

AddPac



AP-VP500 BcN Video Phone

Installation and Operation Guide

Release 1.00

Headquarters

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About this guide

This section discusses document objectives, document organization, targeted audience.

Document Objectives

The purpose of this document is to assist the users install and operate the AddPac AP-VP500 video phone easily. This guide describes the initial site preparation, hardware installation and troubleshooting of the AddPac AP-VP500 video phone. Also included is information describing the hardware components, power supplies and cables.

Audience

This guide is designed for the video telephony technician who is responsible for installing the AddPac AP-VP500. The technician should be familiar with electronic circuitry and wiring practices and have experience as an electronic or electromechanical technician. It is assumed that the system technician has experience with the installation of networking equipment. If you have used a video phone before, refer to helpful chapters. If the technician is familiar with video phone product, it is recommended to read the entire document thoroughly before handling AP-VP500. If the technician is familiar with video phone product, the technician may read this guide selectively.

Document Organization

This table describes the contents of each chapter in this document.

Table 1 Document Organization

Chapter	Title	Description
Chapter 1	Introduction	Overview of the features of the AP-VP500, and describes its hardware and software specification
Chapter 2	Preparing for Installation	Describes the environment required for the AP-VP500 installation as well as safety recommendations and preparatory information on AP-VP500 installation.
Chapter 3	Installing	Describes how to connect cables and acoustic or video devices to AP-VP500 and basic information on installation
Chapter 4	Configuring OSD Settings	Describes the configuration setting for OSD operation. OSD stands for 'On Screen Design', the screen for configuration settings of the video phone by using the remote control.
Chapter 5	Operating	Describes how to use various supplementary features of the AP-VP500 by using the remote control and keypad.
Chapter 6	Using Touch Screen	Describes the basic touch screen layout how to use the touch screen
Chapter 7	Console Commands	Explains the commands used for configuring the console port
Chapter 8	Appendix	Provides specifications and describes the cables used for the interfaces of the AP-VP500

CHAPTER 1

Product Overview

AP-VP500 is a large screen IP video conference phone that allows you to make high quality and high resolution video communications by using the Internet. This product supports video conference, video phone, VoD, IPTV, network surveillance, and aid to communication access for the disabled optimally through the latest audio/video codecs and a variety of AV I/O interfaces. AP-VP500 has better video features since it ensures 720P high definition video due to a high-quality 12 Inch LCD. The criteria of choosing a video conference phone are high quality audio, video and high definition screen.

AP-VP500 is a new IP video conference phone where Internet voice communications are combined with Internet video communications. This product provides advanced features and services such as video codecs (e.g. H.263, MPEG-4, H.264, and JPEG), RCA A/V I/O interfaces, QoS, and public IP sharing as well as multiple VoIP signaling protocols such as SIP and H.323.

In case of MPEG-4, AP-VP500 supports max. 30 frames of VGA(640×480) images which is considered promising for the high quality video application. The AP-VP500 IP video conference phone supports the 720P(1280×720) HD video display. In this HD display mode of AP-VP500, VGA level video image from remote site can be displayed at HD Screen without video downscale.

The high-performance RISC CPU and DSP of AP-VP500 are all programmable; thus, the features of AP-VP500 can continue to be improved, changed, or added. If you download an added or changed feature from the home page directly or set an automatic upgrade option whenever feature addition or change is done, you can use the latest feature without further operations.

The supplementary services of AP-VP500 as well as its various features would meet your needs. AP-VP500 provides various services that allow you to use a phone easily, which include a phone book, a latest call log, and Caller ID (CID). Also, this product as well as AddPac IP-PBX solutions supports a wide variety of supplementary services such as voice and video mail services in addition to calling services such as a call transfer. The advantage of AP-VP500 is to support the unique supplementary services of AddPac. Broadcasting, instant messaging, IPTV, and network camera are the main supplementary services of AddPac Technology. If AP-VP500 is connected to the AddPac Technology's IP broadcasting server equipment, IP voice and video broadcasting could be transmitted or received at any place connected to

AP-VP500. This product inter-works with the instant messaging server, IPTV server, and network DVR solution of AddPac to provide advanced services.

