

User's Manual Of FONEMOSA 4400/4400 Plus

Edition 3.0

Updated: 2004/09/23

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Change History: Software Version 1.10	
Phase in connection function to other brand Voice Mail product	Can work with other brand Voice Mail product
Add new features in Forward To function	Forward to related destination if phone call is "busy" or "busy or no answer" automatically
Add "Secretarial Intercept" feature	All Phone call to General Manager (GM) can be filter by secretary, then transfer to GM if necessary
Remote Management Control can be disabled	Remote Management Control function, including FTP, Telnet and Web, can be disable by Console or Phone-set
"#" and "##" to replace Flash key under PBX and 4495 condition	Use "#" and "##" to replace Flash key if the system is working with PBX and FONEMOSA 4495
Change History: Software Version 1.08	
Phase in connection function to FONEMOSA 4495 Parking Server	It is able to connect FONEMOSA 4495 parking server for call park related function.
Priority for outbound call	It is able to select different searching priority of phone number for outbound call.
System backup for NETMOSA	The IP related information of NETMOSA, NETMOSA Plus are recorded in backup file and it can be download by FTP and edit off-line.
Replace "flash" button with "#"	Need to disable Manual IP Learning
Calling side is able to use Call Transfer	Calling and Called side are able to use Call Transfer
Able to input Prefix No. in Abbr. dial map	Able to connect the equipment's prefix by using Abbr. dial
In some cases, user G.711 to replace T.38	Use G.711protocol to make FAX transmission more successful
Change History: Software Version 1.07	
Phase in connection function to FONEMOSA 4494 SIP Bridge	It is able to connect FONEMOSA 4494 SIP Bridge for making calls between SIP and this product.
System backup for Abbr. No.	The Abbreviated Number related information are recorded in backup file and it can be download by FTP and edit off-line.
Replace "flash" button with "#"	When the traditional PBX is connected behind this gateway, use "#" button to replace "Flash" button to prevent malfunction of call transfer. Because Flash function is unable to pass the signal to this gateway.
Able to adjust Jitter Buffer	Can adjust Jitter Buffer manually to reduce sound vibration.
Add new security design	When the User Name of WEB is set to be "(Local)", only the PC in the same Subnet is able to login Web, Telnet and FTP.

1. Safety Instructions

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Original Issue: 2004/03

This manual guides you in setting up and using your VoIP gateway. Information in this manual has been carefully checked for accuracy and is subject to change without notice.

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FCC Information to User

Safety and Care Instructions

No matter what level of your experience with datacom/telecom, please make sure you read the safety and care instructions. This information can help to protect you and your device from possible harm.

Radio and television interference

Warning: Use the specified shielded power cord and shielded signal cables with this computer, so as not to interfere with radio and television reception. If you use other cables, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does not cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encourage trying to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

You may find helpful the following booklet, prepared by the Federal Communications Commission: Interference Handbook (stock number 004-000-00345-4). This booklet is available from the U.S. Government Printing Office, Washington, and DC20402

Safety Instruction

1. Do not attempt to service the product yourself. Any servicing of this product should be referred to qualified service personal.
2. To avoid electric shock, do not put your finger, pin, wire, or any other metal objects into vents and gaps.
3. To avoid accidental fire or electric shock, do not twist power cord or place it under heavy objects.
4. The product should be connected to a power supply of the type described in the operating instructions or as marked on the product.
5. To avoid hazard to children, dispose of the product's plastic packaging carefully.
6. The phone line should always be connected to the FXO (LINE) connectors. It should not be connected to the FXS (FAX/PHONE) connectors as it may cause damage to the product.
7. Please read all the instructions before using this product.

2. Preface

FONEMOSA 4400/4400 Plus series products were developed by using the latest VoIP technologies. It is not only a commercial PBX but also a VoIP Gateway with Auto Attendant to provide the full services. High quality voice services for telephone and Fax are provided through the Internet; in addition, several value added services are provided. Due to the characteristics of Internet, the bill for telephone and FAX are extremely down. With modularized hardware design, FONEMOSA 4400/4400 Plus is also very simple to install and easy to carry and operate.

Models:

FONEMOSA 4400 (Standalone FONEMOSA 4400 Series)

Model Name	Description
FONEMOSA 4402A	2 Ports 1 FXO + 1 FXS
FONEMOSA 4402B	2 Ports 2 FXS
FONEMOSA 4404A	4 Ports 2 FXO + 2 FXS
FONEMOSA 4404B	4 Ports 4 FXS
FONEMOSA 4404C	4 Ports 4 FXO
FONEMOSA 4404D	4 Ports 1 FXO + 3 FXS
FONEMOSA 4408	8 Ports Base Unit
FONEMOSA 4416	16 Ports Base Unit

FONEMOSA 4400 Plus (Network FONEMOSA 4400 Series)

Model Name	Description
FONEMOSA 4402A PLUS	2 Ports 1 FXO + 1 FXS
FONEMOSA 4402B PLUS	2 Ports 2 FXS
FONEMOSA 4404A PLUS	4 Ports 2 FXO + 2 FXS
FONEMOSA 4404B PLUS	4 Ports 4 FXS
FONEMOSA 4404C PLUS	4 Ports 4 FXO
FONEMOSA 4404D PLUS	4 Ports 1 FXO + 3 FXS
FONEMOSA 4408 PLUS	8 Ports Base Unit
FONEMOSA 4416 PLUS	16 Ports Base Unit

Options: (Modules only for 4408/4416)

Modules	Description
MP3208	4FXS + 4FXO
MP3008	8FXS
MP3108	8FXO

FONEMOSA 4400/4400 Plus is a commercial PBX and also equipped the gateway functions like FONEMOSA 4200 and MOSA 4500. For FONEMOSA 4400 series, it is a stand alone IP-PBX, All IP call from other FONEMOSA to this unit can be pick-up by Auto Attendant and transfer to related extension line behind FXS (phone line) port. For FONEMOSA 4400 Plus series, it not only supports all the function of FONEMOSA 4400 series, but also acts as a network attendant. The attendant can transfer your call to other FONEMOSA by IP route at other place.

3. Feature Descriptions

3.1. FONEMOSA Basic and Advanced Features

1. Remote Transit Call

FONEMOSA 4400/4400 Plus supports “Transit – In Call” and “Transit – Out Call” functions. User can access remotely.

2. Call Forward

FONEMOSA 4400/4400 Plus supports “Call Forward” function. User can get the call at any location.

3. T.38 FAX

FONEMOSA 4400/4400 Plus supports T.38 FAX services. The same as voice services, FAX is featured with “Call Forward” and “Follow me” functions.

4. Private IP Address

FONEMOSA 4400/4400 Plus can be connected to any FONEMOSA4400/4400 Plus, MOSA 4500, and FONEMOSA 4200 at any location around the world just through the private IP address behind NAT.

5. Life Line

Following the standard, FONEMOSA 4400/4400 Plus keeps 4 lines alive when the city power outage happens. (Only model using Module MP3208).

6. Network Management Capabilities

FONEMOSA 4400/4400 Plus provides the management tool via telephone set, system console, Telnet and Web Browser. Users can configure or modify the setting through any telephone set, system console, or Telnet. System manager can browse information through PC to manage the system no matter where he is.

7. FTP Software Update

The FTP server is embedded into FONEMOSA 4400/4400 Plus. Via FTP server, software can be uploaded for updating.

3.2. PBX Features

1. Extension Line

The FXS ports on MOSA 4400/4400 Plus may act as an extension lines. Each port can be assigned with an extension number from 11 to 26. If you like to connect to another extension line, you can dial the extension number directly or dial the prefix of the equipment (VODTEL's gateway) first, followed by the extension number.

2. Through IP To another Extension line of FONEMOSA 4400/4400 Plus and MOSA 4600

The extension lines can be connected not only to the line in the same gateway, it can be connected to another MOSA 4600 or the extension line of another FONEMOSA 4400 gateway through IP network, just by dialing the phone number or the prefix of the equipment followed by the extension number.

3. Through IP to another FONEMOSA 4200

The extension line can be connected to another FONEMOSA 4200 Gateway through IP network, just by dialing the phone number of FONEMOSA. Or you may pre-define a prefix ID for the equipment, and dial the prefix ID directly to connect that equipment.

4. Through IP to FXS port of another MOSA 4500 via NETMOSA

Via NETMOSA, the extension lines can be connected to another MOSA4500 through IP network, just by dialing the code of MOSA 4500 assigned by NETMOSA. Or you may pre-define a prefix ID for the MOSA 4500 assigned by NETMOSA and dial the prefix ID only.

5. Call Pickup

IF the pickup code is set, you can pick up the call in the same gateway. Through network, you can also pick up any calls of another gateway in the same pickup group.

6. Call Transfer

FONEMOSA 4400/4400 Plus can transfer the call of extension line to

- The extension line in the same gateway
- The extension line of any remote FONEMOSA 4400/4400 Plus or MOSA 4600 Gateway
- The FXS port of any remote FONEMOSA 4200
- The FXS port of any remote MOSA 4500 via NETMOSA

7. Abbreviated Dial

100 Abbreviated dialing numbers can be assigned to FONEMOSA 4400/4400 Plus. The abbreviated dialing number can contain the numeric numbers and special character “ * “ and “ # “.The priority of the first 70 indexes of abbreviated dialing is beyond the limitation of Barring rule.

8. Embedded Auto Attendant

FONEMOSA 4400/4400 Plus provides auto attendant to any incoming call. And the Greetings voice can be recorded via the telephone set by users.

9. Operator

Any extension line of FONEMOSA 4400/4400 Plus can be assigned as Operator. The incoming call will be connected to Operator if the access code for Operator is dialed. The other extension lines that are assigned to Operator Group can be connected as Operator if the Operator is busy. The Operator can be forwarded to:

- The extension line of same gateway
- The extension line of remote FONEMOSA 4400/4400 Plus or MOSA 4600 gateway
- The FXS port of remote FONEMOSA 4200
- The FXS port of remote FONEMOSA via NETMOSA

10. Trunk Groups

"Trunk" is a general name for FXO lines that connect to PSTN. The trunks of FONEMOSA 4400/4400 Plus can be separated into two groups. Each FXO port will belong to one of the trunk groups.

11. Barring set to each extension line

There are six barring classes embedded. Each extension line can be set by one of the barring class.

12. CDR

FONEMOSA 4400/4400 Plus provides dedicate RS-232 port for CDR server or through Internet to record the communication traffic flow data for further accounting and data statistics.

13. Offnet Forward

You can set Forward and Offnet Forward on FXO port.

14. Softkey

Softkey can be defined on each FXS/FXO port of FONEMOSA 4400/4400 Plus and be activated manually or automatically.

15. Caller ID Display

If the phone set that can display Caller-ID is connected to the extension line, the caller ID from another FXS port will be displayed. The display format is the Prefix of incoming gateway followed by the extension number. Phone set with FSK standard is required.

3.3. Other Special Features

1. Supports FONEMOSA 4494 SIP Bridge to connect SIP VoIP Network

SIP VoIP Network is a public VoIP phone structure. Different organization builds different SIP Proxy to provide services. FONEMOSA 4400/4400 Plus Series is able to connect many FONEMOSA 4494 SIP Bridges that is connected to different SIP Proxy for providing the Calls Services between VODTEL VoIP network and SIP Network. There is no special setting need to be done for FONEMOSA 4400/4400 Plus. For details, please refer to FONEMOSA 4494 user manual.

8. Supports FONEMOSA 4495 Parking Server

Parking Server support function that be able to park the calls on server. Any person who picks up the call can park the call to Parking Server for right person to retrieve at any extension. The person who parks the call can talk to the right person before he retrieve the call. For detail, please refer to 7.3.25 Parking Server

■ Able to work with other brand VM (Voice Mail) product

It supports VM product with analog FXO interface. After proper configuration, FONEMOSA 4400/4400 Plus have Voice Mail, Voice Mail Box... features. Please refer to 7.3.28 Work with Voice Mail Product

4. Package Contents

1.	The FONEMOSA 4400/4400 Plus Gateway	X	1
2.	Power Core	X	1
3.	Accessories for fixing support (For 4408/4416 mounted at rack)	X	1
4.	System CD-ROM	X	1
5.	IDC Connector (For 4408/4416)	X	4
6.	Station Manual	X	1
7.	Rubber footer		

5. General Descriptions

5.1. Panel

FONEMOSA 4400/4400 Plus provides standard rack model and desktop model. There are 4 models:

Rack Model:

- FONEMOSA 4416: model with 16 ports
- FONEMOSA 4408: model with 8 ports

Desktop Model:

- FONEMOSA 4404: model with 4 ports
- FONEMOSA 4402: model with 2 ports

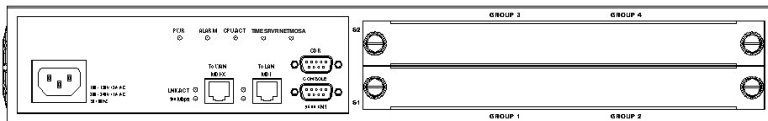
For both 19 inches rack model and 7 inches desktop model, at the front panel you can find two Ethernet ports, console terminal control port, LED status indicator and the port special for CDR that can record the detail data of the call for accounting and statistics.

5.1.1. Port numbering

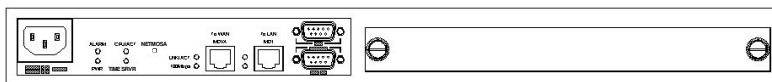
The port number is labeled on the front panel of the 19 inches rack model. For convenient management via Web management page and CLI interface from remote side. The numbering is based by the port group and each group consists of four ports. The following table indicates the port number and the corresponding location:

Model	Group	Location	Numbering for management			
4416	Group 1	Lower module (S1), 4 ports of left side	1	2	3	4
	Group 2	Lower module (S1), 4 ports of right side	5	6	7	8
	Group 3	Upper module (S2), 4 ports of left side	9	10	11	12
	Group 4	Upper module (S2), 4 ports of right side	13	14	15	16
4408	Group 1	4 ports from left	1	2	3	4
	Group 2	4 ports from right	5	6	7	8

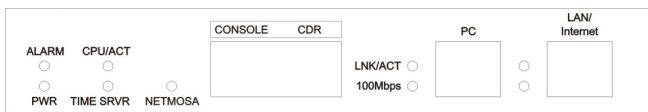
5.1.2. Front Panel



FONEMOSA 4416 Front Panel



FONEMOSA 4408 Front Panel



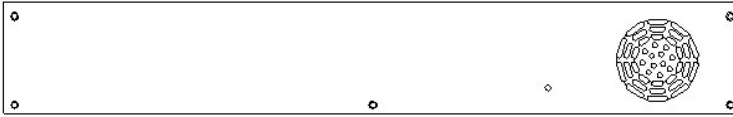
FONEMOSA 4404 Front Panel



FONEMOSA 4402 Front Panel

5.1.3. Rear Panel

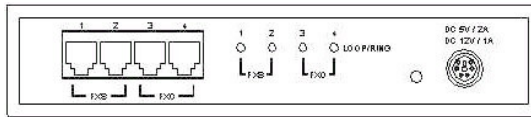
There is a button on the rear panel of FONEMOSA 4400/4400 Plus for special maintenance. Please don't touch this button under normal operation.



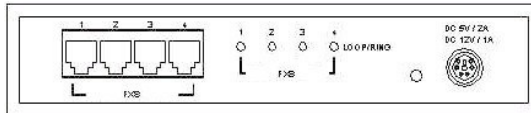
FONEMOSA 4416 Rear Panel



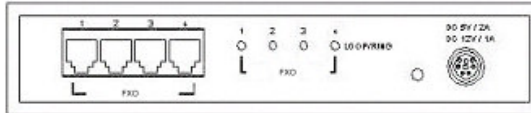
FONEMOSA 4408 Rear Panel



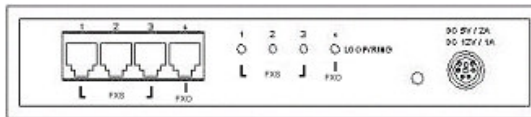
FONEMOSA 4404A Rear Panel



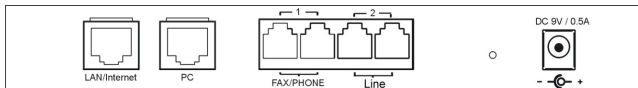
FONEMOSA 4404B Rear Panel



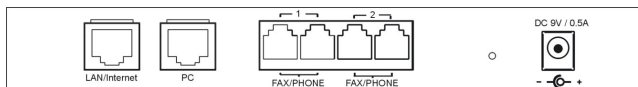
FONEMOSA 4404C Rear Panel



FONEMOSA 4404D Rear Panel



FONEMOSA 4402A Rear Panel



FONEMOSA 4402B Rear Panel

5.2. Modules

There are three types, modules MP3008, MP3108, and MP3208 can be installed for FONEMOSA 4400/4400 Plus.



MP3008 (8 FXS)



MP3108 (8 FXO)



MP3208 (4 FXS + 4 FXO)

In FONEMOSA 4400/4400 Plus series, modules can be installed on slot S1 or S2 based on the configuration plan.

Attention: If the module configuration is changed (e.g. location changed or quantity changed), Please execute **Factory Reset** (Recovered to the default value)

5.3. LED Indicator

	Label	LED	Description
PC LAN/Internet To WAN, To LAN	Link/ACT	ON	Network Linked Up
		FLASH	Sending/Receiving data packets
	100Mbps	ON	Transmission Rate is 100Mbps
		OFF	Transmission Rate is 10Mbps
Port Information	LOOP/ RING OUT (FXS) (FAX/PHONE)	ON	Off Hook, loop current detected
		FLASH	Ring signal sending
	LOOP/ RING IN (FXO) (LINE)	ON	Answered, loop current detected
		FLASH	Ringing
Device	PWR	ON	Power supply is normal
	ALRAM	ON	Errors detected when auto HW diagnostics running
			FXO Error detected or circuit break
	CPU/ACT	ON	CPU in normal operation
		FLASH	CPU is Running
	TIME SRVR	ON	Able to access to TIME SERVER
		FLASH	Trying to access to TIME SERVER
		OFF	NOT able to access to TIME SERVER
	NETMOSA	ON	Registered to NETMOSA
		OFF	Not registered to NETMOSA
		FLASH	Both NETMOSA and NETMOSA are configured, but only one server is registered.




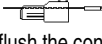

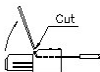
5.4. Connectors

Terminal	Label	Description
Voice	FXS	For analog phone set or FAX machine
	FXO	For public lines or trunk from PTT Operator
Network	To WAN (MDI-X)	RJ-45 MDI-X terminal, for WAN
	To LAN (MDI)	RJ-45 MDI terminal, for LAN
RS-232	CDR	For CDR
	CONSOLE	For system console

5.5. IDC Connectors (Only for 4408/4416)

IDC connector is used for the voice interface (FXS and FXO) on the rack model. By IDC connector, PBX line and telephone wire can be easily connected to the VoIP gateway. No special tools are required, please follow the instruction to install:

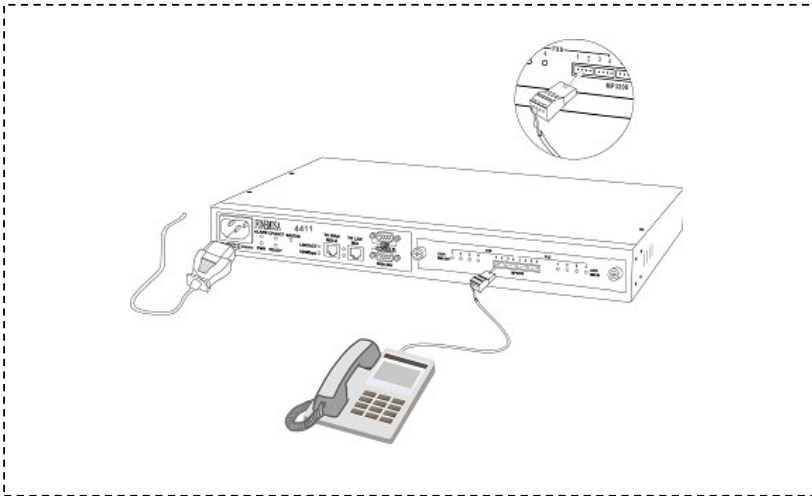
(Remarks: For IDC connector, it's better to use No. 24 wire, e.g. CAT 5)

1. Get the material ready	
 2. Insert the insulated wires directly into the block for wire insertion	
 3. Push the block down until it is locked to flush the conductor with the probe	
4. Cut off the conductor outside the edge to avoid from causing the circuit shortage	

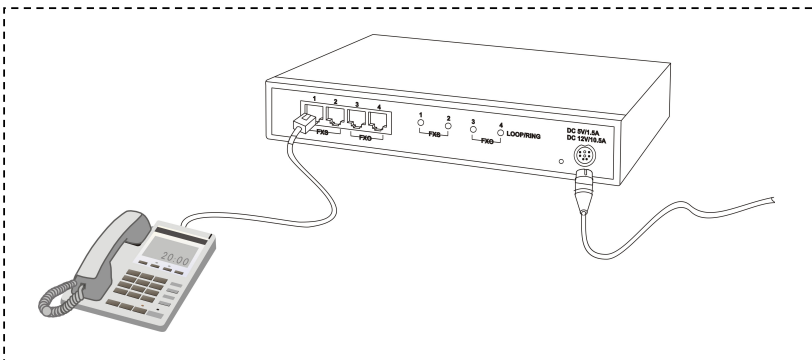
6. Basic Installation and Configuration

6.1. Phone Set Connection

Example: FONEMOSA 4408/4416

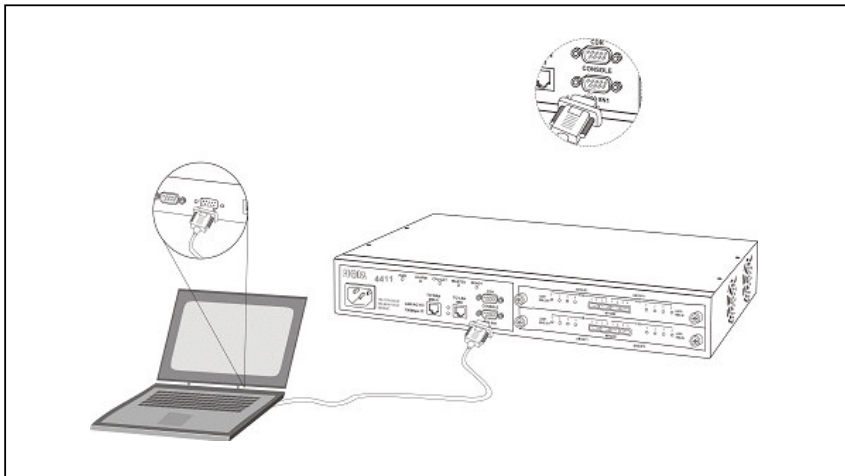


Example: FONEMOSA 4404/4402



6.2. Personal Computer Connection

Example: FONEMOSA 4408/4416



Example: FONEMOSA 4404

There is a **console** port on the panel of FONEMOSA 4404. Plug the attached Console cable into the console port and connect it with PC on the other side.

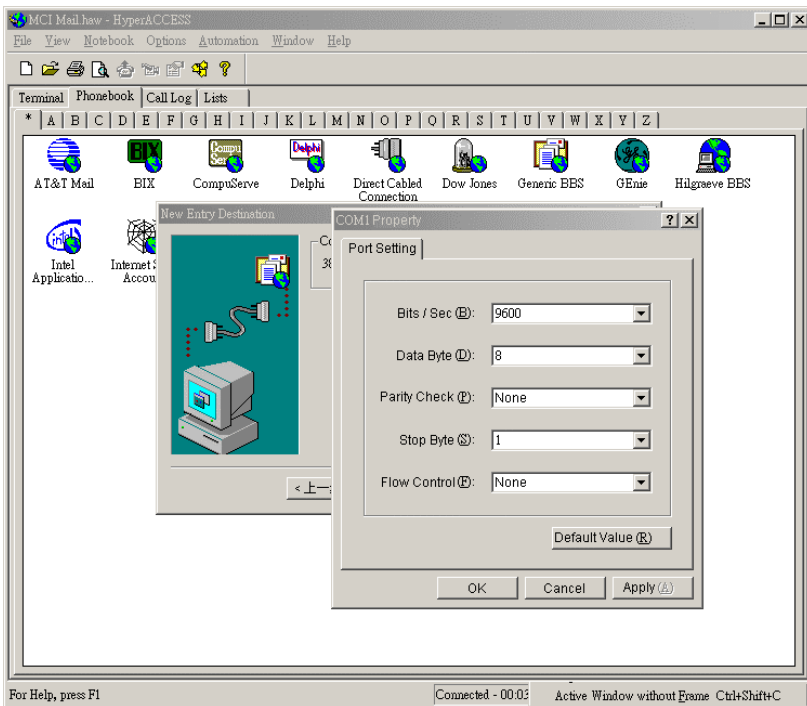
Example: FONEMOSA 4402

There are no console ports on FONEMOSA 4402 for console control. Please configure the setting via phone set or Telnet session. The command of Telnet session is the same as Console.

