Sequence	Description	Attr	WhiteI
0	0	90	TransToFXS	0	Match IntCaller		
0	0	0	Queuing	0	Group:0, Sequence		0
0	0	?	OPR	0	Play welcome pr...		

The following for a detailed description of each parameter

RuleID, specify which group belongs to the routing rules.

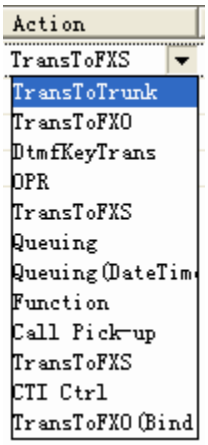
Priority, specify the priority of routing rules, will be related to the priority of analog circuit

parameters in the SLC->Line Part table.

SID, the Prefix of the calling number. The conditions to make judgement.

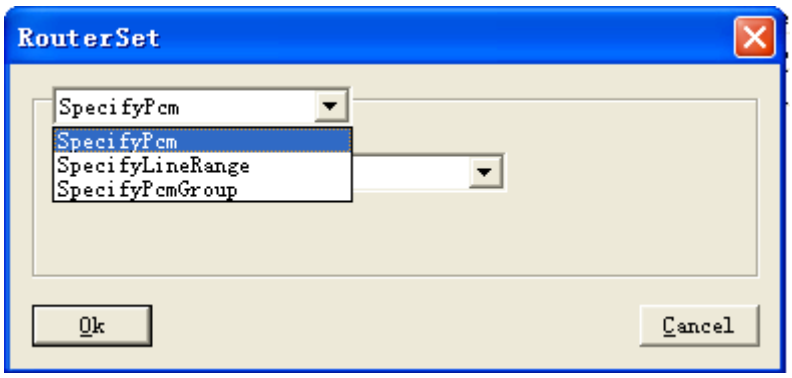
Sequence, the action will be followed from the sequence small to large, so when the small sequence failed, route can goes to larger number sequence, thus can back up for multi routes.

Action, specify how to handle the call. There are several options below:

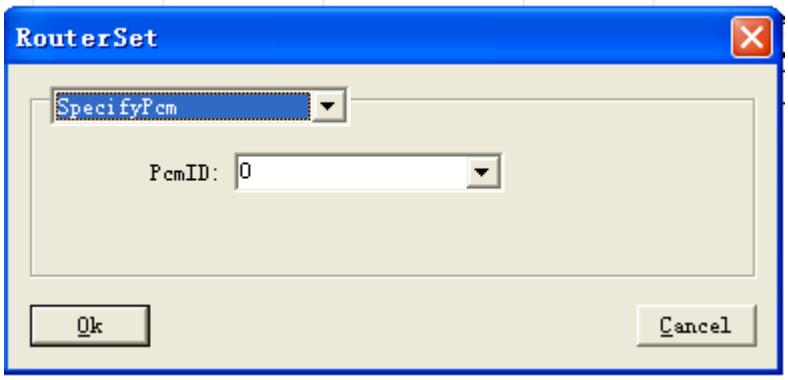


1. **Switch to digital trunk**

To forward calls to E1 trunking. The PCM time slot will be used for the call is decided by the selection in **description**. There are three options to choose from.

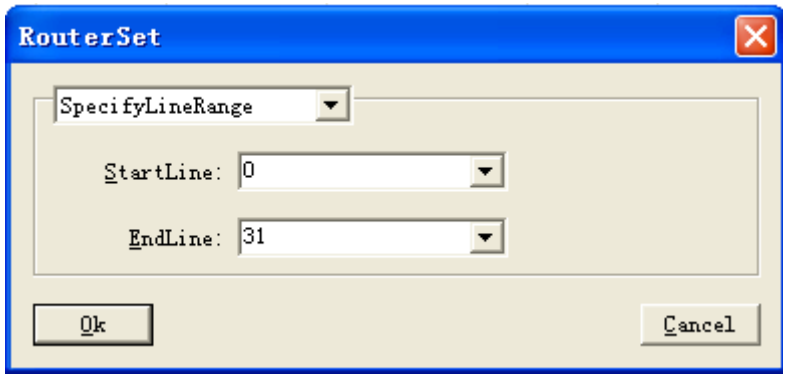


1, **SpecifyPCM,** as shown below:



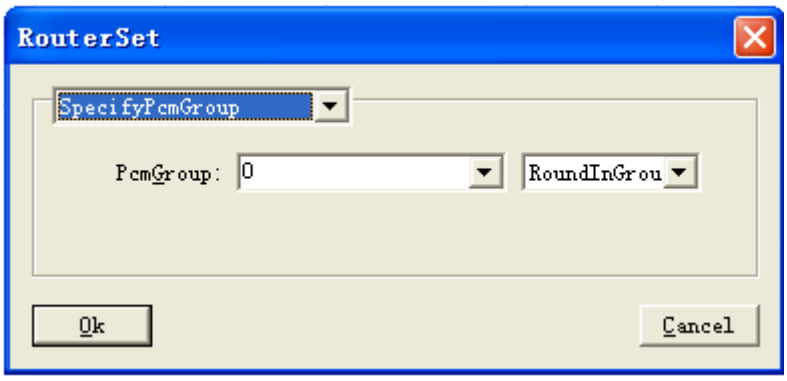
PCM ID is the E1 that you want to select.

2 **specifyLineRange,** as shown below:



Select PCM time slot from start to the end, note that for PCM0, the number of time slot is from 0 to 31, for PCM1 is from 32 to 63, and so on.

3, **specify the PCM group,** as shown below:



In the PCM group you can select round in group or sequence in the group,

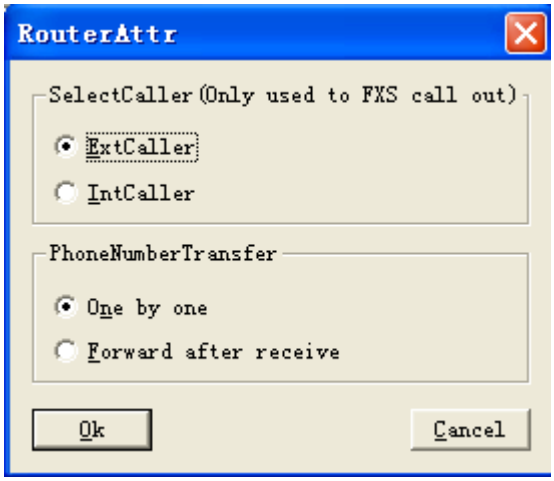
RoundInGroup, each time when call in will select the timeslot one by one from beginning to the end.

SequenceInGroup, always selct the timeslot from the beginning for each time call in. only busy to select the next one.

Members of group will be configured in the “Route->Group-> PCM”.

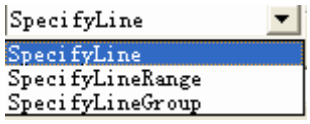
In the **Attr** column will configure the caller ID forward mode, bit-forward or one time forward.

When using FXS to call out, you can specify the outbound Caller ID use "extension number" or "Direct numbers."