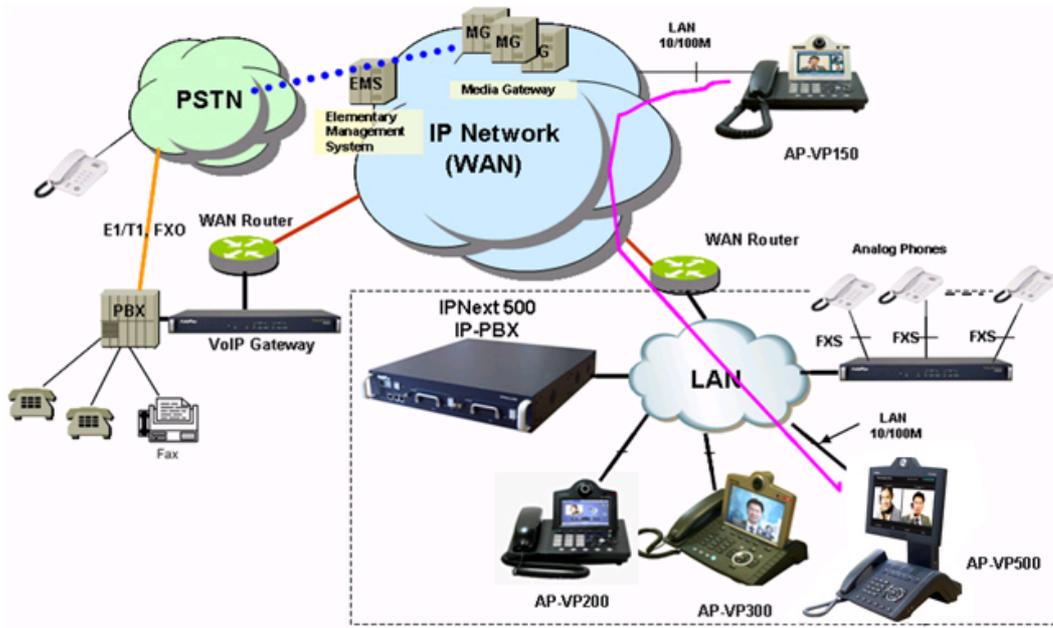
AP-VP500 is integrated network equipment that enables routing, NAT/PAT, DHCP Server/Relay, public IP sharing, and QoS. Advanced QoS and security as well as various network services should be supported to adapt to a variety of network environments such as high-speed individual subscriber networks (e.g. xDSL, cable networks, and FTTH, Metro Ethernet, Metro ATM, leased lines, and flexible IPs. In this regard, AP-VP500 has two 10/100 Mbps Fast Ethernet ports to support a variety of network and security services such as high-performance LAN-to-LAN routing, bridge, and NAT/PAT. In addition, AP-VP500 supports H.323 and SIP VoIP signaling protocols concurrently. The technologies of AP-VP500 are differentiated from those of the traditional equipments in that one AP-VP500 supports two VoIP signaling protocols concurrently; thus, even if AP-VP500 moves to another Internet Telephony Service Provider (ITSP whose VoIP signaling protocol is different, AP-VP500 can easily adapt to a new environment without change. AP-VP500 is a reliable solution that ensures good technologies.

The rear panel of AP-VP500 has the USB master mode interface. AP-VP500 supports standard USB flash memory, a USB hard disk, a USB keyboard, and a USB mouse. Several USB devices can be connected by using a USB hub. A separate power supply device should be used for a USB device that requires much power consumption since limited power is supplied to the USB device. If USB memory is used, AP-VP500 enables a file browser, and decodes MP3, JPEG, PMA (AddPac Technology Proprietary Video Stream Format files. Video data that require much memory can be saved in external USB memory.

AP-VP500 supports reliable service security as well as network access security. This product allows you to check the target phone number before answering a phone through Caller ID Detection (CID and to disable the audio or video functions easily by using the wireless remote control. If you select the 'Privacy' menu, you can disable either or both of voice and video in advance.

AddPac Technology's VoIP gateway, IP-PBX series and various multimedia products such as video phone, video conference have been highly appraised with their advanced performance and reliability by worldwide customers. With its years of experience and know-who would make AP-VP500 as the ultimate solution for next-generation IP video telephony service.

Figure 1-1 Network Configuration of the AP-VP500 in the System Architecture



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Hardware Features

Table 1-1 Hardware Specifications

CPU	High Performance RISC CPU Architecture	
	Programmable High Performance DSP	
Memory	Flash Memory	16Mbyte
	Main Memory	128Mbyte
	Boot Memory	512Kbyte Flash Memory
Network Interface Module	Fixed LAN0 Port	One(1 10/100Mbps Fast Ethernet
	Fixed LAN1 Port	One(1 10/100Mbps Fast Ethernet
	Console Port	One(1 RS-232C Interface for Controlling
Video Interface	Input	One(1-Composite(RCA Connector for External Camera
	Output	One(1-Composite(RCA Connector for TV or VCR
		One(1 S-Video Connector for TV or VCR
		One(1-Component(Y,Cr,Cb connerctor for HDTV
Audio Interface	Input	One(1-3.5mm Stereo-In Connector for Audio In
	Output	One(1-3.5mm Stereo-Out Connector external Speaker
User Interface	USB 1.1 Master	USB Flash Memory, USB HDD, USB Keyboard, USB Mouse etc
Power & Operation Environments	Power Requirement	External Power VAC 110~220 VAC, 50/60Hz
	Operating Temperature	0°C to + 50°C (32° to 122°F
	Storage Temperature	-40°C ~ +85°C (-40° ~ +185°F
	Relative Humidity	5% ~ 95% (Non-condensing
Dimensions	W x D x H (mm	290 x 330 x 440
	Weight (Kg	5Kg