6.2.1. Configuration of Parameters for Console (Only for 4416/4408/4404)

After connect the PC to FONEMOSA 4400/4400 Plus via RS-232 cable, Power on the PC and configure the PC parameters as following :

- Speed: 9600
- Data Byte: 8
- Parity Check: None
- Stop Byte: 1
- Flow Control: None



7. Configuration of Parameters for Function and Web Management Page

7.1. Steps for Configuration

7.1.1.1. FONEMOSA 4416/4408/4404

- (1) Connect the Console Terminal to FONEMOSA 4400/4400 Plus Console port by RS-232 cable.
- (2) Configure the parameter of Console Terminal. Please refer to Section 6.2.1 Configuration of Parameters for Console (Only for 4416/4408/4404).
- (3) Set Region ID and restore to the default value. Please refer to Section 7.1.2 Configuration of Regional ID.
- (4) Enter a fixed IP address by System Console (or use the default IP address 192.168.0.2) and the password (e.g. 123) for entering the Web Management Page. For security reason, please configure password for verification to enter the Web Management page. Please refer to Section 7.1.3 Configuration of IP.
- (5) Connect PC to the network port labeled "To WAN" on FONEMOSA 4400/4400 Plus by LAN cable. The Indicator of LNK/ACT will be ON if the connection is working normally.
- (6) Set IP address of PC to the same subnet as IP address of FONEMOSA 4400/4400 Plus. For example, the default IP address of FONEMOSA 4400/4400 Plus is 192.168.0.2, and then you may set 192.168.0.3 as the IP address of PC. (PC re-start may be required).
- (7) Run the Brower, enter the IP address of FONEMOSA 4400/4400 Plus and then press ENTER key.
- (8) The window of USER ID and PASSWORD will be prompted out. Enter "WEB" (all capital letter) as USER ID and the password you just configure before (e.g. 123), press ENTER key. Now you are entering the Home page of the Web Management page.
- (9) On the Web Management Page, set the Region ID, Area Code, Phone Number, NETMOSA IP Address, UDP port and other features. Please refer to Section 7.2.1 Configuration of Phone Number via Web Management
- (10) If you like to use DHCP or PPPoE services, you may set the parameters from Web Management Page or via Console terminal and restart FONEMOSA 4400/4400 Plus. Please be attention, new dynamic IP address will be applied after restarting. It causes the problem to enter the original Web Management Page. You have to check the new IP address from Console terminal and enter the Web Management page by this new IP address.
- (11) When all of the parameters had been configured, connect FONEMOSA 4400/4400 Plus to Internet. The system will start after the indicator of TIME SRVR turns ON.

7.1.1.2. FONEMOSA 4402

- (1) There are no Console ports on FONEMOSA 4402. The settings may be done through phone set. First,

through phone set, key in the fixed IP address for FONEMOSA 4400/4400 Plus (you may use the default IP address 192.168.0.2). For detail operation, please refer to Section 10.4 Management by Phone set.

- (2) Open Command Prompt window, enter "Telnet 192.168.0.2" after prompt sign and press ENTER. (192.168.0.2 is the default IP address)
- (3) Setup Region ID and restore the default value, keep the IP address unchanged (the instruction by Telnet is same as by Console).
- (4) For other settings, please follow after step (4) of last chapter (MOSA 4416/4408/4404).

7.1.2. Configuration of Regional ID

The default value of FONEMOSA 4400/4400 Plus series product is dependent on the location of purchase order. Please confirm first if the Region ID is same as the country that FONEMOSA 4400/4400 Plus to be operated. From the label located at the bottom of the box, you may find the default value of Region ID, in the example, "43", the Region ID of Taiwan, is set as default value. If the Region ID is correct, skip to the next step, else change the Region ID. Please refer the Section 12 Region ID to Telecom Country code.

MODEL NAME: FONEMOSA
PRODUCT SERIAL NO: [REDACTED] TH320288D0236000001
Region ID : 43 (Taiwan)
MADE IN TAIWAN



The Instructions below is to set Region ID from Console terminal; for 4402, please use Telnet by the same instructions.

(In the example, the Region ID is changed to 07 for China)

Voice Gateway>**enable**

Voice Gateway **#configure**

Enter configuration commands, one per line. End with CNTL/Z

Voice Gateway (config)**#regional_id 07**

Voice Gateway (config)**#exit**

Voice Gateway **#delete nvram**

This command resets the system to factory defaults

All system parameters will revert to their default factory settings. All static and dynamic addresses will be

removed.

Reset system with factory defaults, [Y]es or [N]o? **Yes**

Attention:

1. Before Changing the Region ID, the system has to be reset to the default value. Therefore this step should be done first.
2. In case the IP address is set, the following instruction may keep the IP address unchanged after reset:
“delete nvram keep_ip”

7.1.3. Configuration of IP

An IP Address is required for FONEMOSA 4400/4400 Plus series product. How to get the IP address depends on the network configuration to which MOSA will be connected. Please refer the following table for the network configuration and define the IP address before doing system configuration. If fixed IP address will be used, you have to apply Internet service from Internet Service Provider (ISP) to get an available IP address. DHCP, which is not recommended, or PPPoE, which is provided by most of ADSL ISP, may be used for this gateway. In the following table, please find the information required under different network configuration.

IP Network Configuration		Information Required
Fixed IP Address	Public IP address	IP address Subnet mask Default Gateway Notes: Usually the IP address is assigned by ISP to avoid the conflict with the other equipments.
	Private IP address	IP address Subnet mask Default Gateway Notes: An IP Sharing is required for private IP address. In the IP Sharing environment, IP address of FONEMOSA 4400/4400 Plus has to be set as a virtual Server
DHCP		Please contact your MIS personnel . It is not recommended

IP Network Configuration	Information Required
PPPoE (Applied to most ADSL charged by time account or dial-up account)	Account Number Password Notes: These information are assigned by ISP, please contact your ISP if you don't know or you forget the account

You may perform the IP setting via System Console, and then enter the Web Management page to perform the other settings.

7.1.3.1. Configuration of IP Address via System Console



Configuration via System Console (In this example

IP will be 10.13.6.21 、

Subnet mask is 255.255.255.0 、

Default Gateway is 10.13.6.130)

Voice Gateway>**enable**

Voice Gateway **#configure**

Enter configuration commands, one per line. End with CNTL/Z

Voice Gateway (config)**#ip state user**

Voice Gateway (config)**#ip address 10.13.6.21 255.255.255.0**

System needs to restart

Voice Gateway (config)**#ip default-gateway 10.13.6.130**

Voice Gateway (config)**#exit**

Voice Gateway **#restart**

This command resets the system. System will restart operation code agent.

Reset system, [Y]es or [N]o? **Yes**

7.1.4. Modify the Configuration via Web Management Page

FONEMOSA 4400/4400 Plus series Web Management Page select folder "IP SETTINGS"

HOME	BASIC	IP SETTINGS	ADVANCED	CHANNEL	PHONEBOOK	ACCESSCODE
						<input type="button" value="Apply"/> <input type="button" value="Revert"/>
IP Settings						
IP State		<input type="text" value="Manual"/>				
Current Settings						
IP Address		<input type="text" value="192.168.8.26"/>				
Subnet Mask		<input type="text" value="255.255.255.0"/>				
Default Gateway		<input type="text" value="192.168.8.1"/>				
Change To: (Restart is required)						
IP Address		<input type="text" value="192.168.8.26"/>				
Subnet Mask		<input type="text" value="255.255.255.0"/>				
Default Gateway		<input type="text" value="192.168.8.1"/>				
PPPoE Settings: (Restart is required)						
Account		<input type="text"/>				
Password		<input type="text"/>				
Confirm Password		<input type="text"/>				
Service Name		<input type="text"/>				
DNS Server: (Restart is required)						
Primary Address		<input type="text" value="168.95.1.1"/>				
Secondary Address		<input type="text" value="0.0.0.0"/>				
Netmosa+ IP Setting: (Restart is required)						
IP Address	Port	Priority				
<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>					
<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>					
Netmosa IP Setting: (Restart is required)						
IP Address	Port					
<input type="text" value="202.39.25.123"/>	<input type="text" value="2000"/>					
Web Password (Read & Write)						
User Name	<input type="text" value="Vodtel"/>					
Password	<input type="text" value="*****"/>					
Confirm Password	<input type="text"/>					
CDR Receiver						
IP Address	<input type="text" value="0.0.0.0"/>					
Port	<input type="text" value="0"/>					

Group	Field	Descriptions	Default Value
IP Settings	IP State	<p>Select the way to get the IP address information:</p> <p>Manual : Static IP address manually inputted by user</p> <p>Auto(DHCP) : Dynamic IP address from DHCP server</p> <p>PPPoE : Through PPPoE to get the IP address from ISP. Please fill in the account information under PPPoE Settings if PPPoE is selected.</p>	Manual
	Current Setting	Display the current setting (current using) IP information, including IP Address, Subnet Mask and Default Gateway. (Display only)	192.168.0.2 255.255.255.0 192.168.0.1
	Change To	<p>Enter the information to be updated to, including :</p> <ol style="list-style-type: none"> 1. IP Address 2. Subnet Mask 3. Default Gateway <p>(IP State must be at state "Manual")</p> <p>After you had filled out these parameters, click button "Apply" to activate the updated value and the system must be restarted. (Warm Start)</p>	
PPPoE Settings	Account	PPPoE account, provided by ISP	Blank
	Password	PPPoE password of account	Blank
	Confirm Password	PPPoE password reconfirmed	Blank
	Service Name	Service Name of PPPoE account, provided by ISP. At this moment, it is not required for most of ISP, only a few exceptions.	Blank
DNS Server	Primary Address	IP Address of Primary DNS server. The default value is configured in advance, depending on the region of shipment. 168.95.1.1 is default for Taiwan region.	168.95.1.1

Group	Field	Descriptions	Default Value
	Secondary Address	IP Address of Secondary DNS server.	Blank
NETMOSA + IP Setting : (Restart is required)	IP Address	Enter NETMOSA+ IP. Two IP are allowed if register to NETMOSA +	0.0.0.0
	Port	Enter NETMOSA Control Port	2000
	Privilege	Display priority of NETMOSA	Blank
NETMOSA IP Setting : (Restart is required)	IP Address	Enter NETMOSA IP. Only one IP can be entered if register to NETMOSA	0.0.0.0
	Port	Enter NETMOSA Control Port	2000
WEB Password	User Name	USER name of Web Management Page	WEB
	Password	Password to enter the Web Management Page	Blank
	Password Confirm	Re-enter the Password for reconfirmation	Blank
CDR Receiver	IP Address	Enter the IP address of the remote PC of CDR Receiver	0.0.0.0
	Port	Enter the port of PC of CDR Receiver	0

7.1.5. Configuration Password for Web Management Page

Before entering the Web Management page, for security reason you have to set the password. The password consists any numeric or Alphabetic characters combination and it is less than 6 characters. Please be attention, FONEMOSA 4400/4400 Plus always requests the Password to enter the Home Page of WEB Management, no exceptions.



Setting Password by system console

(The password is set to 123 in this example)

Voice Gateway **>enable**

Voice Gateway **#configure**

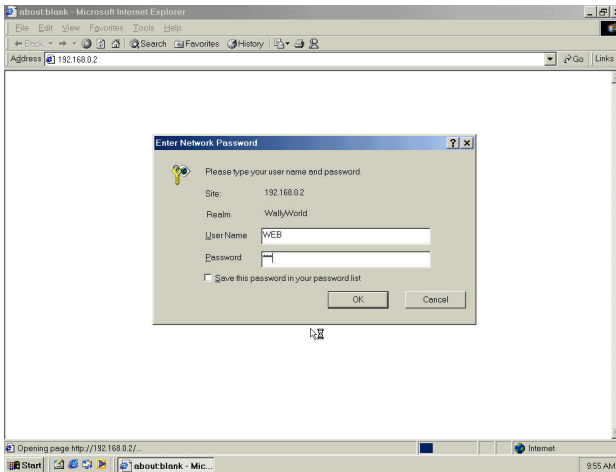
Enter configuration commands, one per line. End with CNTL/Z

Voice Gateway (config)**#password web_write password 123**

Voice Gateway (config)**#exit**

7.2. Configuration the Basic Parameters via Web Management Page

Start the Browser, enter the IP address of FONEMOSA 4400/4400 Plus and press **ENTER**. The window will be prompt out to request User ID and Password. Enter "WEB" (all capital letters) as User ID and the password as set before, and then click **OK**. The home page of Web Management will be displayed.



Some basic parameters of FONEMOSA 4400/4400 Plus have to be set in order to perform the basic operation. The basic parameters include:

Items	Description
Area Code	Area Code of Telecom area, e.g. 2 for Taipei Notes: Area Code 2 for Taipei; 7 for Kaohsiung; 21 for Shanghai; 10 for Beijing
Phone Number	Phone Number of FONEMOSA 4400/4400 Plus, e.g. 82261111. You can make an IP-phone from another FONEMOSA by dialing this number. Use the same number as the public phone number connected to FXO port, i.e. the general phone number
Netmosa/Netmosa+ IP Address	If Netmosa/Netmosa+ are connecting, IP address for Netmosa/Netmosa+ are required
Netmosa/Netmosa+ Port	If Netmosa/Netmosa+ are connecting, a UDP port for Netmosa/Netmosa+ must be defined

After finishing the setting of the previous basic parameters, at least the following functions is workable :

- The extension line of the gateway can be connected to each other.
- Dial "9" to catch the line for PSTN call.

- Make IP call to MOSA and FONEMOSA connected to NETMOSA.
- Forward call to MOSA and FONEMOSA connected to NETMOSA.

7.2.1. Configuration of Phone Number via Web Management

Setting Area Code and telephone number, select folder **"BASIC"** then field under "My Phone Number" from the Web Management page.

The screenshot displays the VODTEL Web Management interface. The top navigation bar includes tabs: HOME, BASIC, IP SETTINGS, ADVANCED, CHANNEL, PHONESBOOK, and ACCESS CODE. The 'PHONESBOOK' tab is selected and circled in red. Below the tabs, there are 'Apply' and 'Revert' buttons. The left sidebar lists various configuration categories: GENERAL, INBOUND TRANSIT, OUTBOUND TRANSIT, OFFNET FORWARD, ABBR. DIAL, SPECIFIED ROUTE, and BARRING CLASS. The main content area is titled 'Information' and includes fields for Region ID, Software Version, BootRom Version, Hardware Version, Card Type (S1), Card Type (S2), Up-Time, and MAC Address. Below this is the 'Time Configuration' section with fields for Time Source (Auto Sync), Date (yyyy/mm/dd), Time (hh:mm:ss), Time Zone (Beijing, Hong Kong, Singapore, Taipei), and Daylight Saving (Off). The 'UDP Port Configuration' section includes Call Control and RTP Base fields, both with red text indicating they need a warm-restart. The 'Transit Call' section has a Disable dropdown. The 'Greeting Mode' section has a Day dropdown. The 'My Phone Number' section is circled in red and contains three input fields: Country Code, Area Code, and Phone Number. Below this is the 'My ID' section with fields for Netmos+ ID, Password, and Netmosa ID, along with a Register button. The 'System Restart' section has a Restart Mode dropdown set to None.

7.2.1.1. General Parameters

Group	Field	Description	Default Value
Information	Region ID	Display the Region ID (Display Only)	
	Software Version	Display the Software Version (Display Only)	
	BootRom Version	Display the BOOT ROM version (Display Only)	
	Hardware Version	Display the Hardware Version (Display Only)	
	Card Type 1 (S1)	Display the card type of the 1 st interface card (Display Only)	
	Card Type 2 (S2)	Display the card type of the 2nd interface card (Display Only)	
	Up-Time	Display the elapse time since last start (Display Only)	
	MAC Address	Display the MAC address of HW equipment (Display Only)	
Time Configuration	Time Source	Select the method to synchronize the system date and time AutoSync : Synchronize automatically Manual : Entered manually	AutoSync
	Date	Enter the date manually, valid only if “ Manual ” is selected in Time Source, In format yyyy/mm/dd	Blank
	Time	Enter the time manually, valid only if “ Manual ” is selected in Time Source, in format hh:mm:ss	Blank
	Time Zone	Select the time zone which the system is located	
	DayLight Saving	Select if daylight saving applied ON : daylight saving applied OFF : daylight saving not applied	OFF

Group	Field	Description	Default Value
UDP Port Configuration	Call Control	Define UDP port number for packet transmission . The number is between the range of 0 – 65535. (It is activated after system re-started)	2000
	Pickup Section	Define the port number for Pickup Section. If you would like to pick up the call of another FONEMOSA 4400/4400 Plus, the Subnet Mask and Pickup Section of both sides must be same.	2001
	RTP Base	Define UDP port number for voice packet transmission . The port number must be even and between the range of 0 – 65534. (It is activated after system re-started)	4000
Transit Call		Activate Inbound/Outbound Transit Enable : Activate Inbound Transit and Outbound Transit Disable : Shut down Inbound Transit and Outbound Transit	Enable
Greeting Mode		Select the Greeting Mode Day : Greeting of office hours is activated Night : Greeting of off duty is activated	Day
My Phone Number	Country Code	Enter Country Code of the location where the system is. (e.g. 86 for China; 1 for America)	(Country Code by Region ID is displayed)
	Area Code	Enter Area Code of the location where the system is. (e.g. 21 for Shanghai; 2 for Taipei)	Blank
	Phone Number	Enter the PSTN telephone number connected	Blank
My ID	NETMOSA+ ID	NETMOSA+ ID is displayed if register to NETMOSA+; "OK" is displayed if register to NETMOSA PLUS	Blank

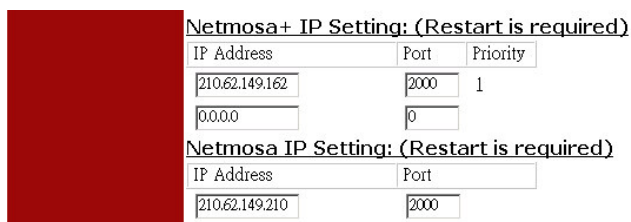
Group	Field	Description	Default Value
	NETMOSA+ Password	Enter Password to register to NETMOSA PLUS if the password is requested from NETMOSA Plus	Blank
	NETMOSA ID	Display the ID of NETMOSA	Blank
System Restart	Restart Mode	Select which Mode for this gateway to re-start None : Don't restart system Cold Restart : Cold restart system Warm Restart : Warm restart system	None

7.2.2. Register to NETMOSA or NETMOSA Plus

For FONEMOSA 4400/4400 Plus series product, system is joined to NETMOSA group automatically if the IP address and the port number of NETMOSA or NETMOSA Plus (Also called NETMOSA +) are defined. For NETMOSA, enter the MAC address of FONEMOSA 4400/4400 Plus to finish registration.

Refer the following figure of “NETMOSA IP Setting”, which is part of web page IP Setting. Please note that the port number must be same as port number assigned to NETMOSA. For example, if port number 2000 is defined on NETMOSA, 2000 has to be entered in this field.

Part of Web Management Page in folder “IP Setting”



Netmosa+ IP Setting: (Restart is required)

IP Address	Port	Priority
210.62.149.162	2000	1
0.0.0.0	0	

Netmosa IP Setting: (Restart is required)

IP Address	Port
210.62.149.210	2000

After successfully setting the IP address of NETMOSA or NETMOSA + in FONEMOSA 4400/4400 Plus, then go to the page BASIC to check if system is successfully joined in NETMOSA. If yes, the phone number will be displayed as the following figure that is part of web page BASIC.

From Web Management Page, select folder “BASIC”

My ID

Netmosa+ ID

886 - 2 - 4 : 54138

Register

(-OK-)

Netmosa+ Password

54138

Netmosa ID

54138

(-OK-)

7.3. Configuration of Features

7.3.1. Numbering Plan

The numbering plan for FONEMOSA 4400/4400 Plus is to define the access code for each kind of services and the manner of dialing. These codes will be applied often, therefore the code should be simple, easy to remember, and unique. The prefix of equipment should be put into consideration to prevent the conflict. The prefix of equipment supports 4400 Plus series only, please refer to [section 7.3.4](#) Prefix Map Table.

The access code consists any combination of 0 ~ 9, *, and #; and

- Total length must be less than 6 characters.
- The first character can **not** be 0, 1, and 2.
- If an access code is defined, you can define another access code by this code followed by one extra character, only one character is allowed. For example, “9” is defined as Trunk Group Access Code, then “91” or “92” may be defined as another access code, but “921” or “9112” may not be defined as an access code.
- Code can not be used if that has been defined as a prefix in Prefix Map Table.

The correct defined access codes are listed for your reference.

Items	Access Code
IP Calls w/ Auto Learning	*
IP Calls	#
Trunk Group 1 Access	9
Trunk Group 2 Access	8
Phoneset Programming	##
Abbr. Dial	*2
Call Pick Up	*3

Items	Access Code
Operator Code	0
NETMOSA Plus Call	#*

7.3.1.1. Numbering Plan WEB parameter

From Web Management Page, select folder “**ADVANCED**”, selection “NUMBERING PLAN”

The screenshot displays the FONEMOSA 4400 SERIES web management interface. The top navigation bar includes tabs for HOME, BASIC, IP SETTINGS, **ADVANCED**, CHANNEL, PHONEBOOK, and ACCESSCODE. The left sidebar shows a tree structure with GENERAL, **NUMBERING PLAN**, TRUNK GROUP, ACD, PKS, and PREFIX MAP. The main content area is titled "Numbering Plan Configuration" and contains two sections: "Access Codes" and "Other Setting".

Access Codes

IP Calls w/ Auto Learning	*
IP Calls	#
Trunk Group1 Access	9
Trunk Group2 Access	
Phoneset Programming	##
Abbr. Dial	
Call Pick Up	
Operator	0
Netmosa Plus Call	
Internal Call	1 and 2
Call Retrieve	
Message Waiting On	
Message Waiting Off	

Other Setting

Assign Operator to:	1
Maximum number of IP Calls:	2
IP Call Priority	PhoneBook-Outbound-NetmosaPlus
VM Prefix	
VM Suffix	

Group	Field	Description	Default Value
Access Code	IP Call w/ Auto Learning	Access Code to Make IP Call, and learning will start automatically when number is not found from Phone Book	*
	IP Calls	Access Code to Make IP Call	#
	Trunk Group1 Access	Access Code to Fetch trunk from trunk group 1	9
	Trunk Group2 Access	Access Code to Fetch trunk from trunk group 2	Blank
	Phone set Programming	Access Code to start configuration of this gateway via Phone set	##
	Abbr. Dial	Access Code for Abbreviated dialing	Blank
	Call Pick Up	Access Code to Pick up calls in same section	Blank
	Operator	Access Code to Connect to Operator	0
	NETMOSA Plus Call	Access Code to Make IP call via Netmosa Plus	Blank

Group	Field	Description	Default Value
	Internal Call	<p>An incoming call from FXO will hear the greetings first. System will check if the code you dial is internal call or not before searching the entries in Prefix Map. In default, the extension number is starting by 1 and 2, system will handle this call as a internal call if 1 or 2 is dialed first.</p> <p>Here you may change the way to :</p> <ul style="list-style-type: none"> - 1 and 2 : the way is same as before - 1 only : only 1 will be treated as extension number, otherwise search from Prefix Map table. - 2 only : only 2 will be treated as extension number, otherwise search from Prefix Map table. - None : all number dialed will be searched from Prefix Map table. It is a wrong number if it is not found from Prefix Map table. 	1 and 2
	Call Retrieve	When this gateway is connected with Parking Server and the call is parking on the server, push this access code to retrieve the call	blank
	Message Waiting On	New voice message prompt code. Codes for VM to notify MOSA 4600 that new voice message is waiting for retrieved. This codes setting must be the same as the new voice message prompt code of VM	
	Message Waiting Off	All new voice messages are retrieved code. Codes for VM to notify MOSA 4600 that all new voice messages is retrieved. This codes setting must be the same as the " All new voice messages are retrieved " code of VM	

Group	Field	Description		Default Value
Other Setting	Assign Operator to	Assign an extension line as the Operator. If operator is not assigned in this gateway, set to N/A.		1
	Maximum number of IP Calls	The maximum number of IP Call can be made. The default value is the number of extension line. It is recommended to plan it depending on the bandwidth.		16
	IP Call Priority	Configure the phone number searching priority for outbound call. Please refer to related chapter of PhoneBook, Outbound, NetmosaPlus 1. PhoneBook-Outbound-NetmosaPlus : The system search phone number according to this sequence. 2. PhoneBook-NetmosaPlus-Outbound : Change to different sequence		PhoneBook-Outbound-NetmosaPlus
	VM Prefix	Prefix code to activate VM function	The actual code that VM receives are VM	
	VM Suffix	Suffix code to activate VM function	Prefix + Ext. No. + VM Suffix	

7.3.2. Configuration of Ext. Line and Trunk (Channel)

The last 2 digit of the model name of FONEMOSA 4400/4400 Plus series product presents the number of ports equipped. Therefore FONEMOSA 4416 is equipped with 16 ports, FONEMOSA 4408 is equipped with 8 ports, FONEMOSA 4404 or FONEMOSA 4402 is equipped with 4 or 2 ports. The quantity of FXS and FXO ports on FONEMOSA 4416 or FONEMOSA 4408 depends on the module installed.

If you like to display the information of extension line, enter the folder “**CHANNEL**” of Web Management Page, and select the “SUMMARY”, a summary page for all ports of extension will be displayed. From this summary page below, it shows the information using MP3208 module (4FXS + 4FXO). The extension numbers is from 11 to 14 and the port 1 (11/OP) is set as operator.