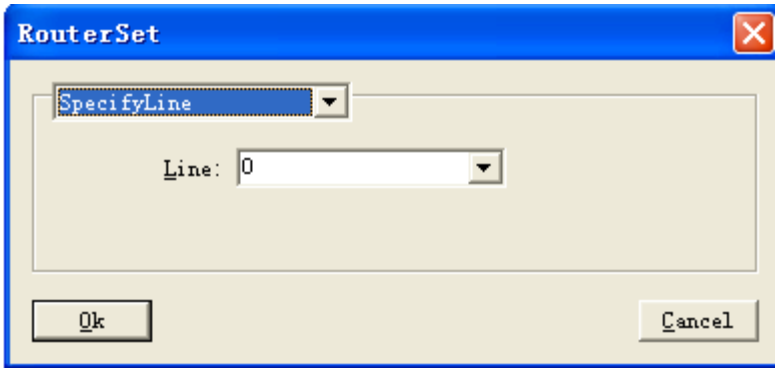


2. **Transfer to FXO**

To forward calls to FXO. The FXO Trunk number will be used is decided by the selection in **Description,** There are three to choose from, as below figure:

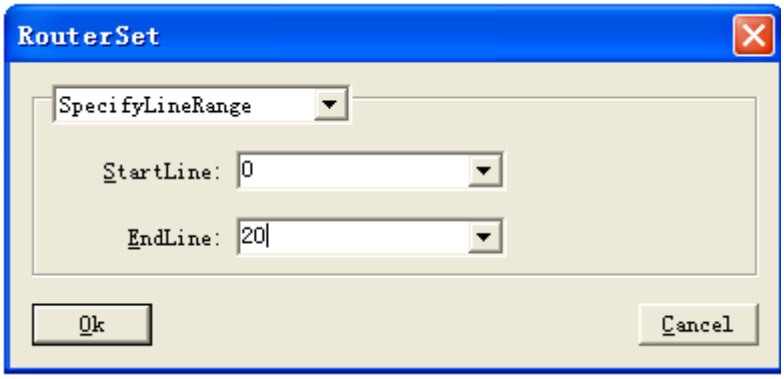


1, SpecifyLine, as shown below:



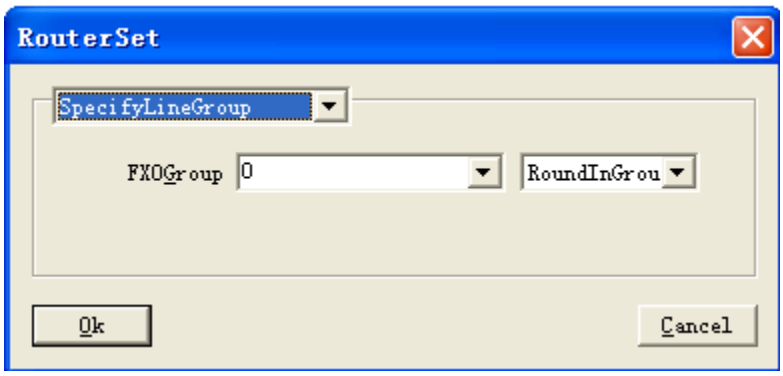
Designate a FXO line;

2, **SpecifyLineRange,** as shown below:



Specify a range, input the start number and end number of FXO lines

3, **SpecifyLineGroups,** as shown below:



The designated group of FXO, and the select of the lines in the group:

RoundInGroup: select the line one by one in turn, each time will select a different line.

SequenceInGroup, always selct the line from the beginning for each time call in. only busy to

select the next one.

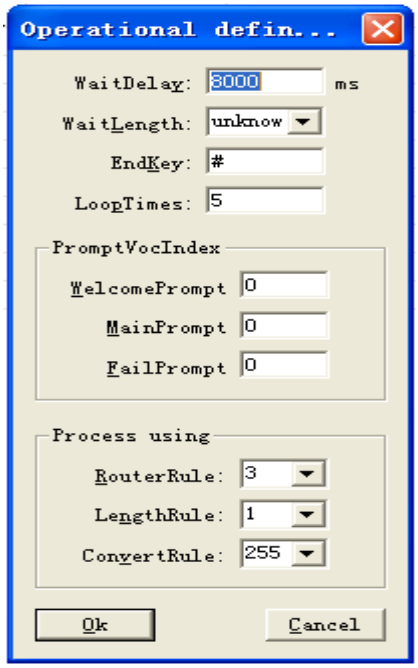
Members of group will be configured in the “Route->Group-> FXO”.

3. **Auto attendant**

AD300X provides a simple Auto attendant process. Including six response voice as below:

No.	Tip of the contents	Example
1	Welcome Tips	"Welcome to call XX Company"
2	Operation Tips	"Please dial extension number, dial zero for help"
3	Busy Tips	"User is busy now"
4	No Answer Tips	"Nobody answer the call now"
5	No number Tips	"the number you call does not exist"
6	Dial extension failed Tips	"Please call later or change other numbers"

When a call comes in, the Auto attendant play the first voice, then plays the second, waiting for the user to press key, and then according to the key to play different voice. In column of **Description**, click to pop-up dialog box for key operational definition.



"WaitDelay" is used to set the timeout to receive the button, if more than this time no button pressed, will stop waiting.

"WaitLength", if set to "unknown", according to the definition in "Process using" to deal with; otherwise, according to the selection length to do treatment; proposals set to "unknown".

"End Key" to specify which key to press is the end of numbers, usually set to "#."

"LoopTimes" designated number of times the playback voice prompts. If more than this number, still no button pressed, then the call will be terminated.

"PromptVocIndex" designate the welcome prompt tune, main instruction tune and fail prompt tune voice index

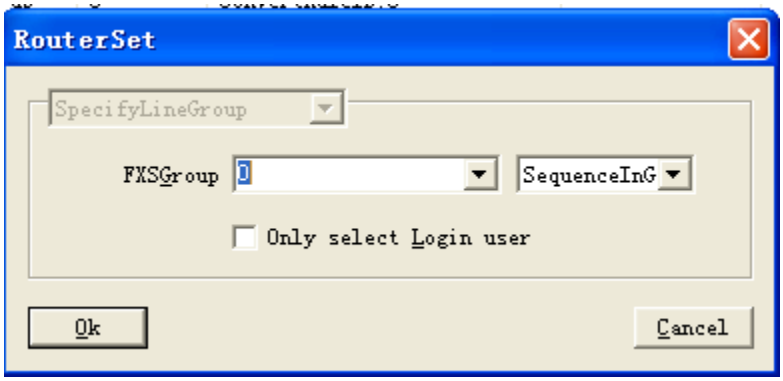
"Process using" designates the follow up call process after the selection key pressed

4. **Transfer to FXS**

Call will be transferred to the FXS, there are 2 ways to match the extension number, one is "Matching IntCaller", the other is "Matching ExtCaller", click mouse button in "Description area" to change these 2 options.

5 .**Queuing**

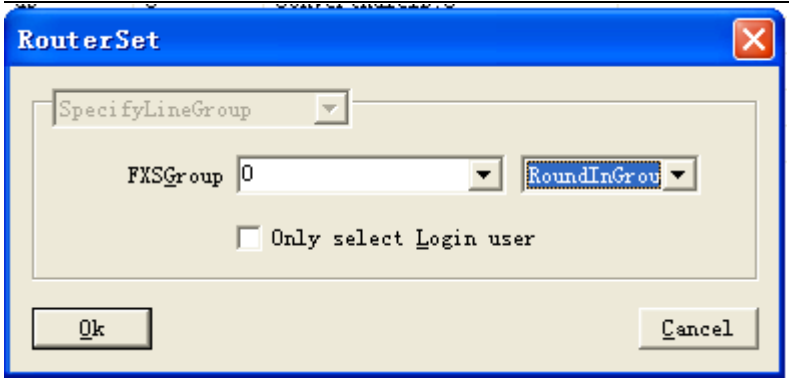
When a call comes in, extension (FXS lines) will be ringing according to the order line one by one. To set up the lines in the queue group, click "description" see below:



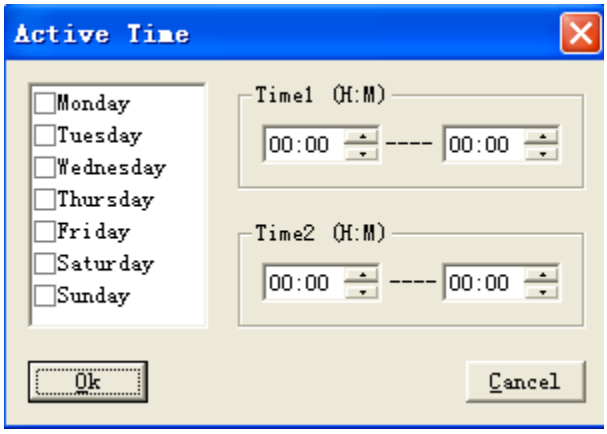
To set up a group, please goes to "SysPart->Rule->Router->Group->FXS.