From Web Management Page, select folder “**CHANNEL**”; select “SUMMARY”

Channel	I/F Type	Operating Status	T.38	Trunk or Opr Group	Ext. or Trk. Class	Barring Class
1	FXS	Enable	No	Yes	11/OP	0
2	FXS	Enable	No	Yes	12	0
3	FXS	Enable	Yes	Yes	13	0
4	FXS	Disable	No	Yes	14	0
5	FXO	Disable	No	1	2	-
6	FXO	Disable	No	1	2	-
7	FXO	Disable	No	1	2	-
8	FXO	Disable	No	1	2	-


7.3.2.1. Summary Description

Group	Field	Description	Default Value
SUMMARY	Channel	Sequence number of port 1~16 (Display only)	1~16
	I/F Type	Type of interface (Display only)	FXS / FXO /NA
	Operating Status	Display the status of operating (Display only)	Enable
	T.38	Support T.38 or not (Display only)	NO
	Trunk or Opr Group	Show the characteristics (Display only) FXS: If Operator Group (Yes/No) FXO: number of the trunk group (1/2)	-/Yes -/1
	Ext. or Trk. Class	Display the extension number (Display only) defined. The extension line that has joined to operator group will also show "/OP"	-/11~26 0
	Barring Class	Display the Barring Class (Display only)	0/-

7.3.3. Channel WEB Parameter

To configure the extension line, enter the folder “**CHANNEL**” of Web Management Page, select the page “**CONFIGURATION**”, enter the channel to be configured then click button **Apply**

From Web Management Page, select folder “**CHANNEL**”. select “**CONFIGURATION**”



HOME
BASIC
IP SETTINGS
ADVANCED
CHANNEL
PHONEBOOK
ACCESS CODE

SUMMARY
CONFIGURATION

Channel: 1 Select
Extension Number: 11

Information
Port Type: Phone
Port State: Enable
Current State: Enable
Do Not Disturb: Disable (FXS Only)

T.38 Fax Relay
Device Capacity: 2
Current Quantity: 2
Support T.38: Yes

Voice
Input Gain: 0 dB
Output Gain: -2 dB

FXO Loop Error Counter
Counter: 0
☐ Clear Counter

Call Forward
Control: Forward-Disable
Forward To:
(Gateway Phone Number)
Offset To:
(Offset Phone Number)

Barring Class
ID: 0 (FXS Only)

Outbound Transit Control
Privilege: International (FXS Only)

Join Operator Group
Yes/No: Yes (FXS Only)

Join Trunk Group
Group ID: N/A (FXO Only)

Pickup by Others
Control: True (FXS Only)

Battery Reverse
Control: OFF (FXS Only)

Voice Mail
Connection: Disable (FXS Only)

Soft Key
Soft Key String:
Trigger Mode: Key Press
Trigger Digits:
Append Trigger Digit: Not Append

Statistics ☐ Reset

Counter Type	Value
Call Attempt	0
Successful Outgoing Call	0
Incoming Call	0
Successful Incoming Call	0
Busy Time (sec)	0

7.3.3.1. Configuration Parameters

Group	Field	Description	Default Value
	Channel	Select the port number to be configured	1
	Extension Number	The extension number that is defined to this selected port	11
Information	Port Type	Display the type of the port (Display only) Phone: FXS interface for phone set or FAX Line: FXO interface for telephone line NA: Not used	
	Port State	Activate or shut down all functions of selected port Enable: Activate all functions to selected port Disable: Shut down all functions to selected port	Enable
	Current State	Display the current status (Display only) Enable: Selected port is enable Disable: Selected port is disable	Enable
T.38 Fax Relay	Device Capacity	Display the total port number allowed for FAX (Display only)	16
	Current Quantity	Display the port number that has been configured for FAX (Display only)	0
	Support T.38	If T.38 is support on selected port Yes: Support No: Not support	NO
Voice	Input Gain	Enter Input Gain	0 dB
	Output Gain	Enter output Gain	0 dB
FXO Loop Error Counter	Counter	Counter for FXO Loop Error	0
	Clear Counter	Clear the counter	

Group	Field	Description	Default Value
Call Forward	Control	<p>Enable or disable the function "Call Forward"</p> <p>Forward-Disable: Disable the function.</p> <p>Forward-All Calls: Forward all calls.</p> <p>Forward-Busy: When the FXS is busy, the calls will be forwarded.</p> <p>Forward-Busy-Slave: When the FXS is busy the calls will be forwarded. If the destination is also busy, and it is also configured as Forward-Busy-Slave. The call will continue forwarding to the next.</p> <p>NoAnswer-Forward: When there is no answer for this FXS port, the call forward to the specified destination</p> <p>Busy/NoAnswer-Forward: When there is no answer or line busy for this FXS port, the call forward to the specified destination</p>	Disable
	Forward to (Gateway Phone Number)	<p>Forward the call to the Gateway or NETMOSA telephone number you specified. The entered telephone number must contain full telephone number, including country code, and area code.</p> <p>If the "Offnet to" number is also configured, the call will offnet to PSTN via the gateway that the phone number is configured as "Forward to" here.</p> <p>If the gateway need to forward to the VM Product, please configure the "Forward To" number as the phone number or NETMOSA ID of the gateway that is connected to VM Product.</p> <p>FXS Port can be configured as "Forward to". FXO port can be configured to forward the call to a FXS port.</p>	Blank

Group	Field	Description	Default Value
	Offnet to (Offnet Phone number)	<p>Forward the IP calls that is coming (or forwarding) from other gateway to PSTN. The Offnet to number here is for the call offnet to PSTN.</p> <p>For example, the local gateway is located in Taipei. The MOSA that will forward your call is located at Shanghai, phone No. 21-6445-1111 (this No.+ country code is configured as "Forward to" No. 86-21-6445-1111) and you want to make a PSTN mobile phone call to Shanghai No. 1360567888, so you configured 1360567888 as "Offnet to" No here.</p> <p>And the "Permitted Phone Number for Offnet Forward" of FONEMOSA in Shanghai should be configured to "1360567888".</p>	Blank
Barring Class	ID	Enter the Barring class for selected port	0
Outbound Transit Control	Privilege	<p>Define the privilege for Outbound Transit call</p> <p>Disable : Outbound Transit call is not allowed</p> <p>Local : Outbound Transit call to local call only</p> <p>Toll : Outbound Transit call to mobile phone and Toll call</p> <p>International : Outbound Transit call to international call</p> <p>The local call, toll call, or international call is judged from the point of the phone number defined in this gateway.</p>	Disable
Join Operator Group	Yes/No	<p>Define whether to join into Operator Group or not.</p> <p>Yes : join into Operator Group to behave as Operator</p> <p>No : Not join</p>	Yes

Group	Field	Description	Default Value
Join Trunk Group	Group ID	Define which trunk group to be joined 1 : Trunk group 1 is joined 2 : Trunk group 2 is joined	N/A
Pick upped By Others	Control	Define whether the call will be picked up by others True : Allowed to be picked up False : Not allowed to be picked up	True
Battery Reverse	Control	Battery Reverse is a mechanism for traditional PBX to judge ON hook or Off hook status. ON : Battery reverse is enabled OFF : Battery reverse is disabled	FXS: OFF
Voice Mail	Connection	Enable: Connect VM product Disable: Don't connect VM product	Disable
Soft Key	Soft Key String	Define the characters string of softkey. When the softkey is triggered, the string of softkey will be dialed. The maximum length of string is 22 digits.	Blank
	Trigger Mode	Choose the Trigger mode to trigger the softkey : ■ Key Press : If the digits dialed matches with any one of the digits defined in Trigger Digits, the softkey is triggered and the number defined in softkey string will be dialed. ■ Auto : For FXS, it is triggered when phone-set in hook off status. For FXO, it is triggered when line is ringing.	Key Press
	Trigger Digits	Define the trigger digits to trigger the softkey e.g. define trigger digits as 123. softkey will be triggered if 1 or 2 or 3 is dialed.	Blank

Group	Field	Description	Default Value
	Append Trigger Digit	Define if the trigger digit will be appended to the softkey sting as the last digit when dial out ■ Not Append : Not appended ■ Append : Trigger digit is Append.	Not Append
Statistics	Reset	Mark the selection and click Apply to reset the traffic statistics.	
	Counter Type	Call Attempt : Volume of calls Successful Outgoing Call Incoming Call Successful Incoming Call Busy Time(sec) : Total using time of this port	

7.3.4. Prefix Map Table (Only Support 4400 Plus)

In FONEMOSA 4400 Plus, define a prefix ID for each MOSA/FONEMOSA in the Prefix Map Table. Then you can connect to the equipment by dialing the prefix ID defined for that equipment.

7.3.4.1. Definition

There are three fields in the Prefix Map Table:

1. Prefix ID

The prefix ID for other equipment, maximum length is 6 characters.

2. Phone Number

The phone number of MOSA or FONEMOSA. The NETMOSA ID may be entered in this field. It is the mapping of Prefix ID to the equipment.

3. Type : There are two choices : **iPBX / Phone**

- iPBX is selected for MOSA 4600 series or FONEMOSA 4400/4400 Plus series
- Phone is selected for others MOSA 4500 or FONEMOSA 4200.

If **iPBX** is defined in Type, system will start to create the call path after dialing prefix ID plus 2 digit extension number (prefix ID + Ext No), or prefix number plus "0" (prefix ID + 0). Actually, the corresponding telephone number of other equipment defined in the Prefix Map Table is sent out. In the later case, "0" will be treated as the access code for Operator if Operator is defined in the system, otherwise the "0" after the Prefix ID will be ignored.

If **Phone** is defined in Type, system will start to create the call path after dialing the Prefix ID number.

The Prefix Map Table is only adapted to the trunks or extension lines of its own system. It can not be shared by the other equipments. That means that each equipment should define its own Prefix Map Table.

When you would like to connect to FONEMOSA 4200 series equipment by dialing the Prefix ID, normally the voice port will be chosen. If you would like to connect to T.38 FAX port, you may define "phone No. + * " in the Prefix Map Table.

For example :

Prefix	Phone Number	Type
300	886282263139	Phone
301	886282263139*	Phone

Dial "300" from whatever FXO or FXS port, system is always searching for a Non-T.38 port as the destination; while dial "301", system will check if T.38 is supported by the calling side. If yes, system is searching for a T.38 port as the destination, otherwise searching for a Non-T.38 port.

Attention :

If there are two FONEMOSA 4400 Plus would like to dial each other by dialing Prefix + extension number, the prefix number defined for each FONEMOSA 4400 Plus must be identical. Besides the prefix of called equipment, the prefix for our own equipment has to be defined. If there are more than 3 equipment units would like to dial each other, the definition of prefix number for each equipment must be identical.

7.3.4.2. Restrictions in Prefix Map Table

Prefix Map Table is part of Numbering Plan, any confliction and duplication are not allowed. Please take care some restrictions.

- Avoid from defining the prefix number starting with digit "1" and "2". If you have to use the number starting with digit "1" or "2", please refer to the description of Internal Call in Numbering Plan. It may cause the confusion if the number presents extension number or prefix number.
- Avoid from defining the prefix number starting with digit "9". In the normal numbering plan, "9" is the default value for Access Code of fetching the line from trunk group 1.
- Avoid from defining the prefix number starting with digit "0". In the definition of tradition telephone numbering plan, "0" is defined as the starting digit for accessing long distance call or international oversea call.
- The maximum length of Prefix code is 6 characters. In principle, you can't define a new prefix number starting with the number that has been defined previously. For example, "33" is defined as a prefix number, then any numbers starting with "33", like "330", "3312", can not be defined as a prefix number. Of course, "31", "32", or "34" are OK. Another example, "555" is defined previously, then "5551" or "55522" can not be defined as a prefix number, but "551" or "552" or "553" ...etc. is OK.

7.3.5. Web Page for Prefix Map (Only 4400 Plus)

From Web Management Page, select folder “**ADVANCED**”; selection “**PREFIX MAP**”

FONEMOSA 4400 SERIES

HOME BASIC IP SETTINGS **ADVANCED** CHANNEL PHONEBOOK ACCESSCODE

Apply Revert

GENERAL

NUMBERING PLAN Network Operator

TRUNK GROUP Prefix

ACD **Prefix Map**

PKS Maximum: 600
Entered: 112

PREFIX MAP Max Prefix Length: 6

Page: 1 / 12 Select

Prefix	Phone Number	Type
3000	88994491449101	Phone
3001	88994491449102	Phone
3100	88994491449103	Phone
3101	88994491449104	Phone
3102	88994491449105	Phone
3103	88994491449106	Phone
3105	88994491449107	Phone
3200	88994491449108	Phone
3201	88994491449109	Phone
3202	88994491449110	Phone

Add/Modify Entry Prefix Phone Number Type
Delete Entry
Delete All Entries No

Phone Number Search

Prefix Phone Number Type
Query

7.3.5.1. Descriptions

Group	Field	Description	Default Value						
Network Operator	Prefix	<p>Enter the prefix number of equipment that the Operator is defined. Normally the Operator of own system will be connected if Access Code for Operator (default is "0") is dialed. If the Operator of own system is set to N/A, the call will be transferred to the Operator of other equipment whose prefix number is assigned here.</p> <p>e.g. the Prefix Map Table of own system :</p> <table><tr><td>prefix</td><td>phone</td><td>type</td></tr><tr><td>33</td><td>886282268888</td><td>iPBX</td></tr></table> <p>If the Operator is assigned to equipment with prefix 33 , then enter 33 in this field</p>	prefix	phone	type	33	886282268888	iPBX	Blank
prefix	phone	type							
33	886282268888	iPBX							
Prefix Map (Display Only)	Maximum	The maximum number of equipment can be entered.	600						
	Entered	The number of equipment has been entered	0						
	Max Prefix Length	The maximum length of Prefix number	6						

Group	Field	Description	Default Value
	Add/Modify Entry	<p>Add/Modify a Prefix number</p> <p>Prefix :</p> <p>Enter the Prefix number for other equipment, maximum length is 6</p> <p>Phone Number :</p> <p>Enter the phone number of MOSA or FONEMOSA that prefix is assigned to. This field may be the NETMOSA ID. That means the prefix number (phone number) is the equipment which you assigned to.</p> <p>Type :</p> <p>Type (iPBX / Phone) indicates this prefix number is assigned to MOSA 4600, FONMOSA 4400/4400 Plus series products or other products. iPBX is selected if it is assigned to MOSA 4600 or FONEMOSA 4400/4400 Plus series product. Phone is selected if it is assigned to MOSA 4500 or FONEMOSA 4200.</p> <p>If the type is iPBX, system will start to create the call path after dialing prefix number plus 2 digit extension number (prefix ID + Ext No), or prefix number plus "0" (prefix ID + 0). Actually, the corresponding telephone number of equipment defined in the Prefix Map Table is sent out. In the later case, "0" will be treated as the access code for Operator if operator is defined in the system, otherwise the "0" after the Prefix number will be ignored.</p> <p>If the type is phone, system will start to create the call path after dialing the Prefix ID number.</p>	Blank
	Delete Entry	Delete the Prefix number	Blank
	Delete All Entry	Delete all Prefix number	No
	Prefix	Enter the Prefix to be searched	Blank

Group	Field	Description	Default Value
	Prefix	Enter the Prefix to be searched	Blank
Phone Number Search	Phone Number	Display the phone number entered defined by the used by the searched prefix	Blank

7.3.6. Internal Call (remote or local extension)

Each FXS port in FONEMOSA 4400/4400 Plus series product can be an extension line of PBX; the extension number is one of the number from 11 to 26 only. FXS extension line can be connected by dialing the extension number or prefix number followed by the extension number.

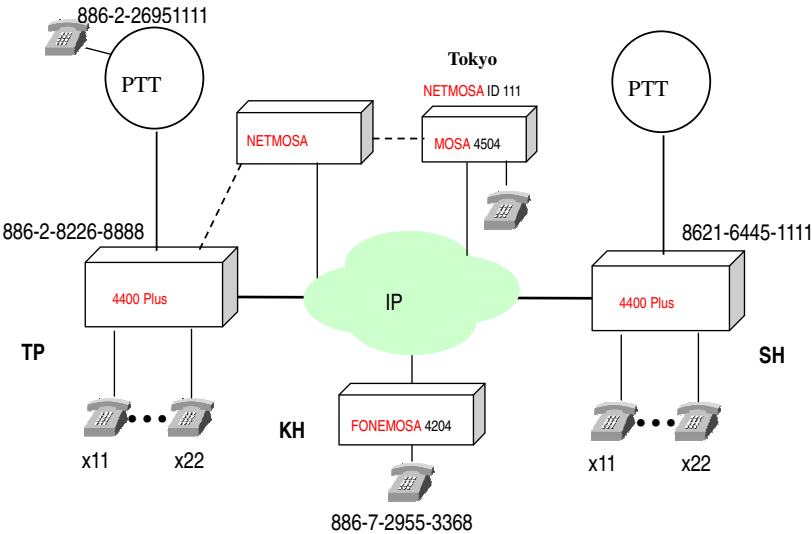
From FXS line in FONEMOSA 4400/4400 Plus series product can dial to the following product directly :

- To the extension line of another MOSA 4600 or FONEMOSA 4400/4400 Plus gateway on the remote side.
- To FXS port of another FONEMOSA 4200 on the remote side.
- Through NETMOSA, to FXS port of another MOSA 4500 on the remote side.

For the dialing procedure, please refer to the following table:

Called side	Dialing from Calling side
The extension line of another MOSA 4600 gateway on remote side	
The extension line of another FONEMOSA 4400/4400 Plus gateway on remote side	
The FXS port of another FONEMOSA 4200 on remote side	Method-1 : <IP Calls Access Code> + International Access Code + telephone number of FONEMOSA 4200 + “#” e.g. # 002862164451111 #
Through NETMOSA, the FXS port of another MOSA 4500	Method-1 : <IP Access Code> + NETMOSA ID + “#” e.g. # 8888 #

Example :



Description :

Assumption in the example:

Items for assumption	4400 in Taipei	4400/4400 Plus in Shanghai
Telephone Number	886-2-8226-8888	8621-6445-1111
Extension Number	11-26	11-26
IP Calls Access Code	#	#
Prefix Map	None	33 = 886282268888/iPBX
		22 = 862164451111/iPBX
		3444 = 886729553368/phone
		3455 = 111/phone

Example of dialing :

Calling side	Called Side	Dialing
Extension line of 4400 in Taipei	Extension 22 in Shanghai	#00286216445111122#
	FONEMOSA in Kaohsiung	#0729553368#
	MOSA 4504 in Tokyo	#111#
Extension line of 4400 Plus in Shanghai	Extension 11 in Shanghai	2211 or 11
	Extension 22 in Taipei	3322
	FONEMOSA in Kaohsiung	3444
	MOSA 4504 in Tokyo	3455

7.3.7. Dial to PSTN line

7.3.7.1. Access Trunk Group

All FXO ports are separated into two trunk groups : Trunk Group 1 and Trunk Group 2. Any extension line will access a free trunk from Trunk Group 1 if the Access Code for Trunk Group 1 is dialed, or from Trunk Group 2 if the Access Code for Trunk Group 2 is dialed. The access sequence is from the last ports upward, i.e. 16, then 15, 14, then 13.

All FXO port and Trunk Group will be configured via the Web Management Page, folder “CHANNEL”, please refer to [Session 7.3.2](#) Configuration of Ext. Line and Trunk (Channel).

I. Configuration of Trunk Group Access Code

From Web Management Page, select folder “**ADVANCED**”; select “NUMBERING PLAN”, via this page to configure the Access Code for Trunk Group.

Numbering Plan Configuration

Access Codes

IP Calls w/ Auto Learning *

IP Calls #

Trunk Group1 Access 9

Trunk Group2 Access *1

Enter the digit in the field “Trunk Group 1 Access” to configure the Access Code for accessing the trunk group

1. It is "9" in the figure. Enter another digit for Access Code of Trunk Group 2, e.g. "8".

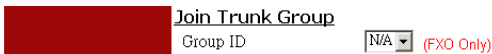
Attention : The Access Code in the Numbering Plan can not cause any confliction.

II. Configuration Each FXO to A Trunk Group

Each FXO port should be assigned to a trunk group, either Group 1 or Group 2.

From Web Management Page, select folder "**CHANNEL**" and select "CONFIGURATION". In this page, enter the FXO port in the field of Channel and click the button **Select** . Then choose the trunk group 1 or 2 in the field of "Group IP". Please refer to the following figure:

From Web Management Page, folder "**CHANNEL**" and select "CONFIGURATION"



Join Trunk Group
Group ID N/A (FXO Only)

7.3.8. Call Transfer

I. Called Side Transfer

If the gateway answers a call coming from either trunk or IP, this call can be transferred to :

- Any extension line of the same gateway
- The extension line of another MOSA 4600 or FONEMOSA 4400/4400 Plus series product at remote side
- The FXS port of another FONEMOSA 4200 at remote side
- The FXS port of MOSA 4500 at remote side via NETMOSA

II. Calling side Transfer

From the FXS port of MOSA 4600, calling side is able to transfer the answered call to any extension line listed above. (Using MOSA 4600 Software Version 1.08 or above only)

• Dial Method

When you would like to transfer a call that is answered, just flash the phone set or press the Transfer key. When you will hear the dial tone, dial the extension number or the telephone number of another FONEMOSA. If FONEMOSA 4400/4400 Plus is connected ahead PBX (FXS port of FONEMOSA 4400/4400 Plus is connect to the FXO port of PBX), it is possible that the **Flash** (or **Transfer**) signal is unable to pass to FONEMOSA 4400/4400 Plus. If this happens, use "#" to replace **Flash** (or **Transfer**) button. Please disable "Manual IP Learning" for this function. For details, please refer to 7.3.22.Access Code

Working with traditional PBX and FONEMOSA 4495 Parking Server, FONEMOSA 4400/4400 Plus also can use "#" to replace Flash button to penetrate PBX when using Consult Transfer function. When you want to Call Retrieve the phone call, dial "#" twice ("##") in 1.5 seconds.

Dialing Method is shown below.

Transferred To	Procedure	
	FONEMOSA 4400	FONEMOSA 4400 PLUS
Extension line of same Gateway	Flash then dial the Extension number Example : Flash → 14	Flash then dial the Extension number; or Flash then dial the Prefix of own Gateway+ Extension number Example : Flash → 14 · Flash → 33 14
Extension line of another FONEMOSA 4400 in remote side Or Extension line of another MOSA 4600 in remote side	“ * “ + Telephone number + Extension number + “ # “ Or Flash → “ * “ + Telephone number + Extension number + “ # “ Example: The phone number of remote FONEMOSA 4400 is 82263368, extension number is 14. Please dial *8226336814# or Flash → *8226336814# Please refer to right column for dialing to MOSA 4600 or 4400 Plus.	“ * “ + Telephone number + Extension number + “ # “ Or Flash → “ * “ + Telephone number + Extension number + “ # “ Or Flash → prefix + Extension number Example: 55 is the Prefix of remote FONEMOSA 4400 Plus (55 = 886282263368/IPBX), telephone number is 82263368, extension number is 14 Please dial *8226336814# or Flash → 55 14
Another FONEMOSA4200 in remote side	“ * “ + FONEMOSA Telephone number + “ # “ Or Flash→“ * “+ FONEMOSA Telephone number + “ # “ Example : Phone number of remote FONEMOSA 4200 is 82263368 Please dial * 82263368#	Prefix of remote FONEMOSA Or “ * “ + FONEMOSA Telephone number + “ # “ Or Flash→“ * “+ FONEMOSA Telephone number + “ # “ Example: 6233 is the Prefix of remote FONEMOSA 4200 ((6233 = 886282263368/Phone) Please dial: 6233

Transferred To	Procedure	
	FONEMOSA 4400	FONEMOSA 4400 PLUS
Another MOSA 4500 in remote side	<p>" * " + NETMOSA ID of MOSA 4500 + " # "</p> <p>Or</p> <p>Flash→" * " + NETMOSA ID of MOSA 4500+ " # "</p> <p>Example : NETMOSA ID of remote MOSA 4500 is 9823</p> <p>Please dial</p> <p>*9823#</p>	<p>Prefix of remote MOSA 4500</p> <p>Or</p> <p>" * " + NETMOSA ID of MOSA 4500 + " # "</p> <p>Or</p> <p>Flash→" * " + NETMOSA ID of MOSA 4500+ " # "</p> <p>"</p> <p>Example : 6633 is the Prefix number of remote MOSA 4500, NETMOSA ID is 9823 (6633 = 9823/Phone)</p> <p>Please dial</p> <p>*9823# or</p> <p>6633</p>

Please adjust the flash time of the phone set to avoid from causing the disconnection when flash for transfer call. The flash time of the phone set should be same as configuration of FONEMOSA 4400/4400 Plus. The flash time can be adjusted from Web Management Page , folder "**ADVANCED**", Select "**GENERAL**" as the following figure. 200ms is default value for the default Flash Time.

The screenshot shows the 'ADVANCED' tab selected in the top navigation bar. On the left, the 'GENERAL' menu item is highlighted. The main content area is titled 'General Configuration'. Under the 'Flash Button' section, the 'Flash Time' is set to 200 msec. Under the 'Touch Tone (DTMF)' section, both 'Duration' and 'Inter-digit Time' are set to 100 msec. A red box highlights the 'Flash Button' section.

Group	Field	Description	Default Value
Flash Button	Flash Time	Enter the time for "Flash" signal (or transfer key) to be recognized by system	200ms

7.3.9. Call Pickup

7.3.9.1. Pick up in the same Gateway

When a extension line is ringing, the other extension line in the same Gateway can pick up this call by dialing the Call Pickup Access Code which is defined in the gateway. For example, if “*3” is configured as the access code for Call Pickup, you may pick up the ringing call just dialing “*3” at other extension line. The Call Pickup function is applied to voice port only, and FAX port (support T.38) is not available.

The configurations of the Access Code for Call Pickup is in Numbering Plan, please refer to [section 7.3.1](#) Numbering Plan.