6. Queuing (datetime)

This action if for the set up of queuing function base on the working time. In description to click as the same as in Queuing function



But in “Attr”, Click to see below interface for the time setting



For this can set up the active time of queuing functions.

7. Function

The definition of the specified phone keypad , usually set to "**". Through this function key, you can set up the equipment through phone terminal, Details See instructions attached 5.

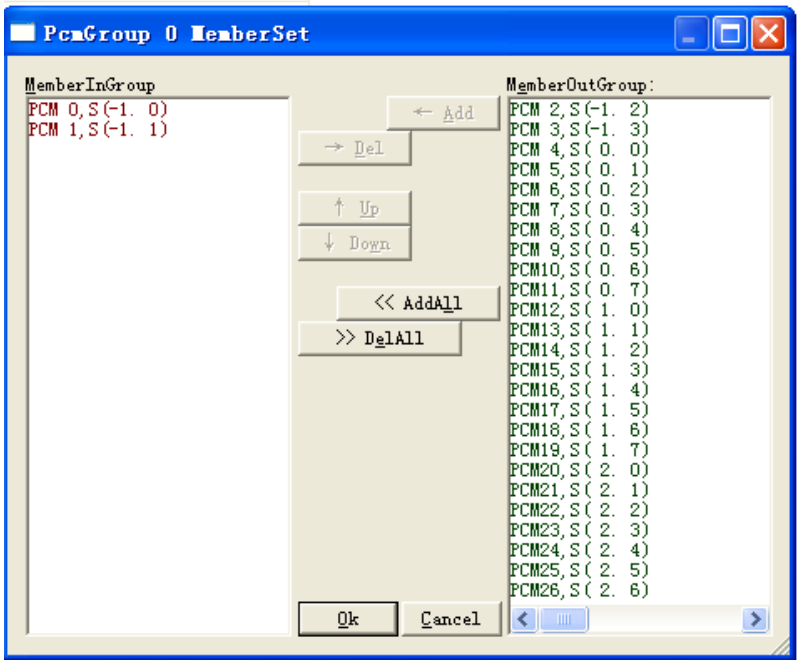
8. Call Pick-up

Answer on behalf of the ringing extension by press defined function keys. Usually set to "*8".

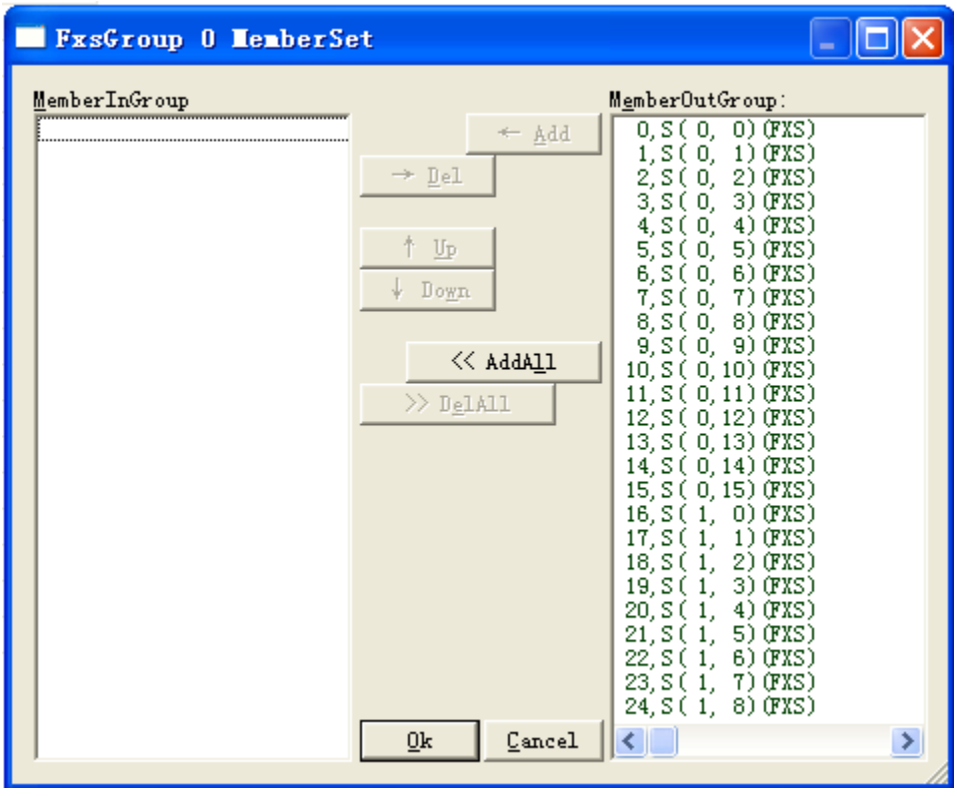
5.2.5.3 Group

Goes to “SysPart->Rule->Router->group”, you can set up groups for PCM, FXS and FXO, members in these groups will have the same properties.

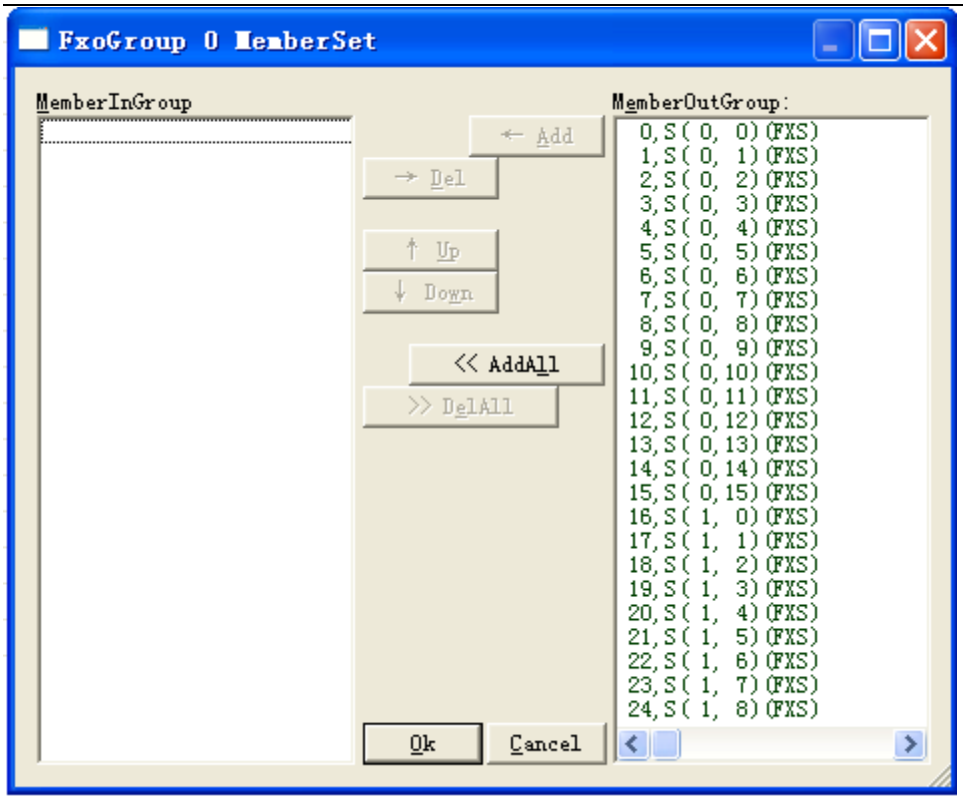
PCM group, set the PCM of the grouping.



FXS group, set the grouping of subscriber lines.



FXO group, set the analog trunk of the grouping.



Instructions: Group number is fixed, only need to add the lines or timeslot in that group.

5.3 Function Deployment

AD300X provides basic switch functions, also provide their own special features, and correctly configured is required to make it work properly.

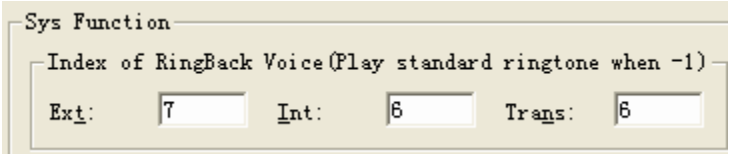
5.3.1 Ringback Tone settings

AD300X can customize their own personalized ringback tones. Operation is as follows:

1. AD300X convert audio files to use library files, steps see the attached 4.

2. Audio library file loaded into the device, the steps see attached 4.

3. Using the configuration tool to modify the parameters.Goes to “SysPart->Sys Function” to see below:



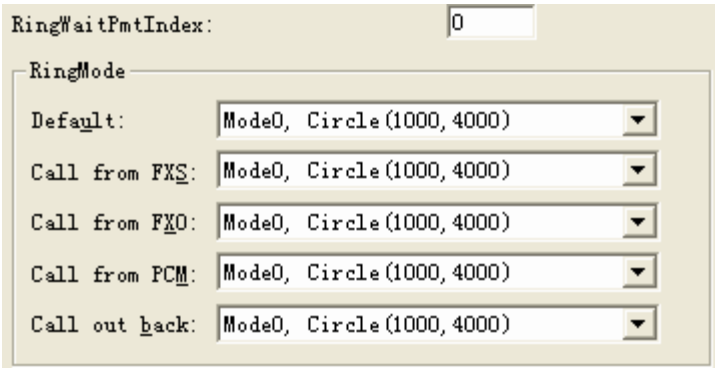
AD300X can specify three kinds of ringback tones. “Ext” means the ringback tone when call from

FXO, “Int”means ringback tone between extensions, “Trans” means ringback tone when answer for act.

After completion of editing, writing to ROM and RAM, can be effective immediately.

5.3.2 Ring Duration time set

AD300X can specify a different method calls ringing circumstances. Goes to “SysPart->Sys Function” to see below:

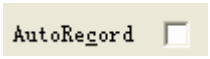


"Call out Back" means the system automatically calls the situation, and other undefined conditions are by "default" processing.

After completion of editing, writing, ROM and RAM, can be effective immediately.

5.3.3 Automatic recording settings

AD300X can set to recording for all calls. Recording server software need to run in this case.



After completion of editing, writing to ROM and RAM, can be effective immediately.

5.3.4 Subscriber line Number Configuration

Goes to “LinePart->SLC->Line Part”

0...	Slots	LineType	CompanyGroup	DepartmentGroup	IntCaller	ExtCaller
0	0. 0	FXS	0	0	9000	03851683500
1	0. 1	FXS	0	0	9001	03851683501
2	0. 2	FXS	0	0	9002	03851683502
3	0. 3	FXS	0	0	9003	03851683503
4	0. 4	FXS	0	0	9004	03851683504
5	0. 5	FXS	0	0	9005	03851683505
6	0. 6	FXS	0	0	9006	03851683506
7	0. 7	FXS	0	0	9007	03851683507
8	0. 8	FXS	0	0	9008	03851683508
9	0. 9	FXS	0	0	9009	03851683509
10	0. 10	FXS	0	0	9010	03851683510

“ExtCaller”is the caller number for call out, “IntCaller”is the caller number for call between extensions. Click to change the numbers. After completion of editing, writing to ROM and RAM, can be effective immediately.

5.3.5 User Password Configuration

When using the phone instructions and desktop assistants password authentication is required.

Password
0000
0000
0000

Click to Edit, the password must be four of the numbers.

After completion of editing, writing to ROM and RAM can be effective immediately.

5.3.6 Call permissions

This can lock the extensions with different level of call permissions such as long distance call, international call.

LowPriority	HighPriority
0	11
0	11
0	11
0	11
0	11

The higher the value the greater the access, if the line use HighPriority big than the value of call routing access to all call routing.Then the call for this line will have high access.

This function is related to the value of priority in “SysPart->Router” as below:

RuleID	Priority	SID	Action	Sequence	Description
0	0	?	OPR	0	Play welcom...

5.3.7 Hot number

Subscriber Line For automatic call after picking up phones, you can use this feature.

0...	Slots	LineType	CompanyGroup	DepartmentGroup	IntCaller	ExtCaller	Function	HotNumber
0	0, 0	FXS	0	0	9000	03851683500		1000

For above configuration, extension number 9000 will dial hotnumber 1000 automaticly when pick up this line.

After completion of editing, writing to ROM and RAM can be effective immediately.

5.3.8 Call Forward Settings

AD300X supports three kinds of call transfer, call forwarding, busy transfer and non-response transfer.

CallForwardNumber	BusyForwardNumber	NoAnswerForwardNumber

“Call forwarding” is an unconditional call forwarding, any calls to this line will be automatically transferred to the "call forwarding number".

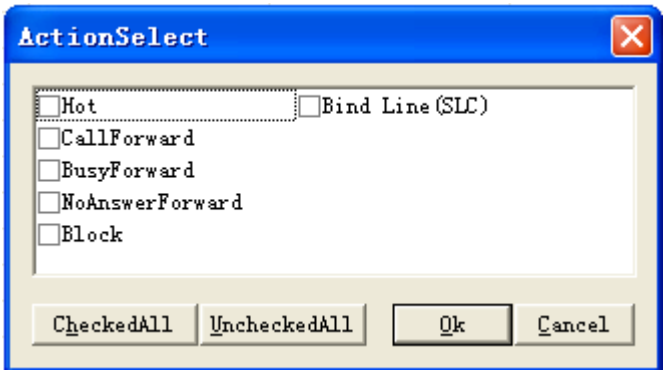
“BusyForwardNumber”, only when this line is busy call will be transferred to the "BusyForwardNumber".

“NoAnswerForwardNumber”, only when no body answer the call then will be transferred to the “NoAnswerForwardNumber”.

After completion of editing, writing to ROM and RAM can be effective immediately.

5.3.8 Do not disturb setting

In the "function select" column, click to pop-up feature selection dialog.



Check the "Do Not Disturb," point "OK."

After completion of editing, writing to ROM and RAM can be effective immediately.

5.3.9 Number convert

Goes to “SysPart->Rule->Convert” see below number convert tables:

RuleID	SID	CallerCutLength	CallerAddPrefix	CalledCutLength	CalledAddPrefix
0	**	0		2	
0	*8	0		2	
0	*9	0		1	

"The word crown number" is the number at the beginning part of the rules dealing with the conditions of the judge. Processing, are numbers in front of (prefix) to, delete or add a few numbers. For example figure above the 0 group, the if the called number is 0 at the beginning, then add 17909 in front.

After completion of editing, writing, ROM and RAM, can be effective immediately.

5.3.10 Login account setting

Specify the telnet connection, authentication account, up to 10 accounts set up. The index in the parameter area, select "login account" in the right side of the logon account management table. Use "Data" menu or toolbar, or right-click menu, to add the delete operation.