7.3.10.Operator

FONEMOSA 4400/4400 Plus series Gateway supports several types of Operator :

- DISA
- Operator for own Gateway
- Network Operator (4400 Plus only)

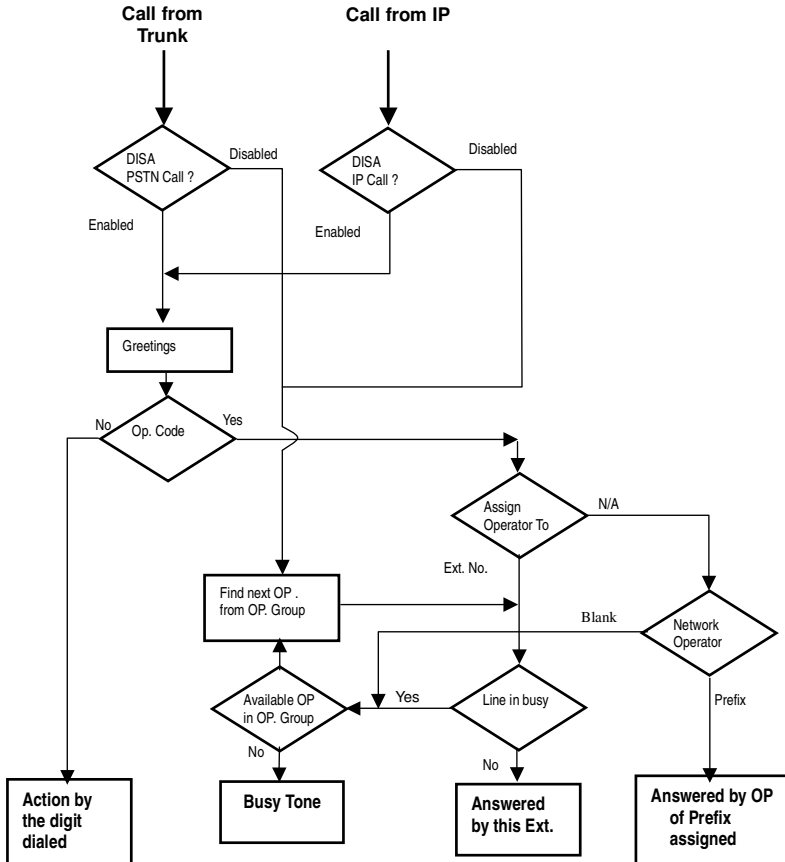
When a call is coming from trunk (i.e. FXO port) or from IP, FONEMOSA 4400/4400 Plus will follow the “procedure to select Operator” in the following chart to distribute the calls to the correct type of Operator.

Parameters

The following parameters are involved in the procedure.

Parameter	Description	Web Page
DISA PSTN Call	DISA is activated automatically when call is coming from trunk Enable : Activate Disable : Shut Down	Folder “ ADVANCED ” / select “GENERAL” Please refer to section 7.3.10.3 Build-In DISA.
DISA IP Call	DISA is activated automatically when call is coming from IP Enable : Activate Disable : Shut Down	
Assign Operator To	Assign a certain extension line as Operator	Folder “ ADVANCED ” / select “NUMBERING PLAN” Please refer to Section 7.3.10.4 Operator for own Gateway.
Operator Code	Access Code to access Operator	
Network Operator	Define the Prefix code of Network Operator	Folder “ADVANCED” \ Select “PREFIX MAP” Please refer to Section 7.3.10.5 Network Operator Prefix.
Join Operator Group	If a line join to Operator Group	Folder “ CHANNEL ” / select “CONFIGURATION” Please Refer to Section 7.3.10.4 III. Configuration Operator Group

7.3.10.1. Procedure to Select Operator



7.3.10.2. Call Flow

A call is coming from trunk by dialing the PSTN Number of FONEMOSA 4400/4400 Plus, DISA will answer the call. FONEMOSA 4400/4400 Plus will handle the call according the number is dialed.

Number Dialed	Call Flow
Extension No. (11-26)	Call connects to the extension line assigned
Prefix Code	Call connects to other equipment assigned (4400 Plus only)
Operator Code	Call connects to the port assigned for Operator
IP Call	Call connects to IP phone assigned (4400 Plus only)
None of above	Broadcast the announcement "The number you dialed can not be recognized". You have 3 times to correct the number, then FONEMOSA 4400/4400 Plus will disconnect the line

7.3.10.3. Build-In DISA

The DISA is build-in to each port and whenever a call is coming from trunk or from IP via Internet, DISA is always available to broadcast the greetings. Please configure DISA if you need the Auto Attendant to deal with the incoming call from trunk or IP.

Note: FONEMOSA 4400 Plus series supports DISA service and transfer calls to other place by IP call. For FONEMOSA 4400 series, calls can be transferred to FXO/FXS port of original gateway only.

Web Management Page , folder "**ADVANCED**", Select "GENERAL"

DISA

Trunk Call (FXO)

IP Call

No answer, send greeting (10~50 sec.) (FXO Only)

Group	Field	Description	Default Value
DISA	Trunk Call (FXO)	If the call from Trunk will be answered by DISA Enable : Yes, broadcast the Greetings Disable : No	Enable
	IP Call	If the call from IP will be answered by DISA Enable : Yes, broadcast the Greetings Disable : No, connect to OP directly. If OP is not defined, connect to the 1 st port.	Disable
	No Answer , send greetings	50 seconds is set as default value. 30 seconds is recommended. That means if the call is not answered in 30 seconds, the call control is back to DISA.	50 seconds

7.3.10.4. Operator for own Gateway

When a call is coming and the Operator Code is dialed, FONEMOSA 4400/4400 Plus will connect this call to the Operator.

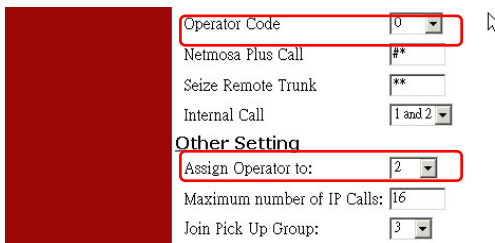
Notes: When the Operator is busy, system will find a free extension line that is configured in Operator Group starting from channel 1. For better support, the seats of extension lines that are configured in Operator Group should be not far from their seat.

Please refer to [Section 7.3.10.1](#) Procedure to Select Operator

I. Assign Operator Port and Operator Code

Steps of configuration :

- (1) From Web Management Page , folder **"ADVANCED"**, Select **"NUMBERING PLAN"** to enter the Page
- (2) Enter/select a number in the field of "Operator Code"
- (3) Enter/select a port in the field of "Assign Operator to" of group "Other Setting"
- (4) Click button **Apply**



Operator Code	0
Netmosa Plus Call	#*
Seize Remote Trunk	**
Internal Call	1 and 2
Other Setting	
Assign Operator to:	2
Maximum number of IP Calls:	16
Join Pick Up Group:	3

II. Operator Call Forward

When a call is coming and the Operator Code is dialed, FONEMOSA 4400/4400 Plus will connect this call to the line of Operator. If the Call Forward is configured on the line of Operator, the incoming call to Operator will be forwarded to new destination. By this function, Operator can be forward to any line you like when the company is in off duty time or in holiday. Operator can be assigned to any extension line port, and if this port is configured as Call Forward, then any call for Operator will be forwarded.

III. Configuration Operator Group

When the Operator is busy, system will find a free extension line that is configured in Operator Group, starting from channel 1 to 16 as the Operator. To configure Operator Group from Web Management Page, Click folder **"CHANNEL"**, and select **"CONFIGURATION"** to enter the Page

	Join Operator Group	
	Yes/No	Yes (FXS Only)

Notes: If an extension line is joined Operator Group and support T.38, this line will never be selected even all Operator extension lines are busy.

7.3.10.5. Network Operator Prefix (Only Support 4400 Plus)

I. No Operator in own Gateway

In FONEMOSA 4400 Plus, Operator line may be assigned to another gateway through Internet. When a call is coming and dials the Operator Code, system will search the Operator in own gateway. If the Operator of own gateway is set to N/A, system will assume that Operator is defined on another gateway. From the Network Operator Prefix configuration, system will find the Operator for this call. Of course, the Network Operator Prefix has to be configured in advance.

In the following example, the Operator is configured on equipment with Prefix code 81, which is a MOSA 4600/ FONEMOSA 4400 Plus with phone No. 886-2-8226-8881, as a Network Operator.

Steps of configuration :

- (1) In own gateway, Web Management Page folder **"ADVANCED"**, Select **"NUMBERING PLAN"** Page, in group **"Other Setting"**, set field of **"Assign Operator to"** to N/A

	Other Setting	
	Assign Operator to:	N/A

- (2) Configure the Prefix data of the gateway, in which Operator will be assigned, into Prefix Map Table of own gateway.
- (3) Enter the Prefix of gateway that Operator assigned into the field **"Network Operator Prefix"**.

In Prefix Map table : Prefix 81 = 886282268881/iPBX

In Numbering Plan : set 81 in the field **"Network Operator Prefix"**

HOME
BASIC
IP SETTINGS
ADVANCED
CHANNEL
PHONEBOOK
ACCESSCODE

Apply
Revert

GENERAL

NUMBERING PLAN

TRUNK GROUP

ACD

PKS

PREFIX MAP

Network Operator

Prefix

Prefix Map

Maximum: 600

Entered: 4

Max Prefix Length: 6

Page: / 1 Select

Prefix	Phone Number	Type
66	886244004400	iPBX
77	886244114411	iPBX
3000	5678	Phone
81	886282268881	iPBX

Set Entry

Delete Entry

Delete All Entries

No matter what type (Phone/iPBX) of Prefix is assigned to the Prefix of the network operator, the procedure to access network operator is same as the one to local operator.

7.3.11. Recording Greetings

- I. No special tools are required and any extension line can record the message of greetings. Totally you may have seven sections of greetings and one minute at most for each section. You may save the greetings in PC file and download the file to system via FTP.

For Example:

Type of Greetings	Description of Greetings	Example of Messages
Greeting (1)	The Greetings for office hour	Good day, this is XX XXX, please dial extension number or 0 for Operator
Greeting (2)	The message when line is busy	Line is busy, please dial other extension number or 0 for operator
Greeting (3)	The message when the number is wrong or can not be recognized	The number you dialed can not be recognized, please dial again
Greeting (4)	The message for waiting, the call is transferring	Thank you, please wait a moment
Greeting (5)	The greetings for company off duty or holiday	This is off duty time, please dial extension number directly or call in office hour again
Greeting (6)	The message for no answer	Call is no answer, please dial other extension number or 9 for Operator
Greeting (7)	The message for unable to answer the call, may be network problem or line problem	The line is unable to answer, please dial other extension number or 9 for operator

II. For Line of Operator

If the extension line is assigned as Operator, this line can activate the greetings for office hour and the greetings for off duty time

- (1) Activate the greetings for office hour, hook off the phone set, dial ## , then 071#
- (2) Activate the greetings for off duty time, hook off the phone set, dial ## , then 070#

III. For lines of Non Operator

If the extension line is not assigned as Operator, this line should enter to management mode, then activate the greetings for office hour and greetings for off duty time

- (1) Activate the greetings for office hour, hook off the phone set,
dial ## , dial 09 9999# to enter the management mode, then dial 071#
- (2) Activate the greetings for off duty hour, hook off the phone set,

dial ## , dial 09 9999# to enter the management mode, then dial 070#

7.3.11.1. Recording the Messages

(1) Entering the Management Mode

Hook off the phone set, when hear the dial tone, dial ## , → then 09 9999# to enter the management mode, → hear the tone of "DuDu....."

(2) Recording the 1st section

Dial 99 1 → * → start to record → # (end the record)

(3) Storing the 1st section

Dial 9# → hear the tone of "DuDu..." → #

(4) Recording the 2nd section

Dial 99 2 → * → start to record → # (end the record)

(5) Storing the 2nd section

Dial 9# → hear the tone of "DuDu..." → #

(6) Recording the 3rd section

Dial 99 3 → * → start to record → # (end the record)

(7) Storing the 3rd section

Dial 9# → hear the tone of "DuDu..." → #

(8) Recording the 4th section

Dial 99 4 → * → start to record → # (end the record)

(9) Storing the 4th section

Dial 9# → hear the tone of "DuDu..." → #

(10) Recording the 5th section

Dial 99 5 → * → start to record → # (end the record)

(11) Storing the 5th section

Dial 9# → hear the tone of "DuDu..." → #

(12) Recording the 6th section

Dial 99 6 → * → start to record → # (end the record)

(13) Storing the 6th section

Dial 9# → hear the tone of "DuDu..." → #

(14) Recording the 7th section

Dial 99 7 → * → start to record → # (end the record)

(15) Storing the 7th section

Dial 9# → hear the tone of “DuDu...” → #

Attention : Don't forget to dial additional “#” to end the last record, then start the next section.

7.3.11.2. Listening the Messages

(1) Entering the management mode

Hook off the phone set, when hear the dial tone, dial ## , → then 09 9999# to enter the management mode, → hear the tone of “DuDu.....”

(2) Listening the 1st message : Dial 961 → If you like to stop, just dial #

(3) Listening the 2nd message : Dial 962 → If you like to stop, just dial #

(4) Listening the 3rd message : Dial 963 → If you like to stop, just dial #

(5) Listening the 4th message : Dial 964 → If you like to stop, just dial #

(6) Listening the 5th message : Dial 965 → If you like to stop, just dial #

(7) Listening the 6th message : Dial 966 → If you like to stop, just dial #

(8) Listening the 7th message : Dial 967 → If you like to stop, just dial #

7.3.12. Abbreviated Dial

The feature of Abbreviated Dial is to provide a simple and short dialing behavior to send out the complex and long telephone number instead of dialing the full telephone number. There are 100 entries for Abbreviated Dial. The Abbreviated Dial Index is for every extension line to make a call by just hook off the phone set and dial

< Abbr. Dial Access code > + <Abbr. Dial Index (00 ~ 99) >

When you make a call by Abbreviated Dial, the call will override the restriction defined in the Barring Table if the code is from 00 to 69 , and the call will be restricted by the definition in the Barring Table if the code is from 70 to 99.

0 ~ 9 , * , and # may be used to define the Abbr. Dial Index in Abbr. Dial Table. The number defined in the table is the actual digits to be dialed out for making a phone call. For example, if you would like to dial “ 9 ” then the call of telephone number “ 0921888666 ” will be made, and then you should configure the telephone number in the Abbr. Dial Table as “ 90921888666 “. Another example, if you would like to make an IP call #82263368#, then you can configure the telephone number as “ #82263368# ” in Abbr. Dial.

7.3.12.1. Configuration

From Web Management Page folder “**BASIC**”, Select “**ABBR.DIAL**” page, enter the number to define the Index as in figure

ABBR. Dial Configuration

Total Entries: 100

Entry List

Page: 1 / 5

Index	Abbr. Dial Number
00	90921888666
01	#82263368#
02	
03	
04	
05	
06	
07	
08	
09	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	

Update Entry

Index: Abbr. Dial Number:

7.3.12.2. Parameters

Group	Field	Description	Default Value
Abbr. Dial Configuration	Total Entries	Total entries can be configured	100
	Entry List	Entry list for Abbr. Dial, consists : Page : Enter the page number to be displayed, page number from 1 to 5 Index : Display Abbr. Dial Index Abbr. Dial Number : Display the actual number to be dialed to make a call	Blank

Group	Field	Description	Default Value
	Update Entry	Configure the content of Abbr. Dial : Index : Enter the index to be configured Abbr. Dial Number : Enter the digits to be dialed , maximum 27 digits	Blank

7.3.13. Softkey

7.3.13.1. General

The function of Softkey can be configured on each extension line (FXS port) and Trunk (FXO port). The Trigger mode of Softkey may be defined. The Softkey may consists digits 0 ~ 9 , * , and # . Combine the function of Softkey and Abbr. Dial you may have varied applications.

7.3.13.2. Configuration and Example

From Web Management Page folder “**CHANNEL**”, select “**CONFIGURATION**” page.

I. Example 1 : Hot Line

User's Activities : User off-hooks the phone, number “ #0921555666# ” is sent out automatically.

Configuration :

Field	Value Entered
Soft key String	#0921555666#
Trigger Mode	Auto
Trigger Digits	Blank
Append Trigger Digits	Not Append

II. Example 2 : Dial IP-Phone without “ # ” in heading and ending (Simulate ISR Mode)

- User's Activities : User off-hooks the phone, dial “ 8226 3386 ” , system will send “ #8226 3368 ”
- Configuration

Field	Value Entered
Soft key String	#
Trigger Mode	Key Press
Trigger Digits	1234567890*#
Append Trigger Digits	Append

In addition, “Dial Ending Time” must be defined, please refer 7.3.23 Web Page parameters for Advanced\General.

7.3.14. Abbr. Dial Combined with Softkey

Combine Abbr. Dial and Softkey can have varied and convenient application.

Example

I. Activities of User's expectation

- User off-hooks the phone and dial "0", system will send out "#00286135556666#" "
- User off-hooks the phone and dial "1", system will send out "#0921666888#" "
- User off-hooks the phone and dial "*", system will send out "#6688#" "
- User off-hooks the phone and dial "#", system will send out "#668812#" "

II. Configuration

- Abbr. Dial Access Code : Web Management Page folder "**ADVANCED**", select "NUNBERING PLAN" page

Field	Value Entered
Abbr. Dial Access Code	5

- Abbr. Dial Configuration : Web Management Page folder "**BASIC**", select "ABBR. DIAL" page

Field	Value Entered
Index 10	#00286135556666#
Index 11	#0921666888#
Index 20	#6688#
Index 21	#668812#

- Softkey : Web Management Page folder "**CHANNEL**", select "CONFIGURATION" page

Field	Value Entered
Soft key String	51
Trigger Mode	Key Press
Trigger Digits	1234567890*#
Append Trigger Digits	Append

III. Explanation of how system works

- User dials "0", Softkey is triggered and "510" is sent out. This number meets the definition of Abbr. Dial Access Code "5", followed by Abbr. Dial Index "10", therefore the actual number dialed out is #00286135556666#

- User dials “ 1 “ , Softkey is triggered and “ 511 “ is sent out. This number meets the definition of Abbr. Dial Access Code “ 5 “ , followed by Abbr. Dial Index “ 11 “ , therefore the actual number dialed out is #0921666888#
- User dials “ * “ , Softkey is triggered and system converts “ * “ to “ 10 ” , therefore “ 520 “ is sent out (Please refer the figure below). This number meets the definition of Abbr. Dial Access Code “ 5 “ , followed by Abbr. Dial Index “ 20 “ , therefore the actual number dialed out is #6688#
- User dials “ # “ , Softkey is triggered and system converts “ # “ to “ 11 ” , therefore “ 521 “ is sent out (Please refer the figure below). This number meets the definition of Abbr. Dial Access Code “ 5 “ , followed by Abbr. Dial Index “ 21 “ , therefore the actual number dialed out is #668812#

$$\begin{array}{r}
 51\boxed{} \\
 + \quad 10 \\
 \hline
 520
 \end{array}
 \quad \begin{array}{l} \text{---} \nearrow \text{---} \end{array} \quad * = 10$$

$$\begin{array}{r}
 51\boxed{} \\
 + \quad 11 \\
 \hline
 521
 \end{array}
 \quad \begin{array}{l} \text{---} \nearrow \text{---} \end{array} \quad \# = 11$$

7.3.15.Inbound Transit Calls

FONEMOSA 4400/4400 Plus provides the feature to forward the call that is coming from the trunk (FXO) port, to FXS port of another FONEMOSA /MOSA series; or through FONEMOSA 4200/ 4400, MOSA 4500/4600 FXO port to the phone outside the network, so called transit call.

Dial Method

< IP Calls Access Code > + Password for Transit Call + < IP Calls Access Code > + Phone number of Forward to or NETMOSA ID + < # >

If the default value for IP Calls Access Code , i.e. # , is not changed, the dial number will be like this :

Password for Transit Call # Phone number of Forward to or NETMOSA ID

If “Phone number or NETMOSA ID of Forward to” is the FXS port of another FONEMOSA / MOSA, any Password for Inbound Transit will not take effect. If the transit call is offnet to PSTN (PSTN – IP –PSTN), then the password will limite the forwarded calls. Different passwords have different permission.

There are four types of permission :

- Disable : Call can not be forwarded to the line outside the network
- Local : Call can be forwarded to a local call of PSTN line

- **Toll** : Call can be forwarded to a local or toll call of PSTN line
- **International** : Call can be forwarded to a local, toll, or international call

The definition is relative to the area code of the equipment that caller dials into. Please refer to the following example.

Example :

User at Taipei would like to make a call to Taipei's FONEMOSA 4400/4400 Plus with phone number 82268888; and then forward this call to 64452222 at Shanghai. This user must apply the password for Transit Call with privilege for international call, e.g. 2222. The steps to place the call are “

- (1) Make a call to Taipei 82268888, which is FONEMOSA 4400/4400 Plus in Taipei from any public phone line (PSTN)
- (2) After hearing the greetings, dial #2222#002862164452222#

Attention that the user is trying to forward a call from Taipei's FONEMOSA 4400/4400 Plus to a public line in Shanghai, therefore this user needs the password for Transit Call with privilege for international call.

The password must be configured in advance, otherwise this function will not work. Enter from Web Management Page folder **“BASIC”**, select **“GENERAL”** page, check if the field of **“Transit Call”** is set to **“Enable”**, if not, please set it to **“Enable”**.

7.3.15.1. Configuration

Web Management Page folder “BASIC”, select “INBOUND TRANSIT”

HOME BASIC IP SETTINGS ADVANCED CHANNEL PHONEBOOK ACCESSCODE

Apply Revert

GENERAL

INBOUND TRANSIT

OUTBOUND TRANSIT

OFFNET FORWARD

ABBR. DIAL

SPECIFIED ROUTE

BARRING CLASS

Page: 1 / 1

Selected

Password	Class
222	Toll
111	Local
333	International

Password Class

Add Passwords

Delete Passwords

Query Password

Password

Group	Field	Description	Default Value
Password For Inbound Transit	Maximum	Display maximum no. of password can be accepted (Display Only)	128
	Entered	Display the no. of password had been entered (Display Only)	0
	Entries List	List the detail data of password had been entered (Display) Only	Blank

Group	Field	Description	Default Value
	Add Passwords	Enter a new password, any combination of digits and * , # , less than 9 characters Class : Disable : Can NOT make the Inbound Transit call Local : Can make the Inbound Transit call to a local call Toll : Can make the Inbound Transit call to a local or toll call International : Can make the Inbound Transit call to a local or toll or international call ※The privilege is relative to the Country Code / Area Code of the equipment that caller dials to	Blank
	Delete Passwords	Enter the password to be deleted, refer the detail data under Entries List	Blank
Query Password	Password	Enter the password for query, click button Query , the privilege class will be displayed (one of Disable, Local, Toll, International is displayed)	Blank

7.3.16.Outbound Transit Calls

The feature Outbound Transit Call provides the possibilities for the remote equipment to make or transfer a call to PSTN line via your gateway.

Due to all charges for lines calling to PSTN will be paid by own gateway, only the calls from the remote gateway with permission are allowed to make the outgoing call through trunk of own gateway. FONEMOSA 4400/4400 Plus defines three Route types to the different equipments. Each remote equipment will be assigned a Route Type for Outbound Transit Call to restrict the call type can be dialed out from own gateway.

- Local : Only local call is allowed
- Toll Call : Only local and Toll call is allowed
- Specified : Only the area code specified is allowed

There is a list of "Permission List of Outbound Transit" in own gateway; the equipments that have the permission of Outbound transit are listed. The list consists the data of :

- MAC Address
- Phone Number
- Route Type

If Seize Trunk (FXO) from remote is Allowed

7.3.16.1. Configuration of Outbound Transit

- Steps of configuration
 - Enter the MAC address and the telephone number of the remote equipment to be permitted.
 - Choose the Route Type from Local, Toll, or Specified.
 - Click button **Apply**, a new line will be added in the list of "Permission List of Outbound Transit"

GENERAL
INBOUND TRANSIT
OUTBOUND TRANSIT
OFFNET FORWARD
ABBR. DIAL
SPECIFIED ROUTE
BARRING CLASS

HOME BASIC IP SETTINGS ADVANCED CHANNEL PHONEBOOK ACCESSCODE

Apply Revert

Permission List Of Outbound Transit

Maximum: 256
Entered: 0

Page: 1 / 1 Select

MAC Address	Phone_Number	Attempts	Duration	Route Type
Add/Modify Entry	<input type="text"/>	<input type="text"/>	<input type="text"/>	Toll
Delete Entry	<input type="text"/>			
Delete All Entries	No			
Clear Statistics	<input type="text"/>			

7.3.16.2. Parameters

Group	Field	Description	Default Value
Permission List Of Outbound Transit	Maximum	Display the Max No. of list can be entered (Display Only)	256
	Entered	Display the No. had been entered (Display Only)	0
	Entries List	Display the detailed data (Display Only)	Blank

Group	Field	Description	Default Value
		<ol style="list-style-type: none"> 1. MAC Address : MAC address of the remote equipment that is permitted for Outbound Transit Call. If “ + ” is followed means trunk port may be seized by this equipment 2. Phone Number : Phone number who has the permission for Outbound Transit 3. Attempts : The No. of times to make the outbound transit call (including the calls that are not successful) from this phone number through gateway, please refer to the field of “Clear Statistics” in same page if you like to clear the data 4. Duration : During time in second of all outbound transit call (including the calls are not successful) from this phone number, please refer the field of “Clear Statistics” in same page if you like to clear the data 5. Route Type : The route type of outbound transit call 	
	Add/Modify Entry	<p>Enter the detail data of the remote equipment that the outbound transit call is permitted via my gateway.</p> <ol style="list-style-type: none"> 1. MAC Address : MAC Address of the remote equipment (full address of six sections, e.g. 00-03-62-80-13-49) 2. Phone Number : Full range telephone number of the remote equipment including country code and area code, e.g. 886282263368704 3. Route Type : Type of the call can be made Local : Local call only Toll : Local, Toll call and Mobile call only Specified : call to the area specified only 	Blank
	Delete Entry	Enter the MAC Address of the equipment that will be deleted from the list of Permission List of Outbound Transit	Blank
	Clear Statistic	To clear the statistics data of certain entry in the list of Permission List of Outbound Transit, just enter the MAC Address of the equipment	Blank

7.3.17. Call Forward

The feature of Call Forward is to predefine a destination on the extension line, then all calls to this extension line will be forwarded to the destination automatically. The destination can be defined in FONEMOSA 4400/4400 Plus is:

- the extension line in the same gateway
- the extension line of another FONEMOSA 4400/4400 Plus or MOSA 4600 series at remote side
- the FXS port of another FONEMOSA 4200 at remote side
- the FXS port of another MOSA 4500 at remote side through NETMOSA
- the public line (PSTN) through the gateway at remote side (Off-net Forward)

For the feature of Call Forward, there are 3 parameters to be configured :

Parameter	Description
Control	<p>Forward-Disable : Disable Forward Feature</p> <p>Forward-All Calls : Forward all calls</p> <p>Forward-Busy : Forward only if this line is busy</p> <p>Forward-Busy-Slave : Forward only if this line is busy. And if the forwarded line is also busy and Forward-Busy-Slave is defined, this call will be forwarded to next destination as configured.</p> <p>NoAnswer-Forward: When there is no answer for this line, the call forward to the specified destination</p> <p>Busy/NoAnswer-Forward: When there is no answer or line busy for this channel, the call forward to the specified destination</p>
Forward To	Phone number of the remote equipment or NETMOSA ID that will be forwarded to. The phone number must be a full number including country code and area code.
Offnet to	The telephone number of PSTN or mobile phone that the call will be forwarded to. The telephone number is entered from the viewpoint of transfer gateway (the remote equipment that the phone number had entered in the field of "Forward To").