After completion of editing, writing to ROM and RAM can be effective immediately.

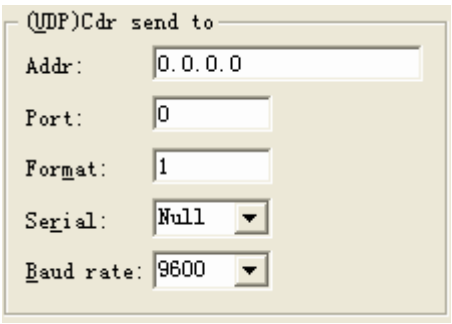
5.3.11 Multi-routing backup

In the parameter area, select "routing rule" in the right setting parameters.

Select the appropriate line type, will enable the backup router for this line type, base on the rule ID in router table.

Chapter 6 Calling Detail Records

AD300X send out the CDR through net port. For receiving CDR, other software need to run.



For set up the destination of the CDR goes to **“SysPart”**

The original format of CDR is text strings, each one with "R" at the beginning and "\ r \ n" at the end. With a space between each text string separated by fixed length, if the text string is not long enough, will add the space to this fixed length, in the text string, there are four kinds of line types, 0 is E1,1 is analog line, 2 is VoIP lines, 3 is wireless lines. Call duration is seconds.

There are three formate of CDR, 1, 2 and 101 which are shown as below:

Format 1

String	Logo		Outbound Line Type		Inbound Line Type		Caller		Called Number		Talk time	End
Length	1	1	1	1	1	1	15	1	20	1	5	2
Description	R	Space		Space		Space	Left	Space	Left	Space	Right Align	"\ R \ n"

String Example: "R 0 1 88889010 98888 5"

The sample indicated that calls from analog lines to digital trunking, calling number is 88889010, the called number is 98888, call duration is 5 seconds.

Format 2

Field	Logo		Outbound Line		Incoming line		Caller		Called Number		Talk time	End
Length	1	1	4	1	4	1	15	1	20	1	5	2
Description	C	Space		Space		Space	Left	Space	Left	Space	Right Align	"\ R \ n"

String Example: "C 0 1 1 18 88889010 98888 5"

Outbound lines and incoming line length is 4, the first one is line type, the latter three is the line number.

The sample indicated that calls from analog lines number 18 to digital E1 timeslot 1, calling number is 8888 9010, the called number is 98888,and call duration is 5 seconds.

Format 101

Field	Logo		Outbound Line		Incoming line		Caller		Called Number		Talk time	End
Length	1	1	4	1	4	1	15	1	20	1	5	2
Description	C	Space		Space		Space	Left	Space	Left	Space	Right Align	"\R\n"

String Example: "R 0 1 001 98888 5"

The sample indicated that calls from analog lines to E1, the called number is 98888,call duration is 5 seconds.

Chapter 7 Debug monitor

7.1 Initialization Information

During device start-up there will be some initialization information, the information can be judged according to the device working condition. The following information is some commonly used example for reference purposes only.

Now link status is speed: 100, duplex: FullDuplex

This line is the net port initialization information, device start-up will automatically detect the speed of Ethernet, speed: 100 Mbps network, FullDuplex . If it is speed: 10, the network is 10 Mbps, If network is not connected, you can not do automatically detection. The default speed is set to 100 Mbps Network.

dsp [0] dtmf06 load ok!

dsp [1] metrec load ok!

This is a DSP chip initialization information, the format is "dsp [number] function description, loaded situation." Number start from 0. Function including voice, dtmf mfc, metrec, conference, callerid and so on. If load successful then "load ok", or else (like add [80]: 0x0! = 0xf073) means load failed.

voc channels: 64

The number of voice processing resources available, one DSP has 64 channels. voc read num: 6

number of automatic Voice response resources have been loaded, -1 indicated that there is no voice.

voc num: 6

voc [0] len: 17760

.....

After the success of voice-loaded, display the total number and size of each audio file, in bytes. The following is a list PCM signaling

pcm [0] ss7 link [0], ts = 16 pcm [1] ss7 link [1], ts = 16

ss7 [0] mailnum: 1 ch (1,32) start ... ss7 [1] mailnum: 1 ch (33,64) start ...

Here is information on STUN

set stun server = [: 3478]

The following is CtiLnk development interface server startup information

CtiLnk enter ...

CtiLnk tcp server enter ... lnk: 0 recv err

CtiLnk listen ... lnk: 1 recv err

Here are the voice recording and playing server from network startup information

VocCmd enter ... NetVocRx run ...

VocCmd tcp server enter ... VocCmd listen ..

Here is information on the network configuration server startup

NetCfg tcp server enter ... NetCfg listen ...

NetCfg accept ... McuTimer task spawn

Here is information on PC synchronization pcm: 0 sync: 0x3

pcm: 1 sync: 0x3

If the PCM synchronization loss will appear pcm: X sync: 0x3 or pcm: X sync: 0x1, success will occur if the synchronization pcm: X sync: 0x0. Where X is the PCM number. If there pcm: X sync:

0x2, showing the alarming from opposite side.

7.2 Equipment Command

Description of Common Command.

Order	Parameters	Description
View basic information		
ver		Query the device software version
devinfo		Read device information
pboot		See Basic Settings
shsid		Read Equipment Serial Number
sgmtime		Show Time
ipconfig		Read IP address
ifconfig	"The new IP address"	Read and changes IP addresses

	Modify sample "ifconfig" 192.168.16.253: FFFFFF00 ""	
View resources		
LineGrpShow		View Call Control Table
CvTableShow		View number conversion table
LenTableShow		See Long Road Rules Table
RtTableShow		View the routing rule table
PcmAppShow	PCM Code	View PCM parameters
Ss7AppShow	Link ID	View on the 7th signaling
UserAppShow	Analog Line No.	View analog line parameters
VocSrcShow		View Voice Resources
Operation Command		
cboot		Modify the basic settings
ldvoclib	FTP connection mode (0=active mode, 1=passive mode)	Add speech database
ldboot	FTP connection mode (0=active mode, 1=passive mode)	Boot upgrading equipment
ldapp	FTP connection mode (0= active mode, 1=passive mode)	Device Software Upgrade
chkapp	FTP connection mode (0= active mode, 1=passive mode)	Calibration device software
settime	Hours, minutes, seconds	Setup time
setdate	Year, month, day, hour, minute, seconds	Set the date and time

reset		Reset (reboot equipment)
UserHdGetNumMax		To obtain the maximum number of lines
UserHardwareDetect	Analog Line No.	Detection of the specified analog circuits
UserHardwareDtBlocked		Detection of the current state of the analog line for the block
UserHardwareDtAll		All analog circuit testing
UserMidPowerOn	Analog Line No.	Analog line off-hook
UserMidPowerOff	Analog Line No.	Analog line-hook
ChannelAlerting	Line type, line number, model	Line reminder
ChannelAnswer	Line type, line number, model	Answer Line
ChannelReleaseBy	Line type, line number, called the state	Release Line
ChannelAttrPrn	Line type, line number	See detailed properties of lines
logNetEn		Enable the Ethernet port to send messages
logNetDis		Close net mouth send a message
logTerEn		Enable the serial port send a message
logTerDis		Close the serial port send a

		message
Debug		
monpcm	PCMID, switch (0 or 1)	Monitor PCM
monpcms	PCMID, the number of switches (0 or 1)	PCM volume control
monss7	LinkID, switch (0 or 1)	Monitoring on the 7th Signaling
monss7s	LinkID, the number of switches (0 or 1)	Volume control on the 7th Signaling
setlapp	Trace levels (0 ~ 7)	Global Call Tracking
setlhdlc	Trace levels (0 ~ 7)	Tracking HDLC Information
setlpri	Trace levels (0 ~ 7)	Tracking PRI signaling
setlss7	Trace levels (0 ~ 7)	Tracking on the 7th Signaling
setlmtp2	Trace levels (0 ~ 7)	Signaling MTP2 part of the track on the 7th
setlusr	Trace levels (0 ~ 7)	Track analog line
setltab	Trace levels (0 ~ 7)	Tracking call control look-up table of
setlsip	Trace levels (0 ~ 7)	SIP Call messages tracing
setlreg	Trace levels (0 ~ 7)	Tracking SIP registration information
setlex	Trace levels (0 ~ 7)	Tracking the exchange of

		operational
setlvoc	Trace levels (0 ~ 7)	Tracking Voice Operation
setlcdr	Trace levels (0 ~ 7)	Track, then send the case
ErrorCode	Error code	See the error code information
ErrorHelp		Show trace levels of detailed description of