In general, there are two types of Call Forward, one is Offnet Forward to remote PSTN, and another is Normal Call Forward. Here the Normal Call Forward is introduced in below section.

7.3.17.1. Configuration of Normal Call Forward

There are two parameters have to be configured. And there are two methods to perform the configuration, either by Web Management Page or by phone set. Each extension line may have different configuration for Call Forward. Please follow the steps :

I. Configured Call Forward by Phone set

- (1) Off-hook the phone set and dial ##0000
- (2) Dial 011 ; Activate Call Forward
- (3) Dial 0286216666111 ; Define field of "Forward To"
- (4) Hang up the phone set

II. Disable Call Forward by Phone set

- (1) Off-hook the phone set and dial ##0000
- (2) Dial 010 ; Disable Call Forward
- (3) Hang up the phone set

III. Configuration via Web Management Page

- (1) From Web Management Page folder "**CHANNEL**", select "CONFIGURATION" page to select the port to be configured.
- (2) In the same page, follow the description of the table below to configure the fields under group "Call Forward".

	Activate Call Forward	Disable Call Forward
Control	Forward-All Calls	Forward-Disable
Forward To	The phone number of the destination or NETMOSA ID	
Offnet To	Blank	

Attention : Please make sure that the IP call (FXS to FXS) between the two parties is OK before configuring call forward function.

7.3.17.2. Secretarial Intercept Feature

In a company, phone call of General Manager is pickup by secretary. Phone calls are filtered by secretary and it is transferred to GM if necessary.

Configuration:

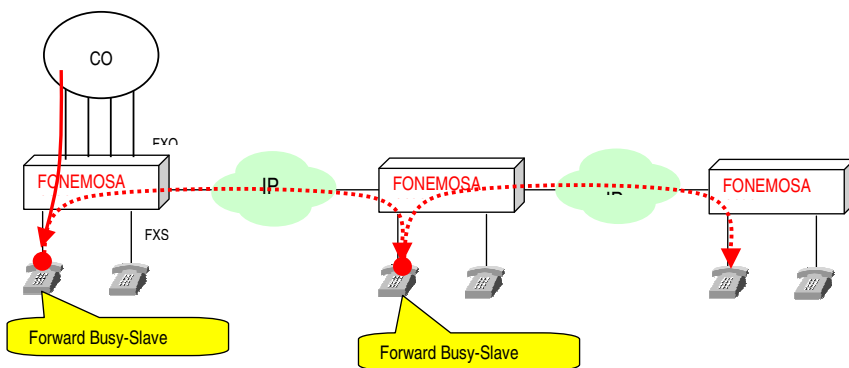
1. Configure all calls dial to GM are forwarded to the extension line of secretary, then any calls that dial to GM will be forwarded to secretary.

	Activate Call Forward
Control	Forward-All Calls
Forward To :	The extension line of secretary

2. Secretary press phone-set
Flash (or #) + extension of GM
Then the incoming calls is transfer to GM. For Call Transfer function, please refer to 7.3.8 Call Transfer
3. Only the extension of secretary is allowed to Call Transfer or dial to the extension of GM.

7.3.17.3. Line Group Function

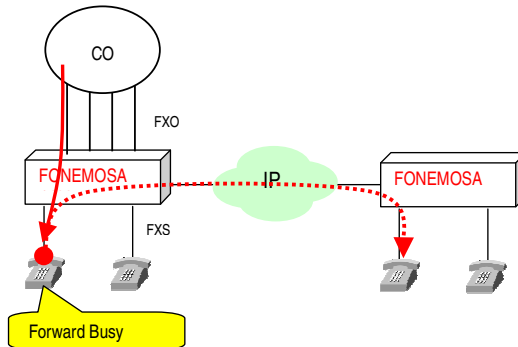
- (1) Select Forward-Busy-Slave in Control field.
- (2) A incoming call is dialing to the FXS port, and it will be forwarded to the pre-defined destination Ext. line, we call it Line-A. If this FXS port is busy and it is also configured as Forward-Busy-Slave, then this call will be forwarded to the pre-defined destination line, we call it Line-B. The maximum cascade is up to 16.
- (3) The configuration of Forward-Busy-Slave for the field can be done by Web Management Page
- (4) Example



7.3.17.4. Busy Forward

- (1) Select Forward-Busy in Control field.

- (2) A incoming call that dial to the FXS port will be forwarded to the pre-defined destination line if this FXS port is busy.
- (3) Example



7.3.17.5. No Answer Forward

- (1) Select NoAnswer-Forward in Control field.
- (2) When there is no answer for that FXS port, the incoming calls to this FXS port will be forwarded to specified destination. How long will the gateway forward the call if there is no answer for this call? The duration can be adjusted in "No answer, send greeting" field in DISA function. The duration set here minus 5 seconds are the NoAnswer-Forward time. The default value is 50 seconds; it means the call is transferred if there is no answer for 45 seconds.

Web Folder: ADVANCED / GENERAL

DISA	
Trunk Call (FXO)	Disable ▾
IP Call	Disable ▾
No answer, send greeting	50 (10~50 sec.) (FXO Only)

7.3.18. Offnet Forward

7.3.18.1. Offnet Forward to remote PSTN line from Own Gateway

User may forward a call from the extension line of own gateway to a PSTN line in remote side via a transfer gateway.

I. The steps of configuration

- (1) Configuration for the parameters of "Call Forward" of own gateway

<u>Field</u>	: <u>Description</u>
Control	: Enable
Forward To	: The telephone number of the remote gateway that will forward to. If the transfer gateway is the gateway itself, keep this field in blank
Offnet To	: The telephone number of PSTN line that the call will be forwarded to. Because this call will be dialed from the remote gateway, the phone number must be entered from the point of view of the remote gateway. The phone number of remote "Forward To" gateway need to be entered for Offnet To function to PSTN

(2) Configuration for the equipment of **remote transfer gateway**

For remote transfer gateway, the telephone number, same as the telephone number configured in "Offnet to" of own gateway, need to be defined in the field of "Permitted Phone Number for Offnet Forward"

II. Example

Own Gateway FONEMOSA 4400/4400 Plus is located at Taipei and remote FONEMOSA as the transfer gateway is located at Shanghai. If an extension line at Taipei will forward a call offnet to a mobile phone 1360567888 in Beijing. The configuration for both parties is :

Parameters	Configuration of own Gateway at Taipei	Configuration of remote FONEMOSA (8621-6445-1111)
Control	Enable	-
Forward to	862164451111	-
Offnet to	1360567888	-
Permitted Phone Number for Offnet forward	-	1360567888

In order to forward the call to remote PSTN line, the "Offnet to" of own gateway needs be configured; in addition the parameters of remote FONEMOSA need to be configured. The Web page to configure the remote FONEMOSA for the example is shown below :

SOHO / FONEMOSA

HOME BASIC IP SETTINGS ADVANCED CHANNEL PHONEBOOK ACCESSCODE

Apply Revert

GENERAL

INBOUND TRANSIT

OUTBOUND TRANSIT

OFFNET FORWARD

Permitted Phone Number for Offnet Forward

Maximum: 32

Entered: 1

Phone_Number	Attempts	Duration
1360567888	0000	000000

Phone_Number

Set Entry

Delete Entry

Clear Statistics

Attention : The telephone number defined in the field of "Offnet To" is the number actually dialed from the remote transfer gateway. In this example, the call is forwarded to offnet mobile phone of China, therefore no area code is required when call is transferred from FONEMOSA in Shanghai.

7.3.18.2. Offnet Forward via Our own Gateway

We can forward a call to a remote PSTN line via the remote FONEMOSA. In reverse, from remote FONEMOSA the call can be forwarded to a PSTN line via our gateway.

I. Configuration of Offnet Forward in own gateway

From Web Management Page folder "**BASIC**", select "OFFNET FORWARD" page

SOHO / FONEMOSA

HOME BASIC IP SETTINGS ADVANCED CHANNEL PHONEBOOK ACCESSCODE

Apply Revert

GENERAL

INBOUND TRANSIT

OUTBOUND TRANSIT

OFFNET FORWARD

ABBR. DIAL

SPECIFIED ROUTE

BARRING CLASS

Permitted Phone Number for Offnet Forward

Maximum: 64

Entered: 1

Page: 1 / 1 Select

Phone_Number	Attempts	Duration
0921333555	0000	000000

Phone_Number

Add/Modify Entry

Delete Entry

Clear Statistics

Group	Field	Description	Default Value
Permitted Phone Number for Offnet Forward	Maximum	Maximum number of telephone number permitted for offnet forward (Display Only)	64
	Entered	The number of telephone number had been entered (Display Only)	0
	Entries List	Display the detail data in the list of "Permitted Phone Number for Offnet Forward" (Display Only)	
		1. Phone Number : The phone number that is permitted for Offnet Forward 2. Attempts : The number of Offnet Forward calls to the defined phone number via own gateway: 3. Duration : The time duration of Offnet Forward, by the unit of second, to the defined phone number via own gateway	
	Add/Modify Entry	Enter a new phone number that is permitted for Offnet Forward via own gateway	
	Delete Entry	Enter the phone number to be deleted from the list of "Permitted Phone Number for Offnet Forward"	
	Clear Statistics	Enter the phone number to clear the statistics data of this entry from the list of "Permitted Phone Number for Offnet Forward"	

II. Configuration of Remote Trunk Group in Own Gateway

Not only to give the permission to the phone number of "Offnet To", the parameters for "Remote Trunk Group" will be configured.

- (1) Entering web page from Web Management page folder "**ADVANCED**", select "TRUNK GROUP"
- (2) Set the field of "Allow Remote Access" to **TRUE** under the selected Trunk Group that is allowed to be accessed from remote equipment
- (3) Click the button of **Apply**



Group	Field	Description	Default Value
Group1	Member	List of FXO ports of Trunk Group 1	Depend on FXO ports (13, 14, 15, 16)
	Allow Remote Access	Setup the ports in this trunk group to be allowed for making Transit Call from remote gateway	False
Group2	Member	List of FXO ports of Trunk Group 2	Blank
	Allow Remote Access	Setup the ports in this trunk group to be allowed for making Transit Call from remote gateway.	False

7.3.18.3. Privilege For Outbound Transit

I. Privilege of the Extension for Outbound Transit

If a MOSA 4600 or FONEMOSA 4400/4400 Plus in remote side gives the permission for our gateway to make Outbound Transit Call, any extension line in our gateway may make the outbound transit call via this remote gateway. The privilege for Outbound Transit call can be defined to different level on individual extension line. There are four classes of privilege, and it should be selected base on the view point of the country code and area code defined in our own gateway.

1. Disable : The ext. line is not allowed to make Outbound Transit Call
2. Local : The ext. line is allowed to make Outbound Transit Call via gateway in **local**
3. Toll : The ext. line is allowed to make Outbound Transit Call via gateway in **different area code.**
4. International : The ext. line is allowed to make Outbound Transit Call via gateway **oversea**

II. Configuration

From Web Management Page folder “**CHANNEL**”, select “**CONFIGURATION**”

	HOME	BASIC	IP SETTINGS	ADVANCED	CHANNEL	PHONEBOOK	ACCESSCODE
SUMMARY							
CONFIGURATION							
Channel	1 Select						Apply Revert
Extension Number	11						
Information							
Port Type	Phone						
Port State	Enable						
Current State	Enable						
Do Not Disturb	Disable (FXS Only)						
T.38 Fax Relay							
Device Capacity	4						
Current Quantity	1						
Support T.38	No						
Voice							
Input Gain	0 dB						
Output Gain	0 dB						
FXO Loop Error Counter							
Counter	0						
<input type="checkbox"/> Clear Counter							
Call Forward							
Control	Forward-Disable						
Forward To :							
(Gateway Phone Number)							
Offnet To :							
(Offnet Phone Number)							
Barring Class							
ID	0 (FXS Only)						
Outbound Transit Control							
Privilege	Disable (FXS Only)						
Join Operator Group							
Yes/No	Yes (FXS Only)						
Join Trunk Group							
Group ID	N/A (FXO Only)						
Pickupped By Others							
Control	True (FXS Only)						
Battery Reverse							
Control	OFF (FXS Only)						
Soft Key							
Soft Key String							
Trigger Mode	Key Press						
Trigger Digits							
Append Trigger Digit	Not Append						

The privilege of the extension line can not be higher than the privilege of the equipment. If the privilege of the equipment for Outbound Transit is defined as International, then it is possible to allow the extension line to make the international outbound transit call.

7.3.19.Specified Route

7.3.19.1. Specified Route for Outbound Transit Call

Specified route is to define some specified area as the destination of Outbound Transit Call. If "Specified

Route" is selected when Outbound Transit is configured (please refer to [Sec 7.3.16](#) Outbound Transit Call), that means only the call to the specified area can be transferred via this gateway.

Specified Route is defined by the starting digits of the telephone number, including country code or/and area code, to specify a certain range. For example

Route	Range Covered
86	Whole China (Country Code=86) is covered
8621	The area with Area Code 21 in China (Country Code=86), i.e. Shanghai area
8869	The area with Area Code 9 in Taiwan (Country Code=886), i.e. the mobile phone of Taiwan
1	Whole United State (Country Code=1) is covered
813	The area with area code 3 in Japan (country code=81), i.e. Tokyo area

7.3.19.2. Cost for Route (Priority)

The concept of the cost for route is applied as the factor to select the route for Outbound Transit. The cost of range from 1 to 95 is assigned to the route of different equipment, The more the route with lower cost, the more higher priority the system will select. There is a default cost, i.e. 0, is assigned to the route specified the same Country Code and Area Code in the gateway.

For whole FONEMOSA series products, there is the default cost of each route :

- 0 : for FONEMOSA 4202 / 4204
- 4 : for FONEMOSA 4400/4400 Plus / MOSA 4600
- 10 : for FONEMOSA 4208 / 4216
- 10: for FONEMOSA 4230/4260

For example :

There are two equipments located at Taipei, one is FONEMOSA 4216 (8862-0) and the other is FONEMOSA 4400/4400 Plus (8862-0), both are given the permission of Outbound Transit to the remote FONEMOSA 4202. For remote FONEMOSA 4202, it has two route choices according to cost issue, FONEMOSA 4216 (8862-10) and FONEMOSA 4400/4400 Plus (8862-4), for transit. Judging by the principle, the lower cost one, FONEMOSA 4400/4400 Plus (8862-4) will be selected for transit.

For Toll or International call, the cost will be increased 1 unit for route of FONEMOSA 4400/4400 Plus. The choices evaluated by cost in the last example become FONEMOSA 4216 (8862-10) and FONEMOSA 4400/4400 Plus (8862-5). The lower cost one, FONEMOSA 4400/4400 Plus (8862-5) will be selected for transit.

7.3.19.3. Configuration for SPECIFIED ROUTE

Web Management Page folder “**BASIC**”, select “SPECIFIED ROUTE”

HOME

BASIC

IP SETTINGS

ADVANCED

CHANNEL

PHONEBOOK

ACCESSCODE

GENERAL

INBOUND TRANSIT

OUTBOUND TRANSIT

OFFNET FORWARD

ABBR. DIAL

SPECIFIED ROUTE

BARRING CLASS

Apply

Revert

Routing Table

Capacity: 32

Quantity: 2

Route List: [8862 - 2] [8621 - 0]

Add / Modify Entries

Route

Cost

Route

Cost

Route

Cost

Route

Cost

Delete Entries

Route

Route

Route

Route

Group	Field	Description	Default Value
Routing Table	Capacity	Display the maximum number of route can be defined	32
	Quantity	Display the number of route defined	0
	Route List	Display the list of the route defined	Blank

Group	Field	Description	Default Value
	Add/Modify Entries	Add or modify the route <ul style="list-style-type: none"> ■ Route : the specified route to be added (e.g. if the permission to the route of Taipei area is offered, then enter 8862) ■ Cost : Priority of route being selected above (Route for the area same as the location of the equipment installed have highest priority with cost "0" , , the cost sequence is from 0 to 95) 	Blank
	Delete Entries	Delete the route from route table Route : the route to be deleted	Blank

7.3.20. Barring Classes

In FONEMOSA 4400/4400 Plus, there are maximum six Barring Classes to define the Barring rule of the individual extension line. For example, the destination phone number is allowed or disallowed to be dialed can be defined in the Barring Class table. For each extension line, only one Barring Class can be selected.

7.3.20.1. Create Barring Classes

The web page to configure Barring Classes is entered from Web Management Page folder “**BASIC**”, select “**BARRING CLASSES**”. The parameter for Barring Classes defines “Accept” or “Deny” attributes. Each attribute can be defined in Barring Table and Exception Table. Only one Attribute can be defined for each Barring Class. The default values for the six classes are 0 and no data are defined.

I. Configuration Page

Web Management Page folder “BASIC”, select “BARRING CLASSES”

	HOME	BASIC	IP SETTINGS	ADVANCED	CHANNEL	PHONEBOOK	ACCESSCODE
GENERAL	Barring Class Configuration						
INBOUND TRANSIT	Class Information						
OUTBOUND TRANSIT	Class Entry <input type="text" value="2"/> <input type="button" value="Select"/>						
OFFNET FORWARD	Name: Local Only						
ABBR. DIAL	Attribute: Accept						
SPECIFIED ROUTE	Class Control						
BARRING CLASS	<div> Class Attribute <input type="text" value="Deny"/> <input type="button" value="NewAttr"/> <input type="button" value="DeleteAttr"/> </div> <div> Class Name <input type="text"/> <input type="button" value="AddName"/> </div> <div> Barring <input type="text"/> <input type="button" value="Add Barr"/> <input type="button" value="Delete Barr"/> </div> <div> Exception <input type="text"/> <input type="button" value="Add Excp"/> <input type="button" value="Delete Excp"/> </div> <div> Barring List 0 </div>						
	Exception						

Group	Field	Description	Default Value
Class Information	Class Entry	Select of Barring Classes, Choice from 1 to 6	
	Name	Display the name of barring class (Display Only)	Blank
	Attribute	Display the attribute of Barring Class (Display Only)	N/A
Class Control	Class Attribute	<p>The attribute of the class, Deny or Accept. There are Barring Table and Except Table may be defined for each attribute.</p> <p>DENY : All numbers are denied except the numbers listed in the Except Table. When DENY is selected, it is not necessary to define Barring Table, because DENY is to reject all numbers..</p> <p>ACCEPT : Accept all numbers except number in the Barring Table . The number in the Except Table are exceptions.</p> <p>New Attr : Add the Attribute to selected Barring Class</p> <p>Delete Attr : Delete the Attribute to selected Barring Class</p>	
	Class Name	<p>Define a name for the selected Barring Class, any name less than 15 characters can be defined by the system Manager.</p> <p>Add Name : Add class name for Barring Class.</p>	
	Barring	<p>The phone number (less than 18 characters) that is limited to be dialed</p> <p>Add Barr : Add phone number to Baring Table for selected Barring Class</p> <p>Delete Barr : Delete phone number from Barring Table for selected Barring Class</p>	
	Exception	<p>The phone number (less than 18 characters) for exception</p> <p>Add Excp : Add phone number to Except Table for selected Barring Class</p> <p>Delete Excp : Delete phone number from Except Table for selected Barring Class</p>	
	Barring List	Display all numbers to be barred (Display Only) that is related to the attribute	
	Exception	Display all exception in Except (Display Only) Table that is related to the attribute	

II. Steps to create the Barring Classes

1. Select a Barring Class (1~6) from the field of "Class Entry" under Class Information, then click button **Apply**.
2. Enter a name for Barring Class in the field of "Class Name" and click button **Add Name**.
3. Select an Attribute for the selected Barring Class, ACCEPT or DENY, and click button **New Attr**.
4. Now you may define the details based on the attribute selected. Create the Baring Table by clicking the button **Add Barr**, and create the Except Table by clicking button **Add Excp**.

After the Barring Classes are created, you may define the Barring Class to the gateway.

III. Examples

(1) Example-1

If the gateway is located at Shanghai, and only the calls to Beijing (Area Code = 010) and the calls to mobile phone (Area Code = 013) in China is allowed. The configuration for Barring of the equipment is to define the Area Code 010 and 013 as exception, the rest all number are denied.

Attribute	DENY	
Barring Table		
Exception Table	010	013

(2) Example-2

If the gateway is located at Shanghai, only local calls to Shanghai are allowed, all numbers starting with 0 (including toll call and international call) is not allowed except Beijing (Area Code = 010) and Shenzhen (Area Code = 0755).

Attribute	ACCEPT	
Barring Table	0	
Exception Table	010	0755

(3) Example-3

If the gateway is located at St. Jose, United State of America, only the local calls in St. Jose are allowed. Toll calls (starting with 1) and the international calls (starting with 011) are not allowed except calls to Beijing (011-86-10).

Attribute	ACCEPT	
Barring Table	011	1
Exception Table	0118610	

(4) Example-4

If the gateway is located at Tokyo, Japan, only local calls to Tokyo are allowed. The toll call (starting with 0) and international call (starting with 001) are not allowed except the call to Shanghai (001-86-21).

Attribute	ACCEPT
Barring Table	001 0
Exception Table	0018621

7.3.20.2. Modify the Attribute of Baring Classes

If the attribute of the Barring Class is defined, it is not allowed to define a new attribute (New Attr) to the same Barring Class. Any modification to the attribute of Barring Class has to delete the attribute (Delete Attr), then define a new one.

7.3.20.3. Barring Class Apply on Extension Line

Each extension line may select a Barring Class from the six classes.

Configuration :

From Web Management Page folder “**CHANNEL**”, select “**CONFIGURATION**” page

- (1) Choose a channel in the field of “Channel” and click button **Select**
- (2) Select a Barring Class in the field of “ID” under “Barring Class” and click button **Apply**

SUMMARY

CONFIGURATION

Channel: 1

Extension Number: 11

Information

Port Type: Phone

Port State:

Current State: Enable

T.38 Fax Relay

Device Capacity: 16

Current Quantity: 0

Support T.38:

Voice

Input Gain: 0 dB

Output Gain: 0 dB

FXO Loop Error Counter

Counter: 0

☐ Clear Counter

Call Forward

Control:

Forward To :

(Gateway Phone Number)

Offnet To :

(Offset Phone Number)

Barring Class

ID: 0 (FXS Only)

Outbound Transit Control

Privilege: (FXS Only)

Join Operator Group

Yes/No: (FXS Only)

Join Trunk Group

Group ID: (FXO Only)

Pickup By Others

Control: (FXS Only)

Battery Reverse

Control: (FXS Only)

Soft Key

Soft Key String:

Trigger Mode:

Trigger Digits:

Append Trigger Digit:

7.3.21. Phone Book

If the IP address of a frequently used remote FONEMOSA/MOSA is a Static IP address, you may store the telephone number and the IP Address of this equipment into the Static Phone Book. It is not necessary to get the IP address of the other party through IP learning or joining to NETMOSA to get the IP Address of the other party. You should remember that FONEMOSA 4400/4400 Plus will search the telephone number and IP Address from the Phone Book first. If any IP address is changed and the data in the Phone Book are not updated, FONEMOSA 4400/4400 Plus will still take the wrong IP address from the Phone Book and try to create the path. Of course, the call will fail.

If the Private IP Address is used internally, but the global IP Address used is static IP Address, not DHCP or from PPPoE, this line may be included in the Phone Book. The public IP Address and the virtual port of IP Sharing are stored as corresponding data.

Configuration

Web Management Page folder **"PHONEBOOK"**

Group	Field	Description	Default Value
IP Search	Phone Number	Search the IP address of the frequently used equipment by telephone number. The full phone number including Country Code + Area Code + Telephone Number should be entered	Blank
	IP1/Port	Display IP Address of Public IP (Display Only)	
	IP2/Port	Display IP Address of Private IP (Display Only)	
Add Entry	Phone Number	Add or modify the telephone number (including Country Code and Area Code) in Phone Book	Blank
	IP/Control Port	Add or modify the IP Address or UDP	Blank

Group	Field	Description	Default Value
Delete Entry	Phone Number	Delete telephone number (including Country code and Area Code) from Phone book	Blank
	Delete All Static Entries	Delete all static entries from the Phone Book or not Yes : Yes, delete all No : No	No
	Maximum	The maximum number of (Display Only) telephone number can be entered	256
	Entered	The number of telephone number (Display Only) had been entered	0
	Entered List	List of telephone number entered (Display Only)	Blank

7.3.21.1. Add a Telephone Number

In the page of Web Management Page folder **"PHONEBOOK"** shown in Sec. 7.3.21.2, under "Add Entry" :

- (1) Phone Number : Enter full telephone number including Country Code and Area Code, E.g.
886282268888
- (2) IP/Control Port : Enter the Static Global IP address and UDP port number
- (3) Click button **Apply**

7.3.21.2. Delete a Telephone Number

In the page of Web Management Page folder **"PHONEBOOK"** shown in Sec. 7.3.23.2, under "Delete Entry", enter the telephone number to be deleted in the field of "Phone Number" and click button **Apply**.

If you like to delete all static telephone number , please set "Delete All Static" to "Yes" and click button **Apply**.

7.3.21.3. Search the IP Address of a Telephone Number

You may search the IP address of a telephone number. The telephone number may be stored either in static Phone Book or dynamic Phone Book (through IP learning), hence you may find out the corresponding IP address and UDP port number used when he telephone is placed. In general, if the IP phone is failed, please search the IP address corresponding to the phone number, then check the IP address of the other party to see if it is correct. You may also search the phone number by entering NETMOSA ID.

In the page of Web Management Page folder **"PHONEBOOK"** shown in Sec. 7.3.21 Phone Book, under "IP Search", enter the phone number, which IP you like to search, in the field of "Phone Number" and click **Apply**. Two sets of IP address and UDP port will be displayed

- IP1/Port : IP Address of Public IP and UDP port
- IP2/Port : IP Address of Private IP and UDP port (for IP Sharing). If private IP address is not used, the same data as IP1/Port will be displayed.

7.3.22. Access Code

7.3.22.1. General

All information defined in the Page of Access Code is to define the call type of IP phone. Based on this definition, system will know this IP call is a local or toll or international call. There are detail descriptions in the following section. The default value of the Access Code depends on Region ID.

7.3.22.2. Configuration for Access Code

Web Management Page folder "ACCESS CODE"

HOME	BASIC	IP SETTINGS	ADVANCED	CHANNEL	PHONEBOOK	ACCESS CODE
						Apply Revert
International Access Code						
Outgoing Call Carrier Selection						
Access Code		<input type="text" value="002"/>				
All the Access Codes Could Be Dialed						
Maximum:		10				
Entered:		6				
Entries List:		002 , 019 , 005 , 006 , 007 , 009				
Add Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Delete Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Long Distance Access Code						
Outgoing Call Carrier Selection						
Access Code		<input type="text" value="0"/>				
All the Access Codes Could Be Dialed						
Maximum:		10				
Entered:		1				
Entries List:		0				
Add Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Delete Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Office Code Exception						
Capacity		5				
Quantity		0				
Code List						
Add Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Delete Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Local Call Exception						
Maximum:		10				
Entered:		0				
Entries List:						
Add Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Delete Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Toll Call Exception						
Maximum:		10				
Entered:		0				
Entries List:						
Add Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Delete Entries		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
Leading Digits of Local Calls						
Control		<input type="text" value="None"/>				
PBX CO Line Access <i>(asked PBX only)</i>						
Codes		<input type="text"/>				
Manual IP Learning		<input type="text" value="Enable"/> <i>(##)</i>				

7.3.22.3. Parameters for Access Code

Group	Field	Description	Default Value
International Access Code	Outgoing Call Carrier Selection	Code for an international call dialed from system, and only one code can be entered	
	Access Code		
	All the Access Codes could be Dialed	System has to know all possible access code for making an international call, in order to check if the call is an international call. In some countries there are several access codes for making international call. All those access codes have to be entered, in case some access code can not be recognized. e.g. in Taiwan, 002/005/006/009/012/019 are the access code for international call.	
	Maximum	The maximum number of the access code for international call (Display only)	10
	Entered	The number of the access code had been entered (Display only)	6
	Entries List	Display the list of possible access code entered for international call (Display only)	002 · 019 · 005 · 006 · 007 · 009
	Add Entries	Add the possible access code, four entries can be entered in one time	Blank
Long Distance Access Code	Delete Entries	Delete the access code from the list, four entries can be entered in one time	Blank
	Outgoing Call Carrier Selection	Code for a Toll call dialed from system, and only one code can be entered	0
	Access Code		
	All the Access Codes Could be Dialed	System has to know all possible access code for making a toll call, in order to check if the call is a toll call. In some countries there are several access codes for making toll call. All those access codes have to be entered, in case some access code can not be recognized. e.g. in Taiwan 0/1805/1806/1807 are the access code for toll call.	

Group	Field	Description	Default Value
	Maximum	The maximum number of the access code for toll call (Display only)	
	Entered	The number of the access code had been entered (Display only)	1
	Entries List	Display the list of possible access code entered for toll call (Display only)	0
	Add Entries	Add the possible access code, four entries can be entered in one time	Blank
	Delete Entries	Delete the access code from the list, four entries can be entered in one time	Blank
Office Code Exception	In some countries, the conflict is existing in the numbering of Area Code. For instance, Area Code 4 is assigned to area-A, and 47 is assigned to area-B with the same starting digit. Therefore when a call is from area-A to area-B, the dial number will be the access code for toll call "0", then Area Code "47" and phone number. Those kinds of conflict make FONEMOSA 4400/4400 Plus confused. In such cases, any exceptions must be stored in the system to avoid from any misunderstanding. For instance, FONEMOSA 4400/4400 Plus is installed in area-A with Area code 4, then any Area Codes starting with 4 (47 for area-B, 49 for area-C..) but different areas to area-A are exceptions. All exceptions must be known by system.		
	Capacity	Maximum exceptions about Area Code can be entered (Display only)	5
	Quantity	The number of exception had been entered (Display only)	0
	Code List	Display the list of exceptions entered (Display only)	Blank
	Add Entries	Add the exceptional Access Code, four entries can be entered in one time	
	Delete Entries	Delete the exceptional Access Code from the list, four entries can be entered in one time	

Group	Field	Description	Default Value
Local Call Exception	In some countries, the phone number of the mobile phone is similar to the number of local call. Like a local call, no access code is required when you dial a mobile call, but the tariff is based on the toll call. For instance in China, the phone number of the mobile phone is starting with 13. Just dial 13xxxx directly without any access code such like "0" to make a mobile call. Normally FONEMOSA 4400/4400 Plus will treat this kind of call as a local call, but actually the tariff should be a toll call. User should define such kind of phone number in Local Call Exception let system knows that those numbers are exceptions to the local call. e.g. define 13 in Local Call Exception, that means phone number starting with 13 is not a local call but a toll call		
	Maximum	Maximum exceptions can be entered (Display only)	10
	Entered	The number of exception had been entered (Display only)	0
	Entries List	Display the list of exceptions entered (Display only)	Blank
	Add Entries	Add the exceptional Code, four entries can be entered in one time	Blank
	Delete Entries	Delete the exceptional Code from the list, four entries can be entered in one time	Blank
Toll Code Exception	In some countries, several area codes are applied in a big range. The calls between different area codes are treated as local calls; no access code for toll is required; the tariff is also based on the local call. Those area codes must be entered in Toll Code Exception otherwise FONEMOSA 4400/4400 Plus will treat those calls as toll call		
	Maximum	Maximum exceptions can be entered (Display only)	10
	Entered	The number of exception had been entered (Display only)	0
	Entries List	Display the list of exceptions entered (Display only)	Blank
	Add Entries	Add the exceptional Code, four entries can be entered in one time	Blank

Group	Field	Description	Default Value
	Delete Entries	Delete the exceptional Code from the list, four entries can be entered in one time	
Leading Digits of Local Calls	Control	<p>In some areas, the area code is the must code even it is a local call. Or in some areas, the access code for toll and the area code is the must code whatever it is a local call or toll call. Define here for special control.</p> <p>None : Disable</p> <p>Area Code : the Area Code is always the leading digit when dialing</p> <p>Access Code + Area Code : the Access code and Area Code is always the leading digit when dialing</p>	Disable
PBX CO Line Access(<i>behind PBX only</i>)	Codes	<p>FONEMOSA 4400/4400 Plus is an IP-PBX and also a gateway. If FXO port of FONEMOSA 4400/4400 Plus is connected to an extension line of a PBX, this field must be defined. When This FONEMOSA 4400/4400 Plus is handling an outbound transit call for other FONEMOSA, this codes will be sent out by FONEMOSA 4400/4400 Plus automatically to fetch a public line of PBX and to accomplish outbound transit function without changing the dialing manner.</p> <p>Format : <Trunk access code of PBX > + "P" ("P" means wait one second for fetching)</p> <p>Attention : If the FXO is fetched by remote access, the dial tone heard in the remote side is sent from FXO of FONEMOSA 4400/4400 Plus. The automatically fetching public line of PBX from FONEMOSA 4400/4400 Plus is not fulfilled.</p>	Blank


Group	Field	Description	Default Value
PBX Auto Attendant (<i>behind PBX only</i>)	Control	If the FXS of FONEMOSA 4400/4400 Plus is connected to the port of PBX for public line, a remote user may make an IP call by dialing to FONEMOSA 4400/4400 Plus and the extension line number of the PBX. FONEMOSA 4400/4400 Plus will send out the extension number to PBX after PBX auto attendant answers if this field is set to "Enable". Enable : Yes, and define extension digits Disable : No	Disable
	Extension Digits	The length of the extension number of PBX	1
Manual IP Learning		Enable or Disable the feature Manual IP Learning Enable : Activate the feature Disable : Close the feature	Enable

7.3.23. Web Page parameters for Advanced\General

Advanced configuration may make some adjustment to equipment.

7.3.23.1. Page for Configuration

Web Management Page folder “ADVANCED”, select “GENERAL”


FONEMOSA 4400 SERIES

GENERAL ▶

NUMBERING PLAN ▶

TRUNK GROUP ▶

ACD ▶

PKS ▶

PREFIX MAP ▶

HOME
BASIC
IP SETTINGS
ADVANCED
CHANNEL
PHONEBOOK
ACCESSCODE

Apply
Revert

General Configuration

Flash Button

Flash Time 600 msec.

Touch Tone (DTMF)

Duration 100 msec.

Inter-digit Time 100 msec.

Guard Time

Trunk (FXO) 0.8 sec.

Dial Ending Time

Dial Ending Time 0 sec.

T.38 Fax Relay

Max. Fax Rate 14400 bps

Low Speed Redundancy 3 Redundant packets

High Speed Redundancy 1 Redundant packet

Voice

Jitter Buffer Auto

DISA

Trunk Call (FXO) Enable

IP Call Disable

No answer, send greeting 50 (10~50 sec.) (FXO Only)

Caller ID Display

Control Disable

Transit Call

Gain 6 dB

Warning Time 3 minute(s) (1~60)

Busy Tone Spec.

Frequency (300~3000Hz) f1 : 480 f2 : 620

Cadence (100~3000ms) On : 500 Off : 500

Reorder Tone Spec.

Frequency (300~3000Hz) f1 : 480 f2 : 620

Cadence (100~3000ms) On : 250 Off : 250

Continuous Tone Detection

Time N/A sec

7.3.23.2. Parameters for Advanced

Group	Field	Description	Default Value
Flash Button	Flash Time	The time interval for “Flash” that system may accept	200 ms
Touch Tone (DTMF)	Duration	Duration time for DTMF transmit	100ms
	Inter-digit Time	Inter-digit time between two DTMF	100ms
Guard Time	Line	The minimum time interval between two trunk calls	0.8 second
Dial Ending Time	Dial Ending Time	Generally “ # ” is the last character of the number, and that means “end of dialing”. If no “ # ” is dialed, system will wait until dial ending time out. If “0” is set, it means to disable this function	0 second
T.38 Fax Relay	Max. Fax Rate	Select the maximum FAX transmission rate 2400/4800/7200/9600/12000/14400	14400 bps
	Low Speed Redundancy	Select the number of low speed redundancy for frame transmission No Redundant Packet 1 Redundant Packet 2 Redundant Packet 3 Redundant Packet 4 Redundant Packet	3 Redundant Packet
	High Speed Redundancy	Select the number of high speed redundancy for frame transmission No Redundant Packet 1 Redundant Packet 2 Redundant Packet	1 Redundant Packet
Voice	Jitter Buffer	Select the method to suppress voice vibration 1. Auto, the system detects it automatically. 2. Other selection from 20ms~460ms	Auto
DISA	Trunk Call (FXO)	If DISA answers the call from trunk Enable : Answer Disable : No Answer	Enable
	IP Call	If DISA answers the call from IP Enable : Answer Disable : No Answer	Disable

Group	Field	Description	Default Value
	No Answer , send greeting	Define the time waiting for answer (if the extension line is not answer the call, DISA will be initiated). Default value is 50 seconds, but 30 seconds is recommended, i.e. the call will be connected to DISA, after 10 ringing tones.	50 seconds
Caller ID Display	Control	If the caller ID display is enable. It is valid only for the call from FXS to FXS. The caller ID from FXO is not displayed Disable : Not display Enable : can be displayed At moment, only the phone set with ITU Standard (FSK) has the feature of "Caller ID Display". The number displayed can be called back. e.g. Taipei 8862 8226 1111 , Shanghai 8621 5556666 The number 00 8862 82261111 will be displayed in Shanghai if the call is coming from Taipei.	Disable
Transit Call	Gain	Adjust the voice gain for Transit Call	6 dB
	Warning Time	Time warning is sent to the caller for reminding when Transit Call from PSTN line to PSTN line is placed.	3 minutes
Busy Tone Spec	Frequency	Specification of the frequency of busy tone	(300 ~ 3000Hz)
	Cadence	Specification of the cadence of busy tone, system will base this cadence to detect the tone type	(100 ~ 5000ms)
Reorder Tone Spec	Frequency	Specification of the frequency of reorder tone	(300 ~ 3000Hz)
	Cadence	Specification of the cadence of reorder tone	(100 ~ 5000ms)
Continuous Tone Detect	Time	For Transit call, beside detecting the busy tone, detect the Continuous Tone is also applied to see if the phone call is still alive	N/A

7.3.24. ACD Server support

Web Management Page folder “**ADVANCED**”, select “ACD”

The system is able to let the FXS ports join to the ACD Server. The server can distribute the incoming call to the FXS of this gateway automatically.

Please configure the IP address and Port Number of ACD Server and then click Apply to finish the configuration.

The screenshot shows the 'ADVANCED' configuration page. On the left is a red sidebar with navigation links: GENERAL, NUMBERING PLAN, TRUNK GROUP, ACD, PKS, and PREFIX MAP. The main content area has tabs: HOME, BASIC, IP SETTINGS, **ADVANCED**, CHANNEL, PHONEBOOK, and ACCESSCODE. Below the tabs are 'Apply' and 'Revert' buttons. The 'ACD Server Setting' section contains 'Server IP/Port' (two input fields) and 'ACD Control' (a dropdown menu set to 'Enable'). The 'ACD Member Status' section contains a table with 4 columns: FXS Channel, Extension, Registering Status, and State. The table has one data row with values: 1, 11, -, and -.

Group	Field	Description	Default
ACD Server Setting	Server IP/Port	Configure the IP address and Port number of ACD Server	Blank
	ACD Control	Enable : Enable ACD service Disable : Disable ACD service	Disable
ACD Member Status	FXS Channel	The ID of FXS port that had joined ACD Server	1~16 (depend on model)
	Extension	The extension number of local FXS port that had joined ACD Server	11~26 (depend on model)
	Registering Status	The Registering status with ACD Server ♦ If the registration is OK, Web shows “Registered” ♦ If the registration is not OK, Web shows “registering” ♦ If the gateway don’t register the ACD server, it shows “-” on web.	-
	State	The current status of FXS port ♦ Busy: Line is busy ♦ IDLE: Line is idle ♦ -: Never connect with ACD Server	-

7.3.25. Parking Server

Web Management Page folder “**ADVANCED**”, select “PKS”

If it is necessary to use the service of Parking Server, please configure the Global IP or Private IP, and related Port number of Parking Server, and its Security Key to connect the server. Click Apply to finish the configuration finally. For more details of Parking Server, please refer to FONEMOSA 4495 user manual.

The screenshot shows the 'FONEMOSA 4400 SERIES' Web Management Page. The 'ADVANCED' tab is selected. On the left sidebar, 'PKS' is highlighted. The main content area shows the 'General Configuration' section with the following settings:

- IP Setting**
 - Global IP Address: 192.168.123.15
 - Port: 2000
 - Private IP Address: 0.0.0.0
 - Port: 0
- Security Setting**
 - Key: 3356 (0 ~ 999999999, Need Warm-Restart)

Buttons for 'Apply' and 'Revert' are located at the top right of the configuration area.

Group	Field	Description	Default
IP Setting	Global IP Address	Configure Global IP address of Parking Server	0.0.0.0
	Port	Configure the Port number of that Global IP address for Parking Server	0
	Private IP Address	Configure Private IP Address of Parking Server	0.0.0.0
	Port	Configure the Port number of that Private IP address for Parking Server	0
Security Setting	Key	The Security Key to connect Parking Server. It needs to restart the system for the Security Key to take effect.	0

7.3.26. Budget Control VoIP Calls

For FONEMOSA 4400/4400 Plus series product, the protocol for voice compression G.729AB is used, packet time is 40 ms, therefore around 12Kbps bandwidth is occupies for each IP call. Parameter “Budget Control VoIP Calls” is to control the number of IP call can be made simultaneously to avoid to impact the quality of service due to the bandwidth is insufficient. For example, there are 16 ports for one FONEMOSA 4400/4400 Plus; if 16 ports are all IP calls, the bandwidth of 144 Kbps is required for voice transmission (the bandwidth for

data flow is not included). If the bandwidth you have is only 64 K, it is not enough for 16 IP calls. Therefore the parameter "Budget Control VoIP Calls" should be defined to "4" to maintain a better quality of service. Normally higher bandwidth network is recommend (e.g. 512 K for both direction).

7.3.26.1. Configuration

Web Management Page folder "ADVANCED", select "NUMBERING PLAN", the page will be shown :



FONEMOSA 4400 SERIES

HOME BASIC IP SETTINGS **ADVANCED** CHANNEL PHONEBOOK ACCESSCODE

Apply Revert

GENERAL

NUMBERING PLAN Numbering Plan Configuration

TRUNK GROUP

ACD

PKS

PREFIX MAP

Access Codes

IP Calls w/ Auto Learning *

IP Calls #

Trunk Group1 Access 9

Trunk Group2 Access

Phoneset Programming ##

Abbr. Dial

Call Pick Up

Operator 0

Netmosa Plus Call

Internal Call 1 and 2

Call Retrieve

Other Setting

Assign Operator to: 1

Maximum number of IP Calls: 2

IP Call Priority PhoneBook-Outbound-NetmosaPlus

7.3.27. Dial to FONEMOSA 4400/4400 Plus from The Other Series Product

The IP call may be dialed to FONEMOSA 4400/4400 Plus or the extension lines directly from the other series products, like FONEMOSA 4200/4400, MOSA 4500, by dialing the telephone number or NETMOSA ID of FONEMOSA 4400/4400 Plus followed the 2 digits extension number.

Example-1 : Make an IP call from FONEMOSA 4204 in Beijing to the extension line 22 of FONEMOSA 4400/4400 Plus in Taipei.

The telephone number of FONEMOSA 4400/4400 Plus in Taipei is 8226-8888.

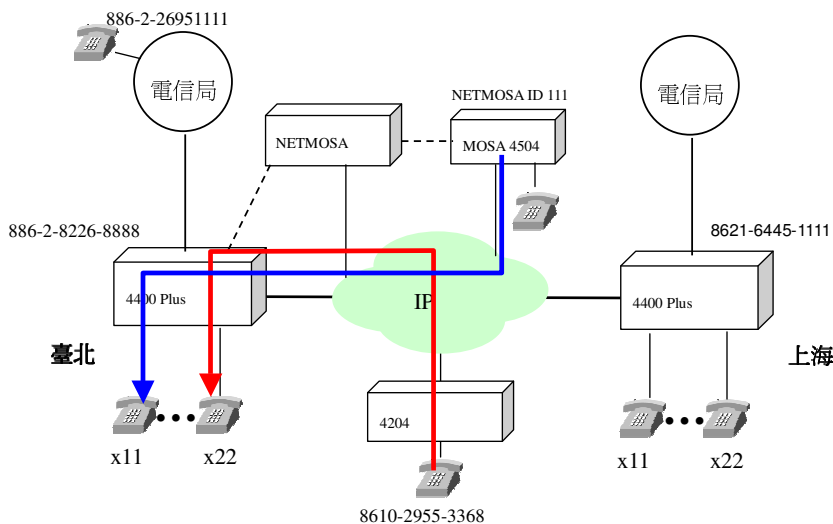
Make IP call : Off-hook the phone, dial #00 886 2 8226 8888 22# after hearing the dial tone.

Example-2 : Make an IP call from FONEMOSA 4504 in Shanghai to the extension line 11 of FONEMOSA 4400/4400 Plus in Taipei.

NETOSA ID of Taipei is 8888

The NETMOSA ID Access Code is configured as “#1” on FONEMOSA 4504 in Shanghai.

Make an IP call : Off-hook the phone and dial #1 8888 11# after hearing the dial tone.



7.3.28. Work with Voice Mail Product

FONEMOSA 4400/4400 Plus can work with other brand analog Voice Mail Product (the paragraph below use "VM" instead). The function of VM includes Voice Mail Box, Retrieve (Listen) Voice Mail. After proper configuration, FONEMOSA 4400/4400 Plus not only have complete original features, but also have VM functions. (The function of VM depends on what brand and model FONEMOSA 4400 connect to).

Suitable Hardware and Software

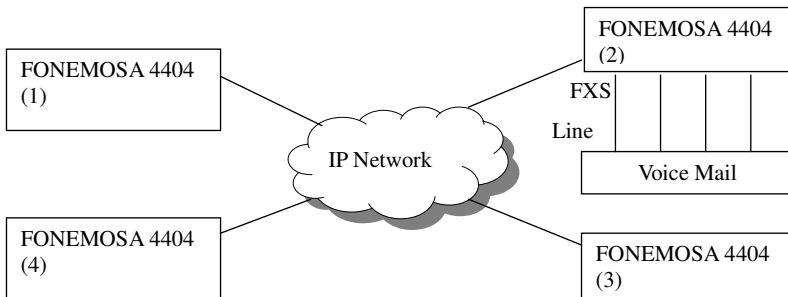
- FONEMOSA 4400/4400 Plus Software Version 1.10 or above
- Voice Mail product that is able to work with commercial PBX

Other Optional Hardware

- FONEMOSA 4495 Parking Server
- FONEMOSA 4491 Re-direct Server

Hardware Connection

Reserve the FXS port of FONEMOSA 4400 to connect with the line of VM, then the hardware connection is ready to work.



7.3.28.1. Configuration on VM and FONEMOSA 4400

Configuration on FONEMOSA 4400

- Enable VM connection on FXS port of FONEMOSA (2) that is connected to VM

Web Folder: CHANNEL

	<u>Voice Mail</u>	
	Connection	<input type="button" value="Enable"/> (FXS Only)

- Configure the FXS port FONEMOSA (2) that is connected to VM to join the operator group

Web Folder: CHANNEL

	<u>Join Operator Group</u>	
	Yes/No	<input type="button" value="Yes"/> (FXS Only)

- If there is more than one FXS ports are configured as operator, please configure the Forward-Busy-Slave function to next operator FXS port (Please refer to 7.3.17.3 Line Group Function). By this way, more than one incoming calls will be distributed to each operator FXS ports and then enter into the VM.

Web Folder: CHANNEL

	Call Forward	
	Control	Forward-Busy-Slave
	Forward To : (Gateway Phone Number)	

- Disable DISA of FONEMOSA (2). All incoming call is process by the DISA of VM

Web Folder: ADVANCED / GENERAL

	DISA	
	Trunk Call (FXO)	Disable
	IP Call	Disable
	No answer, send greeting	50 (10~50 sec.) (FXO Only)

- Configure the Flash Time of both FONEMOSA (2) and VM to the same value. For example, 200ms

Web folder: ADVANCED \ GENERAL

	HOME BASIC IP SETTINGS ADVANCED CHANNEL PHONEBOOK ACCESSCODE	
	Apply Revert	
	GENERAL	General Configuration
	NUMBERING PLAN	Flash Button
	TRUNK GROUP	Flash Time 200 msec.
	ACD	Touch Tone (DTMF)
PKS	Duration 100 msec.	
PREFIX MAP	Inter-digit Time 100 msec.	