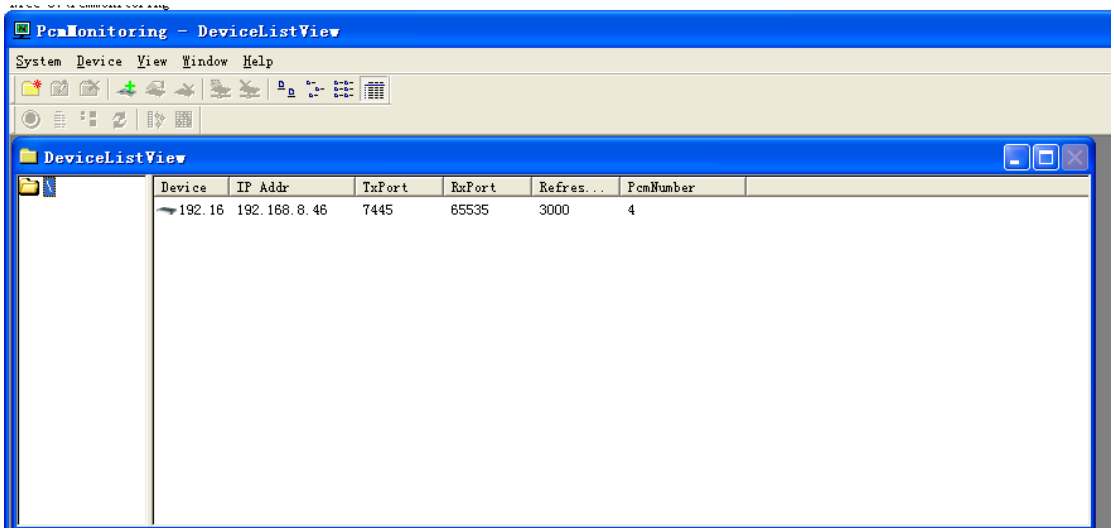
Note that all of the commands are case-sensitive.

7.3 E1 Monitoring

The small tools of NiceMonitor.exe is to monitor the E1 status of AD300X. Monitor use UDP network connections. In the configuration tool interface, the parameters of the index area, select "SysPart" in the right to see the UDP port.

7400 is commonly used.

Monitoring software interface is as follows:

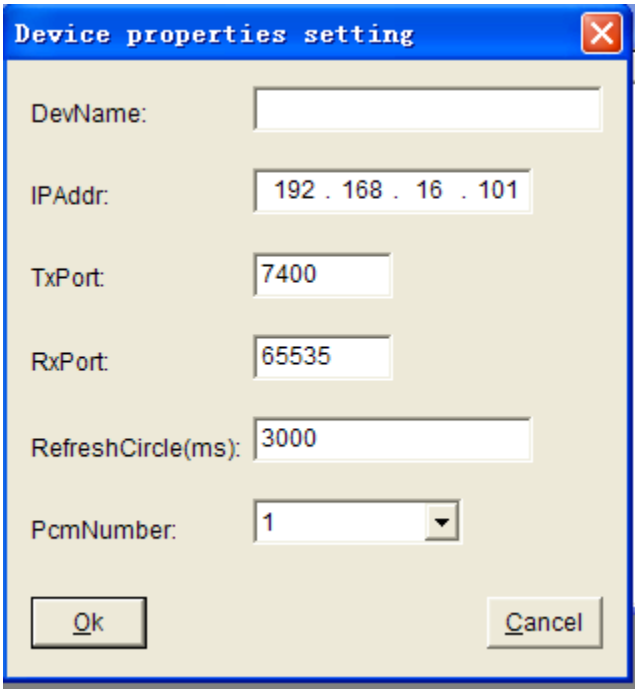


NiceMonitor can monitor all of the equipment from Nice Communication which has E1

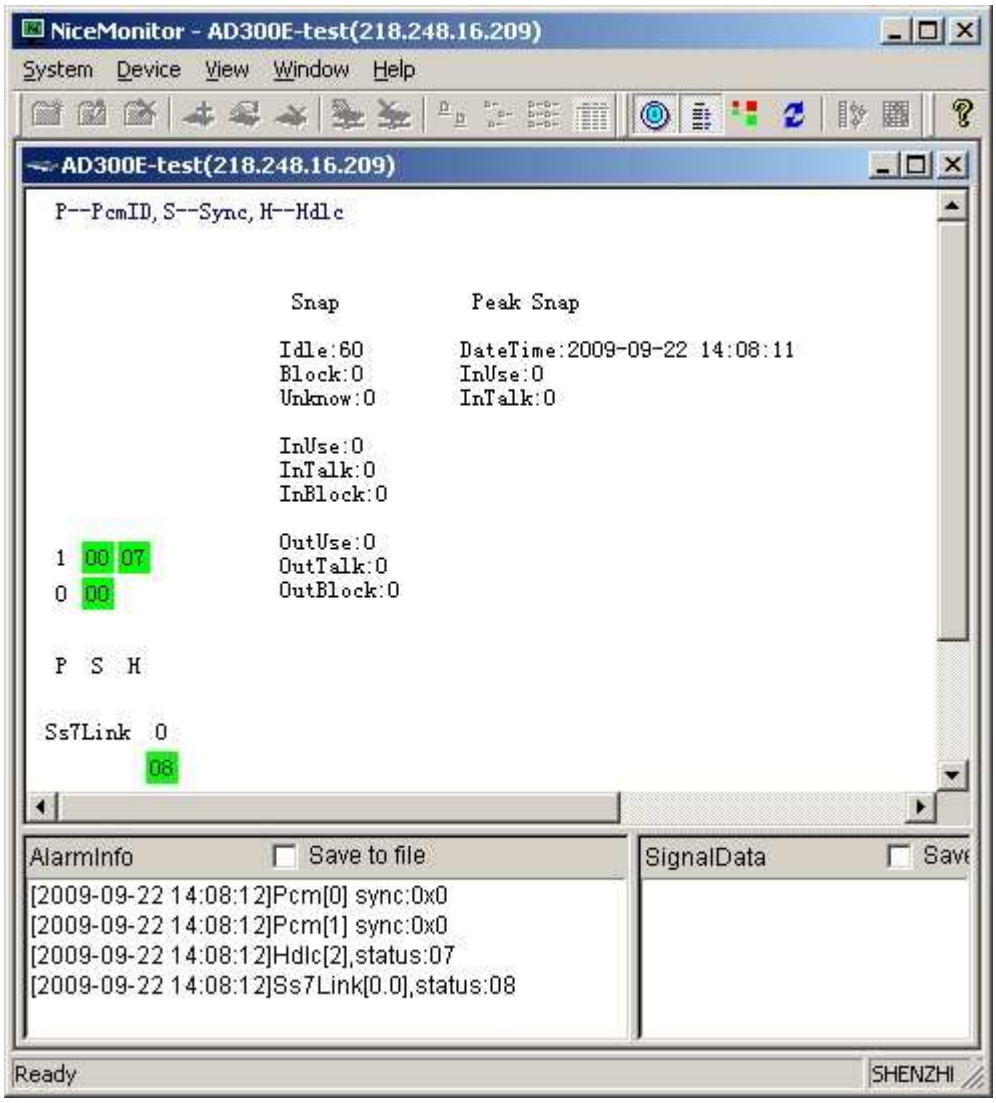
interfaces.

Multiple devices can be monitored, the port for each device must be set to different values.

Add your equipment, by click the shortcut of  , input the parameter of this device:



After finished, double-click to open control device. As shown:



Each E1 expressed by two square boxes, the red color means failure, the green color means normal. The left boxes indicate the physical synchronization signal. The right box indicate the HDLC link status. "Ss7Link" Here is the status of signaling links on SS7 signaling. Double-click the sync box (left), you can open the current E1 channel state table. Double-click the link box (right), you can open the link data tracking.

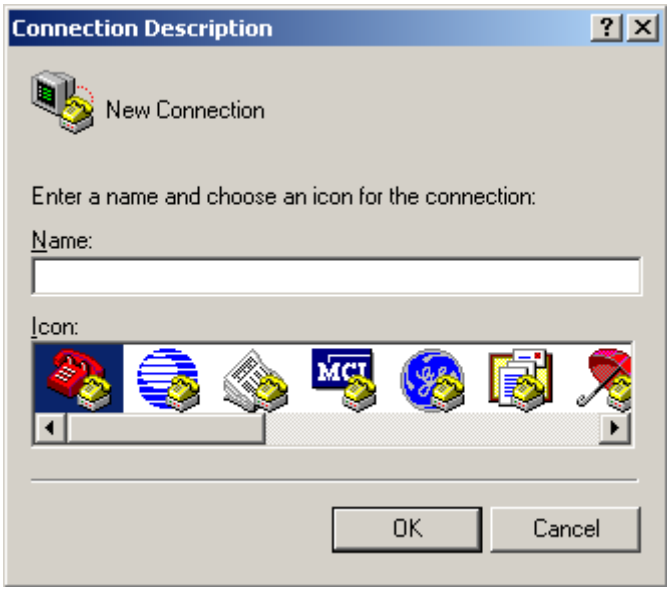
Check the 

,all the information can be saved to a txt file. Same thing to the singal information in the right.

Appendix 1 The use of HyperTerminal

Create a hyperterminal, click "Start -" program - "Accessories -" Communication - "Hyper Terminal" menu, pop-up "New Connection" wizard, fill in names as "HTCOM1-115200", then

select one your favorite icon.



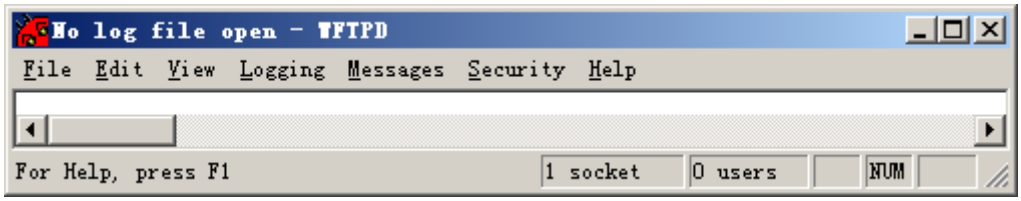
Click "OK", a dialog box appears as follows:

Select the connected serial port, click "OK", pop-up properties interface of the Settings dialog box.

This has been established, you can save it to your desktop for easy use next time. Click "File -" Save As "menu can be saved to your desktop.

Appendix 2 To establish FTP services

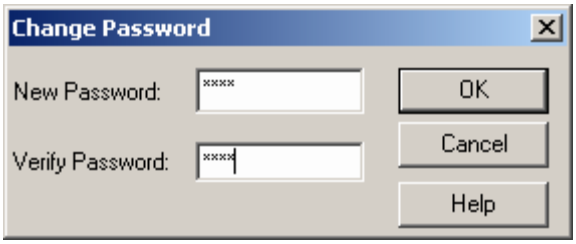
FTP is a file transfer protocol, when the device to download a file from your computer to use.If the computer does not have FTP service program, you can use CD-ROM included with Wftpd32 software. It is a small and easy to use FTP server program. After the interface is running as follows:



Next, create a new user.

Click "Security" menu, select "User / right ...", the following dialog box appears:

Click "New User ..." button, enter the user name, such as pbx, click "OK",

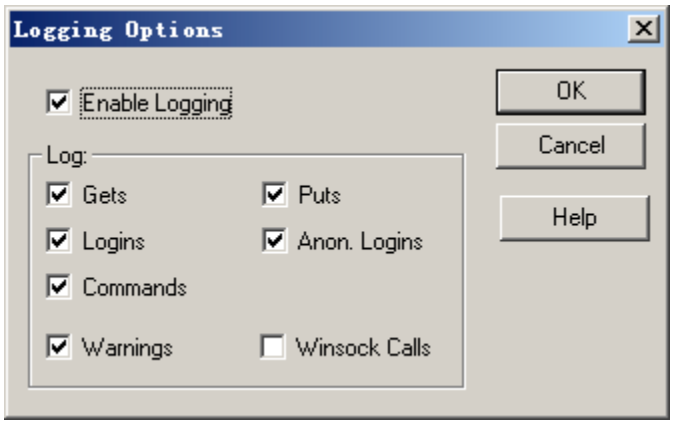


To enter a password, such as nice, click "OK",

In the Home (FTP services in the root directory), followed by the edit box enter a path, such as "D: \ Pbx", you can point "Browse ..." Browse to select the path.

Finally, click "Done" button to complete.

If you need to display the log, in the "Logging" menu, select "Log options", the pop-up "Logging options" Settings dialog box.

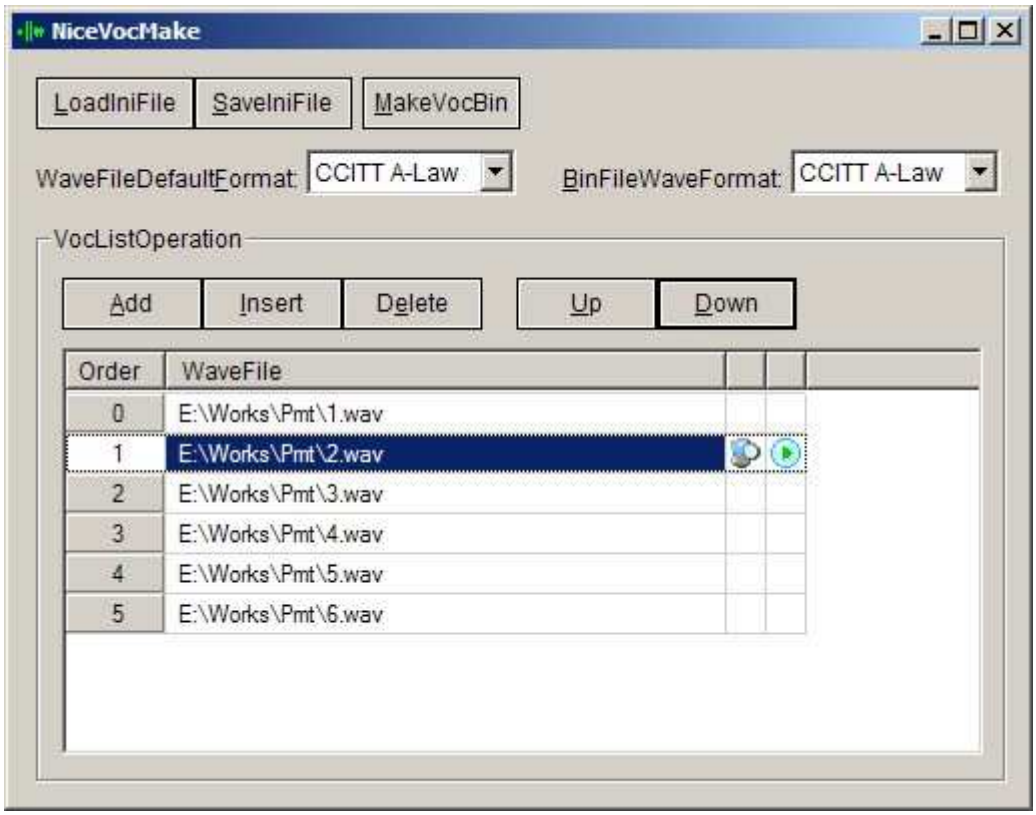


Check the appropriate option, click "OK".