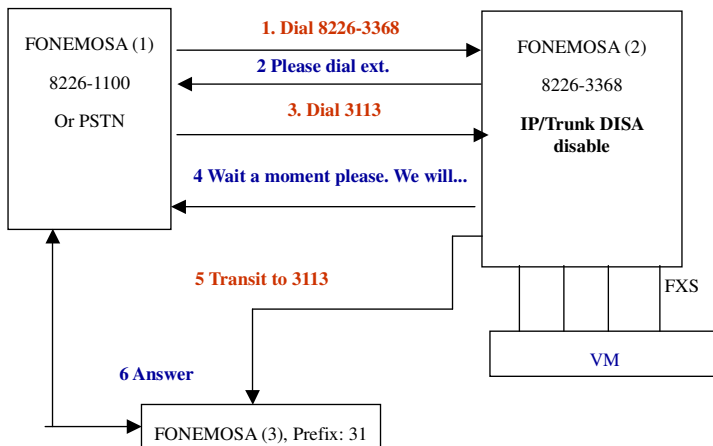
Configuration on VM

- Dial into the Voice Mail product from FXS port of FONEMOSA and configure Password, Enter code...etc. and save the configuration finally.
- Record the greeting of VM. It may includes general greeting, International language greeting, holiday greeting...etc.
- Configure extension number. Higher level of VM may be able to group the extension number. The extension number configure here must be the same as the extension number of FONEMOSA 4400. The default extension number of FONEMOSA is 11~26. You can also create customize extension number by Prefix Table (only 4400 Plus supports). Since the DISA of FONEMOSA 4400 is disabled, the call transit is processed by VM, so the mailbox is setup according to extension numbers.
- Configure ring back tone times. Configure how many times of the ringing will the VM DISA answer the incoming call.
- Configure the longest numbers of the extension. Please configure it according to the current FONEMOSA 4400 extension number. If the extension number is created by FONEMOSA 4400 Plus Prefix Table (only 4400 Plus supports), the longest numbers are 6 digits.

- Configure call transit action. When the DISA of VM answers the incoming call, it will play the greeting, prompt calling side to dial extension number. All of these actions passes through FONEMOSA 4400. So it needs to setup the call transit action to work with FONEMOSA 4400. For call transit, please setup it as below.
"Flash + Pause + Extension No. + 4 times of Pause"
VM comes in different brands and models, please configure it according to real condition. If you configure FONEMOSA 4400's Dial Ending Time to 1 second, then **"4 times of Pause"** may change to **"1 times of Pause"**. For configuration of Dial Ending Time, please refer to web page 7.3.23 Web Page parameters for Advanced\General
- Configure the extensions of main operator. Configure the main operator of VM to the operator's extension line of FONEMOSA 4400
- Configure the assistant operator. When the extension line of main operator is busy, the call is transited to assistant operator
- Configure Operator Access Code. Calling side press this access code to reach operator.
- Configure transit greeting as "system transit greeting" or "personal transit greeting"

Operation Work Flow

1. FONEMOSA (2) accept the incoming call from FONEMOSA (1) or PSTN. Since the DISA of FONEMOSA (2) is disable, so the call is answered by the DISA of VM
2. VM prompts calling side to dial extension number.
3. Calling side dial 3113 extension.
4. VM play greeting "Wait a moment please. We will transfer the call to 3113 for you" and then send **"Flash + Pause + Extension No. + 4 times of Pause"** to FONEMOSA (2)
5. FONEMOSA (2) transit the call to 3113. Extension 13 of FONEMOSA (3) is ringing.
6. Called side, extension 13 of FONEMOSA (3) answer the phone. VM release the line, FONEMOSA (1) and FONEMOSA (3) built route directly.



7.3.28.2. Configuration on Mail Box

(1) Use FONEMOSA 4400's Call Forward Function Only

Configuration on FONEMOSA 4400

- Configure the FONEMOSA 4400's VM Prefix and Suffix for VM

The design of Prefix and Suffix is for numbers receiving of VM. Generally speaking, it needs to dial certain numbers as below to VM to activate voice mailbox.

Prefix + Extension Number (that use mailbox function) + Suffix

For example: *3122#

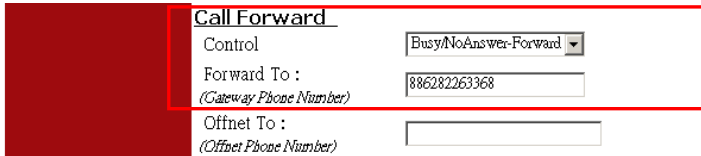
Different VM have different Prefix, Suffix. It may not have Prefix or Suffix code. If there is no such code, please leave it blank. Configure it as real condition.

Web folder: Advance/Numbering plan

Other Setting	
Assign Operator to:	<input type="text" value="1"/>
Maximum number of IP Calls:	<input type="text" value="4"/>
My Pick Up Group:	<input type="text" value="OP"/>
IP Call Priority	<input type="text" value="PhoneBook-Outbound-NetmcoaPlus"/>
VM Prefix	<input type="text"/>
VM Suffix	<input type="text"/>

- Configure Call forward of FONEMOSA (3)
Configure related FXS port of FONEMOSA (3) to Forward To "VM connected FONEMOSA (2)" when the line is busy or no answer (Busy/NoAnswer-Forward function).

Web folder: CHANNEL / CONFIGURATION



Call Forward

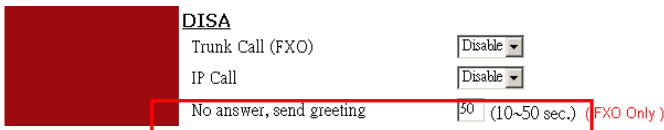
Control:

Forward To :
(Gateway Phone Number)

Offnet To :
(Offnet Phone Number)

- Configure No answer, send greeting time of FONEMOSA (3). When the DISA function of FONEMOSA is enable, the value means how long will the DISA of FONEMOSA retrieve the call and play greeting if there is no answer for the calls. In last section, we had already disabled the DISA function and set Busy/NoAnswer-Forward for that channel. So the value enter here minus 5 second is the duration before forward to VM connected FONEMOSA (2) if line is busy or no answer.

Web Folder: ADVANCED / GENERAL



DISA

Trunk Call (FXO)

IP Call

No answer, send greeting (10~50 sec.) (FXO Only)

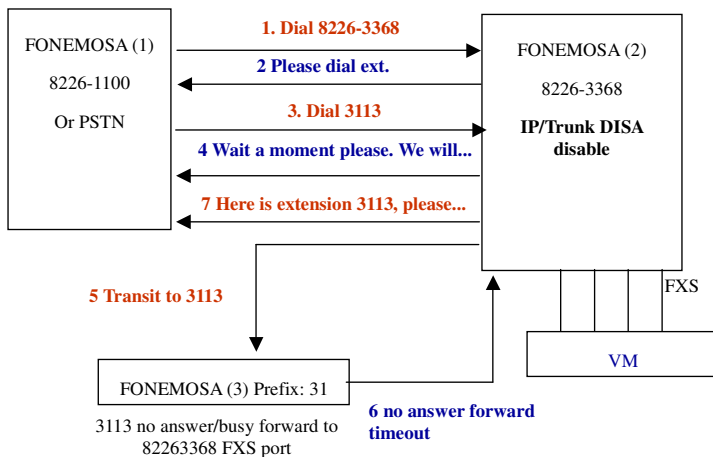
Configuration on VM

- According to last section Configuration on VM and , to configure the extension number.
- Configure the password for extension line to retrieve Voice Mailbox.
- Configure the Voice Mail access code for incoming call. (For example: *)
- Configure Delete Mailbox, Maximum No. of Messages, Delete Message, Maximum Message Time, Min. Message Time...and other setting.

Operation Work Flow

1. FONEMOSA (2) accept the incoming call from FONEMOSA (1) or PSTN. Since the DISA of FONEMOSA (2) is disable, so the call is answered by the DISA of VM
2. VM prompts calling side to dial extension number.
3. Calling side dial 3113 extension.
4. VM play greeting "Wait a moment please. We will transfer the call to 3113 for you" and then send "**Flash + Pause + Extension No. + 4 times of Pause**" to FONEMOSA (2)
5. FONEMOSA (2) transit the call to 3113. Extension 13 of FONEMOSA (3) is ringing.

6. Called side, extension 13 of FONEMOSA (3) is busy or no answer, so the call is forwarded to FONEMOSA (2) and then enter the VM.
7. VM play the mailbox system greeting "Here is extension 3113, please leave your message". Calling side start to leave the voice message.



(2) Use FONEMOSA 4400's Call Forward Function and Busy/Ring Back Tone Detective Function

Configuration on FONEMOSA 4400

Configure FONEMOSA 4400 as the section (1) **Use FONEMOSA 4400's Call Forward Function Only** above.

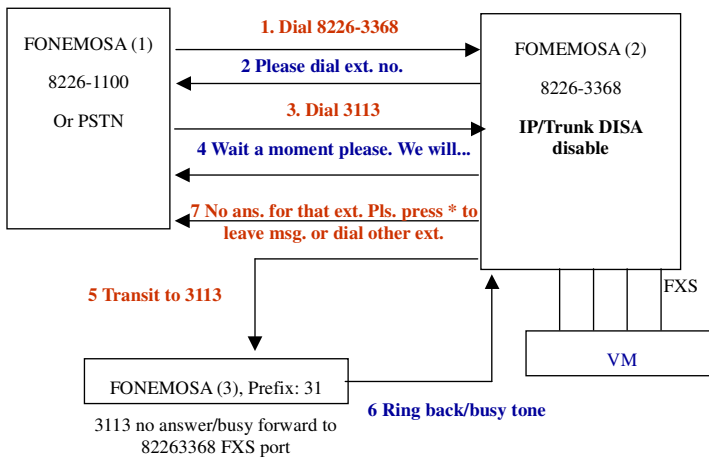
Configuration on VM

- Configure VM as the section (1) **Use FONEMOSA 4400's Call Forward Function Only** above.
- Enable detective mode of VM. The tone types for VM to monitor includes items below:
 - Ring back tone detective times
 - Ring back tone cadence
 - Monitor action (Enable, Disable ring back tone detective mode)
 - Busy tone detective times
 - Busy tone cadence
 - Monitor action (Enable, Disable busy tone detective mode)
- Use system greeting to prompt calling side to leave message
 - Disable mailbox personal greeting and enable mailbox system greeting

- Configure monitor action or cadence/times of tone that VM is going to monitor. In this example, we configure No Answer Forward time of FONEMOSA (3) to larger than VM ring back/busy tone detective time. In this situation, VM ring back/busy tone detective times is timeout before No Answer Forward time, so VM retrieve the incoming call and play system greeting to promote calling side to leave message.

■ Use mailbox personal greeting to prompt calling side to leave message

- Enable mailbox personal greeting and disable mailbox system greeting
- Configure No Answer Forward time of FONEMOSA (3) is smaller than VM ring back/busy tone detective times. In this situation, No Answer Forward time of FONEMOSA (3) is timeout before VM ring back/busy tone detective time, so incoming call is forward to FXS port of FONEMOSA (2) and then enter VM. VM is able to identify the called side and play the mailbox personal greeting to prompt calling side to leave message.



No answer forward time > VM ring back/busy tone detective time

7.3.28.3. Retrieve (listen) Message / New Message Notification Related Configuration

When there is new message for an extension, FONEMOSA 4400 can prompt the user of that extension by changing the dial tone.

Most of VM provides new message prompt (light) function, however, most of phone-set does not have message prompt light. In order to overcome this problem, FONEMOSA 4400 send short Du, Du, Du tone and then normal dial tone to prompt the user when hook off phone-set if FONEMOSA 4400 receive the new message prompt (light) code from VM

General VM product sends the codes below to commercial PBX when a new message comes.

New message prompt code + Extension number

General VM product sends the codes below to commercial PBX when all new messages are retrieved.

All new messages are retrieved code + Extension number

Configuration on FONEMOSA (2)

- Input "new message prompt code". This code must be the same as VM's new message prompt code.

When FONEMOSA 4400 receive "New message prompt code + Extension number", it will send Du, Du tone and then normal dial tone to prompt the user new voice message when user hook off phone-set.

Web folder: ADVANCED / NUMBERING PLAN

	Message Waiting On	<input type="text"/>
	Message Waiting Off	<input type="text"/>

- Input "All new messages are retrieved code", this code must be the same as VM's "All new messages are retrieved code".

When FONEMOSA had got "All new messages are retrieved code + Extension number", the dial tone of that extension will return to normal status.

Web Folder: ADVANCED / NUMBERING PLAN

	Message Waiting On	<input type="text"/>
	Message Waiting Off	<input type="text"/>

Configuration on VM

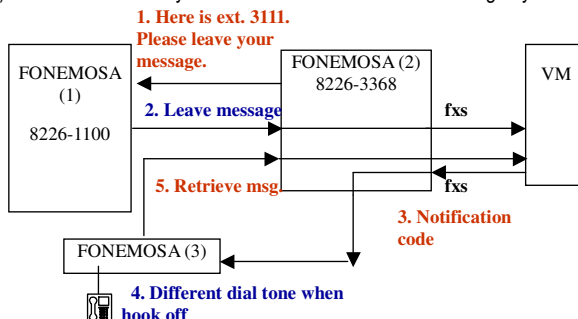
- Enable message notification (light) function
- Enable new message prompt function
- Enable extension line message notification (light) function
- Enable oral notification function (Extra VM function)

Operation Work Flow

1. According to previous example, VM prompt calling side to leave message
2. Calling side leave message. Voice message pass through FONEMOSA (2), enter VM and leave message successfully.
3. VM send code "New message prompt code + Extension number" to the FXS port of FONEMOSA (3)
4. FONEMOSA (3) receives the code and then change the dial tone. When user of that extension hook off

phone-set, he/she hear Du, Du, Du before normal dialing tone. He/she knows that new message is waiting for retrieve.

5. When the extension of FONEMOSA (3) need to retrieve (listen) the voice message, dial a call to FONEMOSA (2) and it is answered by the DISA of VM. Retrieve the message by the instruction of VM.



7.3.28.4. Backup on VM System

Most of VM product can connect with PC for online or offline editing, and also for system backup. Please backup these data to PC for system update or restore.

7.3.29.CDR

7.3.29.1. General

The detail information for a call to PSTN via FXO port of FONEMOSA 4400/4400 Plus will be recorded automatically. The Call Detail Record (CDR) is a tool for telephone account system and also an effective debug tool. All CDR will be send out by a specific format via the interface of :

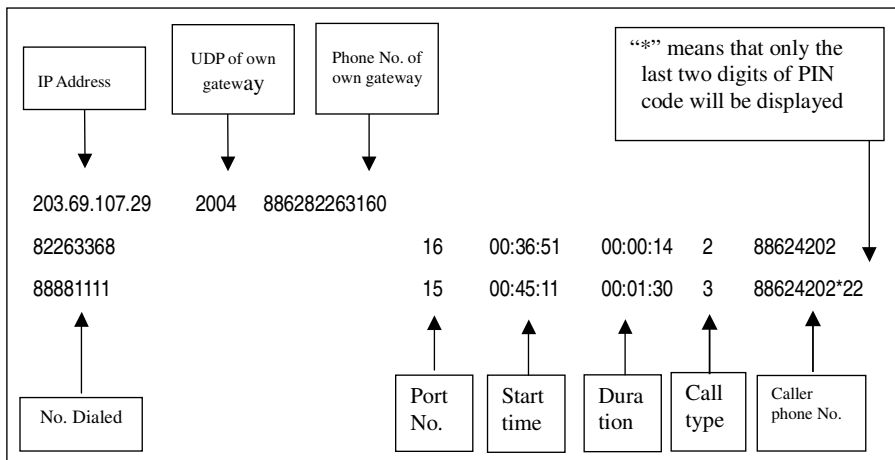
- Dedicate CDR port : It is a RS-232 interface, DTE mode, transmission rate (9600 , N , 8 , 1). If it is connected to RS232 port of PC, NULL MODEM is required. CDR is sent out real time for each record, no buffer area for temporary storage and no any backup files.
- Via IP Network : A CDR Receiver must be equipped at the remote side of IP Network to receive the CDR packet from FONEMOSA 4400/4400 Plus. The IP Address of the CDR Receiver and UDP used must be configured in FONEMOSA 4400/4400 Plus. CDR Receiver is an optional Software, and is not including in this manual.

7.3.29.2. Format of CDR

There are two lines for each CDR record, the first line consists :

- The IP Address of own gateway
- The UDP port used on own gateway

- The telephone number of own gateway



The second line consists :

- ◆ No. Dialed Out : the telephone number be dialed out
- ◆ Port No. : the FXO port number used
- ◆ Start time : the time that call is made
- ◆ Duration : total time of the conversation time
- ◆ Call type : 0 = no meaning ; 1 = international call ; 2 = toll call ; 3 = local call
- ◆ Caller phone No. : the telephone number of the calling side, or the extension number (FONEMOSA 4400/4400 Plus series product), format is “ # + extension number”, e.g. #21.

7.3.30.FAX

In FONEMOSA 4400/4400 Plus, each port can be configured to support T.38 FAX. Maximum 16 ports of equipment may be configured to FAX. FAX machine can not be connected to the port that is not configured to FAX. The FAX machine connected to PSTN may dial to FONEMOSA 4400/4400 Plus and forward to other FONEMOSA or FONEMOSA if at least one port for FAX is defined.

7.3.30.1. Configuration

Web Management Page folder “**CHANNEL**”, select “**CONFIGURATION**” page :

Choose “yes” in the field “Support T.38 under T.38 Fax relay, and click button **Apply**

Channel: 1 Select

Extension Number: 11

Information

Port Type: Phone

Port State: Enable

Current State: Enable

T.38 Fax Relay

Device Capacity: 16

Current Quantity: 0

Support T.38: No

Group	Field	Description	Default Value
T.38 Fax Relay	Device Capacity	Display the capacity of FAX port allowed (display only)	16
	Current Quantity	Display current quantity of FAX port (display only)	0
	Support T.38	If this port support T.39 for FAX Yes : support T.38 No : Not support	NO

7.3.30.2. Check If FAX port

To check if this port supports FAX, you can check the port summary via Web Management Page folder "CHANNEL", select "SUMMARY" page :

	HOME	BASIC	IP SETTINGS	ADVANCED	CHANNEL	PHONEBOOK	ACCESSCODE
SUMMARY CONFIGURATION	Channel	I/F Type	Operating Status	T.38	Trunk or Opr Group	Extension Number	Barring Class
	1	FXS	Enable	No	No	11	0
	2	FXS	Enable	No	Yes	12	2
	3	FXS	Enable	No	Yes	13	2
	4	FXS	Enable	No	Yes	14	2
	5	FXS	Enable	No	Yes	15	2
	6	FXS	Enable	Yes	No	16	0
	7	FXS	Enable	No	Yes	17	2
	8	FXS	Enable	No	Yes	18	2
	9	FXS	Enable	No	Yes	19	2
	10	FXS	Enable	No	Yes	20	2
	11	FXS	Enable	No	Yes	21	2
	12	FXS	Enable	No	Yes	22	2
	13	FXO	Enable	No	1	-	-
	14	FXO	Disable	No	1	-	-
	15	FXO	Disable	No	2	-	-
	16	FXO	Disable	No	2	-	-

7.3.31.Clock Alarm

FONEMOSA 4400/4400 Plus provides the function of clock alarm to each extension line. Every extension line may set the time of alarm. There are two types of clock alarm :

- One time : Phone set will ring for one minute once when it is the time set.
- Periodic : Phone set will ring for one minute periodically when it is the time set in system.

Example-1 : Set the alarm on next 06 : 30 AM only

- (1) Off-hook the phone and press ##
- (2) Press 0404*30*1#
- (3) Hang up the phone

Example-2 : Set alarm on 21 : 30 AM every day

- (1) Off-hook the phone and press ##
- (2) Press 0421*30*2#
- (3) Hang up the phone

Example-3 : Clear the setting of periodic alarm

- (1) Off-hook the phone and press ##
- (2) Press 04#
- (3) Hang up the phone

7.3.32.Modify File Type MEM

MEM file records lots of customized data which user creates from Web. MEM file can be downloaded from Gateway by FTP. Open the file either by Notepad or other word process software, and modify the data; then upload the file to Gateway. If there are lots of data need to create or modify, use this way can save lots of time.

You will find a new file XF44XX.MEM on the screen of FTP, it is data file of Prefix Map table, Permission list of Outbound transit, Abbr. Dial, Location-Server and static phone book refer to the following figure :

名稱	大小	類型	修改日期	屬性	描述說明	擁有人
COLDSTART	0 Bytes	檔案	2003/7/21 上午 09:32:00	-rwxrwxrwx		user
WARMSTART	0 Bytes	檔案	2003/7/21 上午 09:32:00	-rwxrwxrwx		user
XF4421.CDE	48.70KB	CDE 檔案	2003/7/14 下午 03:13:00	-rwxrwxrwx		user
XF4421.CPG	64.08KB	CPG 檔案	2003/7/21 上午 09:46:00	-rwxrwxrwx		user
XF4421.RUN	0.97MB	RUN 檔案	2003/7/18 上午 10:06:00	-rwxrwxrwx		user
XF4421.WEB	0.23MB	WEB 檔案	2003/7/14 上午 11:46:00	-rwxrwxrwx		user
XF44XX.GT1	64.00KB	GT1 檔案	2003/3/19 下午 06:40:00	-rwxrwxrwx		user
XF44XX.GT2	64.00KB	GT2 檔案	2003/3/6 下午 04:40:00	-rwxrwxrwx		user
XF44XX.GT3			2003/3/6 下午 04:41:00	-rwxrwxrwx		user
XF44XX.GT4			2003/3/6 下午 04:47:00	-rwxrwxrwx		user
XF44XX.GT5	64.00KB	GT5 檔案	2003/3/6 下午 04:49:00	-rwxrwxrwx		user
XF44XX.GT6	64.00KB	GT6 檔案	2003/3/6 下午 04:49:00	-rwxrwxrwx		user
XF44XX.GT7	64.00KB	GT7 檔案	2003/3/11 下午 04:07:00	-rwxrwxrwx		user
XF44XX.MEM	0.75KB	MEM 檔案	2003/7/21 上午 09:46:00	-rwxrwxrwx		user

MEM File

Download XF44XX.MEM to PC, open file by Notepad like the figure below :

```

[PREFIX]
3000 88994491449101 0
3001 88994491449102 0
3100 88994491449103 0
3101 88994491449104 0
3102 88994491449105 0
[OUTBOUND-TRANSIT]
00-03-62-80-04-11 886282262222 3 1
00-03-62-80-02-11 886282239522 1 1
00-03-62-80-05-11 886282262458 3 0
[PHONE-BOOK]
889944914491 203.69.107.30 2009
999944910204 61.218.55.149 2004
886282263368 203.69.107.30 2000
[ABBR-DIAL]
00 *4351#
01 **8862#
02 **8625#
04 #666333#
[LOCATION-SERVER]
0.0.0.0 0
0.0.0.0 0
202.39.25.123 2000
  
```

You are able to edit or add the text file by Windows Notepad software. After it is done, upload it back to gateway by FTP, then the data on gateway is updated.

Delete Record

Note: The Gateway had already kept all of the data before you download the .MEM file. So the data is not removed if you remove records (all or partial) of the .MEM file and upload to gateway by FTP again.

If you need to remove any records, you should.

- Remove record from Web page
- Add special mark to MEM file. Follow the way below:

Example 1: Delete a Prefix Number record

Original MEM data

```
3000 882994546 0
```

Add delete mark and remove its number as below

```
3000!
```

Save the file and upload it to gateway again, then the record is removed.

Example 2: Delete the whole Phone Book

Original MEM data

```
[PHONE-BOOK]
```

```
88994326 203.204.89.31 2000
```

```
88994381 10.13.6.185 2000
```

```
88956381 61.220.13.25 2000
```

Add delete mark and remove all record of Phone Book as below

```
[PHONE-BOOK]~
```

Save the file and upload it to gateway again, then all records of Phone Book is removed.

File Items

Here is the description of each item :

	Field 1	Field 2	Field 3	Field 4
PREFIX	Prefix	Phone Number	Type 1 : IPBX 0 : Phone	N/A
OUTBOUND-TRANSIT	MAC Address	Phone Number	Route Type 1 : Local 2 : Toll 3 : Specified	Trunk Call Allowed 1 : True 2 : False
PHONE-BOOK	Phone Number	IP Address	Port Number	N/A
ABBR-DIAL	Abbreviated Number (index)	Full Number (Abbr. Dial Number)	N/A	N/A
LOCATION-SERVER	The first and 2nd lines are the IP of NETMOSA PLUS The third line is the IP of NETMOSA	The first and 2nd lines are the Port No. of NETMOSA PLUS The third line is the Port No. of NETMOSA	N/A	N/A

By Notepad, you may add or modify the entries and store file after it had been finished. By FTP, upload the file to the Gateway, and then the data of Permission List of Outbound Transit are updated.

● Remarks for Update Software of File Type MEM

After the configuration is finished, please make a backup file for CFG file. It is in case that if the data is lost, you may upload the backup file of CFG file to gateway. If you upload the previous backup file of CFG file to gateway after the MEM file is uploaded, the MEM file will be ineffective because the backup file overwrites the Prefix Map table. You have to re-upload the updated MEM file to gateway to get the correct data.

8. Behind NAT & Firewall (Use Private IP)

FONEMOSA 4400/4400 Plus series gateway may connect to IP Sharing and define the private IP Address to communicate with the other IP phone gateway.

Concerning about NAT, please refer to the documentation about NAT.

In the table followed, the port number used in FONEMOSA 4400/4400 Plus series gateway is listed. If the packets for FONEMOSA 4400/4400 Plus series gateway are blocked by the firewall, open the ports with port number listed in the table in the firewall.