Appendix 3 Recording tone and load into PBX

You can use the recording software (such as Windows system with a tape recorder) to record tone. Saved as a wave sound files, format must be used CCITT A-Law, 8kHz, 8 bit, mono, 7kb / sec. After recording finished, use NiceVocMake.exe for formate transfer.

Run NiceVocMake.exe, interface is as follows.



Click " Add " button, will add the recorded wave file, select the added item, click  can play the tone, Up and Down button can move the position of this tone up or down, Then click MakeVocBin, to save these tone file into the BIN file.

After the Bin file was made (usually 300evoc.bin), put it into the root directory of FTP accounts

In Running state of telnet, type the command: **dwvoclib**

Message show as follows:

Upload file of PBX to FLASH!

Data in FLASH will be erased, continue? (Y / N) **Enter Y to continue, type N is canceled.**

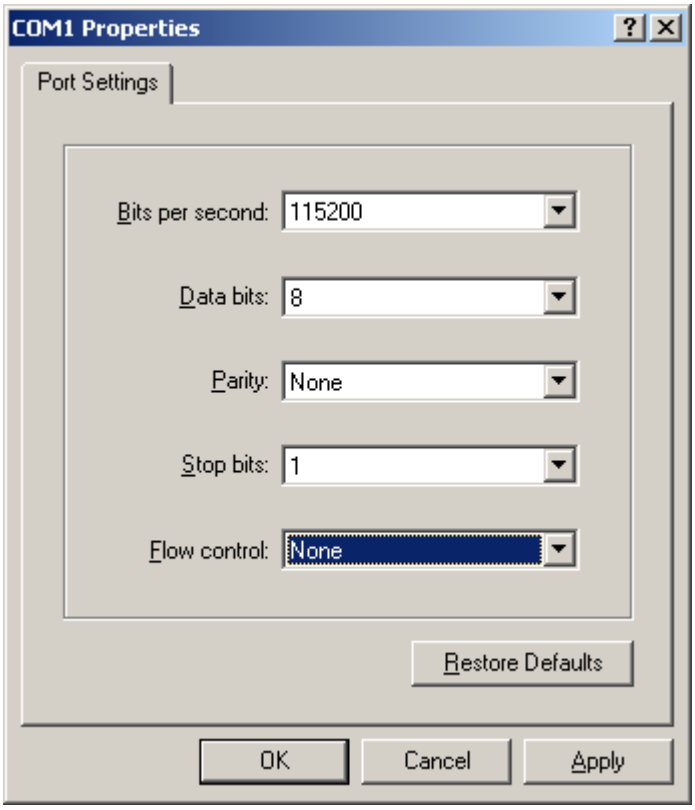
HOST: server ---> **here to enter the FTP host IP address. The default is server, which is the IP address in startup parameters.**

USER: ad300x ---> **here to enter the FTP account name**

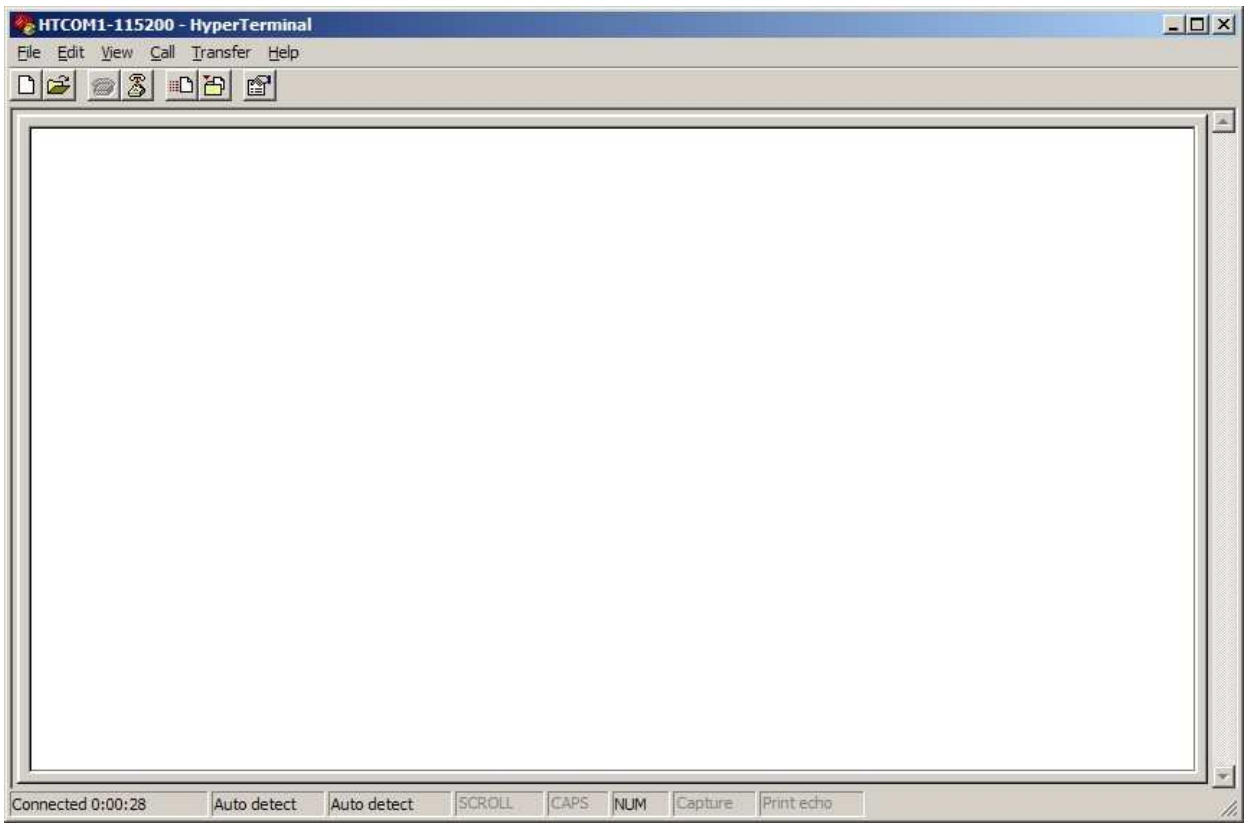
PASSWORD: nice ---> **here to enter the FTP account name, The default is nice.**

FILENAME: voclib.bin--> **where the name of bin file to be load . The default is**

voclib.bin.



Click "Restore Defaults", change the "bits per second" to 115200, then click "OK" appears below the window.


HTCOM1-115200 - HyperTerminal
File Edit View Call Transfer Help
Connected 0:00:28
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo

Loading .....