Packet Type	UDP Number			
	4402	4404	4408	4416
Packet for Voice	UDP 4000-4003	UDP 4000-4007	UDP 4000-4015	UDP 4000 – 4031
Packet for FAX	UDP 4008-4009	UDP 4008-4011	UDP 4032 – 4047	
Packet for control	UDP 2000			
FTP Software Upgrade	TCP 21			
WEB Server	TCP 80			
Telnet Server	TCP 23			

Normally every type of server uses the specific port number, e.g. WEB server uses the port of TCP 80, and FTP server uses the port of TCP 21. The configuration is to set mapping from the specific port number to the internal private IP Address. Therefore IP Sharing will transfer the packet, which is delivered to the specific port number, to the corresponding private IP Address. For example, if the private IP Address 192.168.1.1 is used in the internal network, it should be mapping to a corresponding port number (port 80 is for TCP of IP Sharing, 192.168.1.1 should be mapping to port 80). Hence, any packets to TCP port 80 will be transferred to TCP port 80 of IP Address “192.168.1.1”. In own gateway UDP port 2000 is used for Packet of Control, there should be a mapping port on the IP Sharing. (The IP of own gateway should be mapping to IP Sharing UDP port 2000).

9. File Management

9.1. File Types

The naming convention to the file type of FONEMOSA 4400/4400 Plus is listed in the following table :

File Name	File Type	Description
XF4421.CFG	System configuration file	File of system configuration
XF44XX.GT1	1 st greeting file	File of voice greeting record
XF44XX.GT2	2 nd greeting file	File of voice greeting record
XF44XX.GT3	3 rd greeting file	File of voice greeting record
XF44XX.GT4	4 th greeting file	File of voice greeting record
XF44XX.GT5	5 th greeting file	File of voice greeting record
XF44XX.GT6	6 th greeting file	File of voice greeting record
XF44XX.GT7	7 th greeting file	File of voice greeting record
XF44XX.VON	System voice file	Voice file for announcement
XF4421.RUN	Executing file	System Software
XF4421.WEB	Web page	Page for web browser
XF44XX.MEM	Text file	Prefix Map table may be downloaded by FTP to PC; open file and modify the contents using NOTEPAD or other word processing tool; then uploaded the file to system.
COLDSTART	Cold start	It is a pseudo file. FONEMOSA 4400/4400 Plus will execute the cold start if this file is deleted via FTP. It is a convenient function if cold start is required after software updated via FTP
WARMSTART	Warm start	It is a pseudo file. FONEMOSA 4400/4400 Plus will execute the warm start if this file is deleted via FTP. It is a convenient function to execute warm start via FTP.

9.2. Software Update

9.2.1. Software Update via FTP

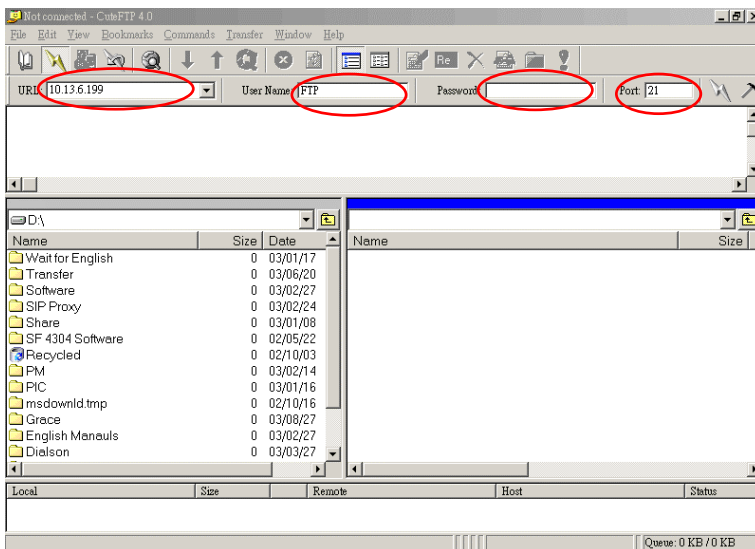
9.2.1.1. The preparation before updating FIRMWARE

1. Get FONEMOSA Gateway power ON
2. Get PC power ON
3. Make sure the network cable connected (for FTP)
4. Configure the IP, Subnet, and Gateway of FONEMOSA gateway and PC
5. Get the file of "Update GW FIRMWARE" ready

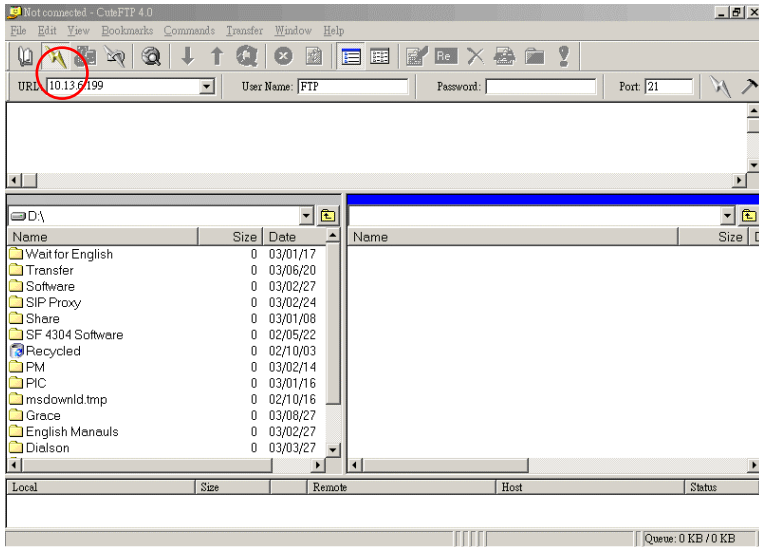
9.2.1.2. Software Update by FTP for File Type RUN and WEB

1. Execute FTP Client Software, e.g. CuteFTP

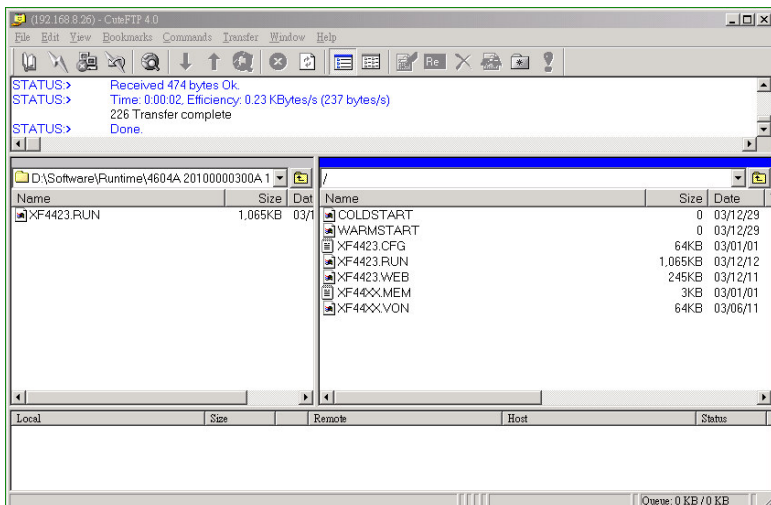
Enter IP Address, User Name (default is FTP), Password (the password of FTP and Console is same, and the default is blank), and the Port Number to 21



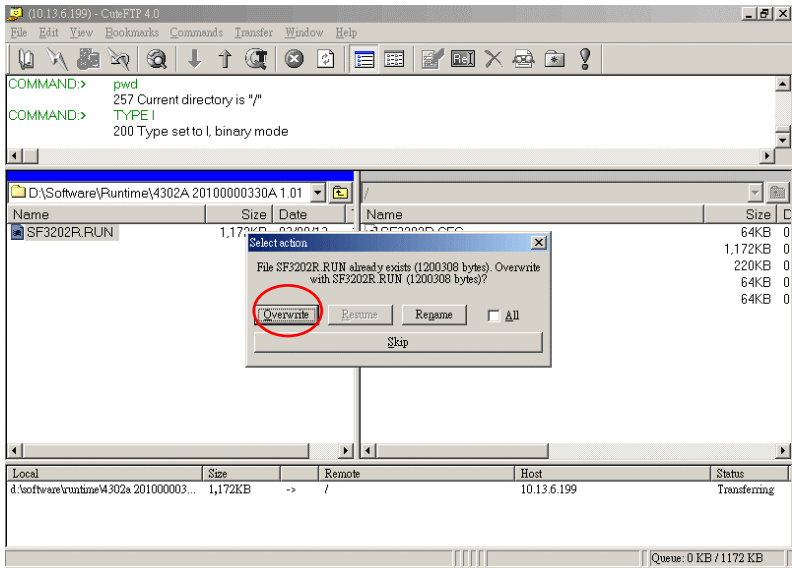
2. Click button **Connect** to get connection between gateway and FTP Client. The files of Gateway will be displayed on the display if the connection is successful.



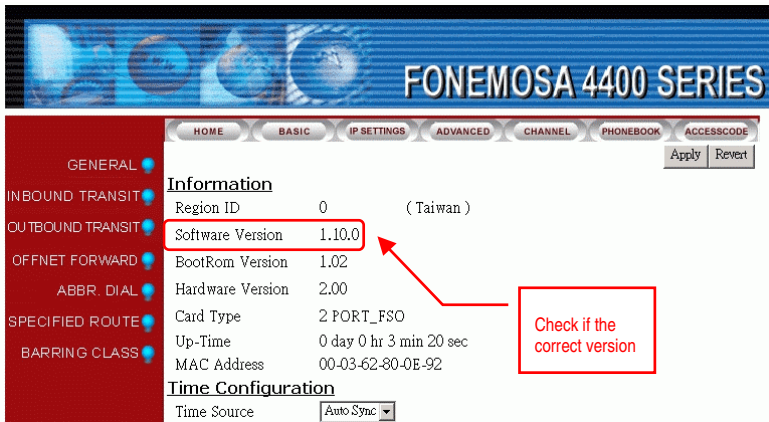
- Be sure that the files to be uploaded are stored on the hard disk. Select the file with extension of .RUN and click button **Upload**. (Please notice that the file name must be same as the file name in the Gateway, e.g. XF4423.run).



4. Select Overwrite to overwrite the file on the Gateway



5. After the file is overwritten (you may check if the time of the file is updated), Gateway has to run Cold Start to restore the configure file, then the updating is effective.
6. Select the file with extension of .WEB and click button **Upload** (Please notice that the file name must be same as the file name in the Gateway, e.g. XF4421.web). And repeat the step 4 ~ 5.
7. Check if the uploading is successful, you enter the Web Management Page to examine the version of software.



10. Network Management

10.1.Password Management

The password management depends on the interface. The detail descriptions are followed.

10.1.1.Password of Phone set

There are two level of managements password for the Phone set :

- User of phone set of the extension line : Each extension line has a password, to configure the privilege to this extension line only and to change the password of the extension line itself.
- System Management : A special password to configure the parameters concerning the system. You may clear the password of individual extension line if you enter the system by the password of System Management.
- the password of individual extension line if you enter the system by the password of System Manager.

10.1.2.Password for Web Management Page

There is only one set of password, including User name and Password. By this password, you may enter the Web page and read/write the parameters. But by this password, you can not change any passwords, including password for Web and for Phone set.

It is able to setup the User Name of Web management to "(Local)", and only the PC in the same Subnet is able to login WEB, FTP and Telnet.

10.1.3.Password for System Console and Telnet

There are two passwords for both System Console and Telnet. By one of these passwords, you can read data only, by the other one you can read and write all parameters of system, including the password of phone set and Web Page.

10.1.4.Password for FTP

The password for FTP is same as the password for system console that can read and write. This password can be used only for file management.

10.2. Management by System Console, and Telnet

Execute the command below may have next level command. Always input "?" and press Enter to view more commands and help.

● List of all commands

User Exec commands

Enable	Turn on privileged commands
Exit	Exit from the EXEC
Help	Description of the interactive help system
Show	Show running system information

show

DNS	Show the IP address of domain name server
Ethernet	Fast Ethernet port status and configuration
history	Display the session command history
Ip	Display IP configuration
running-config	Show current operating configuration
version	System hardware and software status

Privileged Mode

Configure	Enter configuration mode
Delete	Reset configuration
Disable	Turn off privileged commands
Exit	Exit from the EXEC
Help	Description of the interactive help system
Ping	Send echo request to destination
Probe-hook	probe busytone cadence
Probe-remove	stop probe busytone cadence
Reload	Halt and perform cold start
Restart	Halt and perform warm start
Show	Show running system information

Global Mode

Dbflush	DataBase flush
DNS	Set the IP address of domain name server
End	Exit from configure mode to privileged mode
Exit	Exit from configure mode
Help	Description of the interactive help system
Ip	Global IP configuration subcommands
Log	Control log output
Manager	Enable/Disable the specific management function
No	Negate a command or set its defaults

Password	Modify password of enable command
pppoe	PPPoE configuration subcommands
regional_id	Set regional id
service_port	Set service port number
terminate	Force channel clear down

10.3.Management by Web Page

If you would like to configure the parameters of FONEMOSA 4400/4400 Plus by Web Management Page, you should enter the IP address and all basic information about FONEMOSA 4400/4400 Plus through the system console or phone-set first (please refer section 10.2 Management by System Console, and Telnet). Then, open the browser and enter the IP address of FONEMOSA 4400/4400 Plus to enter the home page of Web Management Page for further configuration.

10.4.Management by Phone set

There are two level managements, the user of extension line and the system management

10.4.1.User of Extension Line

Every extension line has a password. Off-hook the phone and hear the dial tone; dial # # and hear the tone of "Du..Du....". At this moment you may configure the parameters by following instructions.

Item	Description	Parameter	Remarks
01	Call Forward	0 : Forward None (Disable) 1 : Forward All Calls 2 : Forward Busy 3 : No Answer Forward 4 : Busy and No Answer Forward 5 : Busy Slave (Superuse Only)	Configure "Call Forward" type.
02	Telephone number for Call Forward	1~19 Digits	Define the telephone number of Call Forward
03	Telephone number for Offnet To	1 ~ 22 Digits	Define the telephone number for Offnet To
04	Clock Alarm	hh*mm*c : hh : 00~23 Hours mm : 00~59 Minutes c : 1 : one time 2 : periodic Blank : clear the setting of periodic alarm	Phone will ring 3 times when the time is up. You can set alarm start once or periodically

Item	Description	Parameter	Remarks
05	Voice Gain	0 : Default 1 : +2 db 2/22/222 : -2/ -4/ -6 db	The Input Gain and Output Gain will be changed
06	Change Password	4 Digits	Default is no password. You may set or change password
07	Activate the Greetings of night mode	0 / 1 0 : Disable 1 : Enable	Only for Operator
08	Pick up is allowed	0 / 1 0 : Disable 1 : Enable	The other line can not pick up for you unless this function is enable
09	Enter to system management mode	4 Digits	Please refer to the section 10.4.2 System Management
10	Play current time	2 Digits	Play the current time
11	Display Caller ID	0 / 1 0 : Disable 1 : Enable	Display caller ID or not
12	Do not disturb (DND)	0 / 1 0 : Disable 1 : Enable	Configure DND function. Enable it allows to dial call from that extension, but block all call dial to that extension

10.4.2. System Management

The system management has a special password (the default password is 9999). You can off-hook any phone and dial # # after dial tone, he will hear the tone of "Du ..Du...." then dial 0 9 <password> #, then hear the tone of "Du ..Du...." again. At this moment, the system management can dial the following item number for management. The password of system management can be changed only from system console.

Item	Description	Parameter	Remarks
40	Access internal IP Address		If under NAT, access to the current internal IP address
41	Access Subnet Mask		If under NAT, access to the current Subnet Mask
42	Access Default Gateway		If under NAT, access to the current Default Gateway
43	Access Signaling Port		If under NAT, access to the current UDP Port
44	Access the Global IP Address		Access to the current Global IP Address

Item	Description	Parameter	Remarks
45	Access Global Signaling Port		Access to the current Global UDP Port
50	Define Area Code	1~3 Digits ; from 1 to 999	Define the Area Code that the system is allocated
51	Define Phone Number	1~19 Digits of 0~9	Define the telephone number of the equipment
52	Define PSTN Call DISA Control	0 / 1 0 : Disable 1 : Enable	If DISA answers the PSTN call
53	Define IP Call DISA Control	0 / 1 0 : Disable 1 : Enable	If DISA answers the IP call
54	Set IP Status	0 / 1 / 2 0 : Manual 1 : DHCP 2 : PPPoE	Configure the method to get the IP Address
55	Define IP Address	x : 1 ~ 3 Digits ; 0~255 xxx*xxx*xxx*xxx	Define IP Address of own equipment
56	Define Subnet Mask	x : 1 ~ 3 Digits ; 0~255 xxx*xxx*xxx*xxx	Define Subnet Mask of own equipment
57	Define Default Gateway	x : 1 ~ 3 Digits ; 0~255 xxx*xxx*xxx*xxx	Define default Gateway of own equipment
58	Define Primary DNS Server IP	x : 1 ~ 3 Digits ; 0~255 xxx*xxx*xxx*xxx	Define Primary DNS Server IP of own equipment
59	Define Secondary DNS Server IP	x : 1 ~ 3 Digits ; 0~255 xxx*xxx*xxx*xxx	Define Secondary DNS Server IP of own equipment
60	Define Dial Ending Time	1 Digit ; from 0 to 9	It is dial ending if no digits are dialed before dial ending time out. Default is 0 second and the dial must be ended by #. If the dial ending time is defined and the dial is not ended by #, system will wait until dial ending time out.

Item	Description	Parameter	Remarks
61	Change Service Port	1 : FTP , 2 : HTTP , 3 : Telnet 0~65535	Can configure the port number of three kind services.
62	Remote Management Control	0 / 1 0 : Disable 1 : Enable	Enable or Disable Remote Management Control (FTP, Telnet and HTTP (Web))
91	Not restricted by Barring Table		You will hear the dial tone again after dialing "91". Any numbers dial after above process is not restricted by barring table. System manager uses this function for checking and maintenance.
92	Reset the password of individual extension line	2 Digits ; from 11 to 26	When the user forgot the password, user can ask the system manager to reset the password to default value 0000
93	Define an extension line as Operator	2 Digits ; from 11 to 26	Enter the extension number that will be Operator
96	Play the greetings recode	1 Digit ; from 1 to 7 # stop	Enter the number of greeting to be played
97	Reset to recover all parameters to default value	1 / 2 1 : recovered by default value 2 : recovered by default value except IP	Recover all parameters to default value
98	Warm Restart	1 / 2 1: Warm restart 2: Cold restart	Execute Restart
99	Record Greeting records	1 Digit, from 1 to 7	Record the voice record of greetings, total 7 voice records

10.4.2.1. How to Record (refer to **Section 7.3.11** Recording Greetings)

*	Start to record
#	Stop recording
0	Replay the record
#	Stop the replay

9	Store the record
#	End the store
#	Exit

11. Specification

Voice port interface : FONEMOSA 4416 : 16 ports for FXS and FXO
 FONEMOSA 4408 : 08 ports for FXS and FXO
 FONEMOSA 4404 : 04 ports for FXS and FXO
 FONEMOSA 4402 : 02 ports for FXS and FXO

FAX : T.30 / T.38

FXS Interface : Loop Start ; may connect to phone set, FAX machine, or trunk port of PBX

FXO Interface : Loop start, 2 wires ; may connect to trunk line of PSTN operator

Connector Interface : IDC Interface

Voice Compression : G.711 / G.729AB / G.723 (optional)

Silence Suppression : VAD, CNG

Echo Cancellation : G.165/G.168 16 ms

Jitter Buffer : Adaptive Jitter buffer Management

Gain Control : In/Out +/-6db

Packet Time : 40 ms

Transport Protocol : RTP, RTCP

Call Control Protocol : Proprietary

Phone Book : Auto Learning, Manual Configuration

LAN Interface : 2 * Ethernet Ports; 10BASE-T/100BASE-TX Auto-negotiation; RJ-45 Connectors

Management

Management Tool : Web Browser, Phone set, System Console, Telnet, SNMP (optional)

IP Address : Static IP / Dynamic IP / Private IP / PPPoE/ DHCP

Firmware Update : FTP

Power

External Power Adaptor, Voltage : 100VAC ~ 240VAC. Frequency: 50/60Hz

Power Consumption : 70 W

Dimension

FONEMOSA 4402 : 190mm x 25mm x 110mm
FONEMOSA 4404 ; 172mm x 35mm x 176mm
FONEMOSA 4408 : 440mm x 44mm x 254 mm
FONEMOSA 4416 : 440mm x 66mm x 254 mm

Working Environment

Operating Temperature : 0 to 50°C , Storage Temperature: -10 to 70°C

EMI Certification : FCC part 15 Class B.CE Mark

PTT Regulation : FCC part 68, NALTE, iD A,JATE

Safety : cUL, CCIB, CB

12. Region ID to Telecom Country code

Country	Region ID	Country	Region ID
Australia	02	Korea	24
Philippines	03	Malaysia	26
Canada	06	Singapore	36
China	07	Slovenia	38
Vietnam	10	Spain	40
France	12	Taiwan	43
Germany	13	Thailand	44
Hong Kong	15	British	46
Italy	22	USA	47
Japan	23		

13. Sample Sheets for Numbering Plan

13.1. Sample Sheet

There are some sample tables for management and planning. If you can fill out all information in those tables, your planning is completed.

My Information

Name :

Prefix :

IP :

MAC Address :

Country Code :

Area Code :

Phone Number :

NETMOSA ID :

Numbering Plan	IP Calls w/ Auto Learning	
	IP Calls	
	Trunk Group1 Access	
	Trunk Group2 Access	
	Phone set Programming	
	Abbr. Dial	
	Call Pick Up	
	Operator Code	
	NETMOSA Plus Call	
	Seize Remote Trunk	
	Internal Call	
	Assign Operator to:	
	Maximum number of IP Calls:	
	My Pick Up Group:	

Prefix Map	Network Operator Prefix:	
------------	--------------------------	--

Trunk Group	Ch	Trunk	Status	Same Area	Remote	Notes
	13	1				
	14	1				
	15	2				

	16	2				
--	----	---	--	--	--	--

Inbound Transit	Password	Class

Outbound Transit	MAC	Trunk Call Allowed	Phone Number	Type	Name

Offnet Forward	Permitted Number For Offnet Forward

Abbr. Dial	Index	Speed Dial Number

Specified Route	Route	Cost

Barring Class	Class Entry	Content
	1	
	2	

Channel I (FXS)	Ch	Ext.	Name	Status	Operator	Barring	Outbound	Softkey	Trigger		Append
	1	11									
	2	12									
	3	13									
	4	14									
	5	15									
	6	16									
	7	17									
	8	18									
	9	19									
	10	20									
	11	21									
	12	22									

Prefix Map

Prefix Map	Prefix	Number	Type

13.2.Example of Numbering Plan

Here is an example of planning for your reference

My Information

Name : RD

Prefix : 73

IP : 192.168.1.1

MAC Address : 00-03-62-80-11-55

Country Code : 886

Area Code : 2

Phone Number : 8226-6673

NETMOSA ID : 6673

Numbering Plan	IP Calls w/ Auto Learning	*
	IP Calls	#
	Trunk Group1 Access	9
	Trunk Group2 Access	*1
	Phone set Programming	##
	Abbr. Dial	*2
	Call Pick Up	*3
	Operator Code	0
	NETMOSA Plus Call	#*
	Internal Call	1 and 2
	Assign Operator to:	N/A
	Maximum number of IP Calls:	16
	My Pick Up Group:	9

Prefix Map	Network Operator Prefix:	88
------------	--------------------------	----

Trunk Group	Ch	Trunk	Status	Same Area	Remote	Notes
	13	1	Enable	FALSE	TRUE	
	14	1	Enable	FALSE	TRUE	
	15	2	Enable	TRUE	FALSE	
	16	2	Enable	TRUE	FALSE	

Inbound Transit	Password	Class
	123	International

Outbound Transit	MAC	Trunk Call Allowed	Phone Number	Type	Name
	00-03-62-80-11-11		886288881111	Specified	Sales
	00-03-62-80-22-22		886288882222	Specified	RD

Offnet Forward	Permitted Number For Offnet Forward	

Abbr. Dial	Index	Speed Dial Number
	00	88881111

Specified Route	Route	Cost
	8862	2
	86	2

Barring Class	Class Entry	Content
	1	Name : Toll Only Attribute : Accept Barring Table : 00 01 Exception Table :
	2	Name : Local Only Attribute : Accept Barring Table : 0 Exception Table :

Channel I (FXS)	Ch	Ext.	Name	Status	Operator	Barring	Outbound	Softkey	Trigger		Append
	1	11	AA	Enable	No	0	International	*20	Key	0	A
	2	12	BB	Enable	No	0	International	*20	Key	0	A
	3	13	CC	Enable	Yes	0	International	*20	Key	0	A
	4	14	DD	Disable	Yes	1	Toll	*20	Key	0	A
	5	15	EE	Enable	Yes	0	International	*20	Key	0	A
	6	16	FF	Enable	Yes	0	International	*20	Key	0	A
	7	17	GG	Enable	Yes	0	International	*20	Key	0	A
	8	18	AB	Enable	Yes	0	International	*20	Key	0	A
	9	19	CD	Enable	Yes	2	Local	*20	Key	0	A
	10	20	EF	Enable	Yes	2	Local	*20	Key	0	A
	11	21	GH	Enable	Yes	1	Toll	*20	Key	0	A
	12	22	YY	Enable	Yes	2	Local	*20	Key	0	A

Prefix Map

Prefix Map	Prefix	Number	Type
	31	886282261111	IPBX
	73	886282262222	IPBX
	6000	88628226111111	Phone
	3000	88628226222211	Phone
	5000	88628226111115	Phone
	7000	88628226222213	Phone