Software Features

Table 1-2 Software Specifications

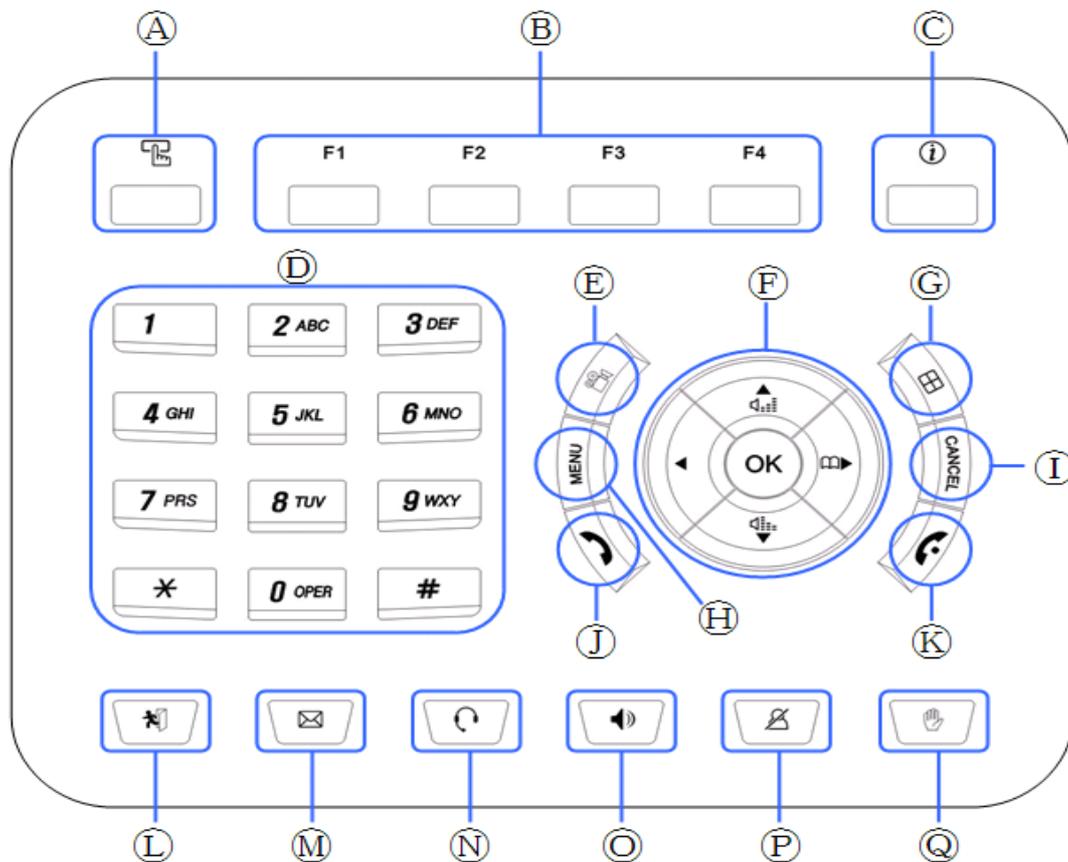
LAN Protocol	Static and IEEE 802.1Q VLAN Routing	
WAN Protocol	Point-to-Point Protocol (PPPoE for ADSL, DHCP, Static IP, etc.	
Video Service	Codec	MPEG4, H.263, H.264, JPEG(
	Resolution	QCIF(176x144, CIF(352x288, QVGA(320x240, HVGA(640x240, VGA(640x480
	Frame Rate	Up to 30fps with Wide QVGA-Resolution(MPEG-4
	Operating Bandwidth	64Kbps ~ Several Mbps
Audio Service & Signaling Protocol	Voice & Audio Codec - MP3 for High Quality Stereo Audio : 22.5Khz~44.1Khz Sampling - G.711, G.723.1, G.726, G.729, etc	
	H.323, SIP Dual Stack Support	
	ITU-T H.323 v3 VoIP Protocol with ITU-T H.235 Security Feature	
	Voice Processing Features Supports - VAD, DRMF, CNG, G.168	
	ITU-T H.323 Gateway, Gatekeeper Support	
	Enhanced QoS Management Features for Voice Traffics	
Network Management	Standard SNMP Agent (MIB v2 Support	
	Traffic Queuing and Frame-Relay Flow Control	
	Remote Management using Console, Rlogin, Telnet	
	Web based Managements using HTTP Server Interface	
Security Functions	Standard & Extended IP Access List	
	Access Control and Data Protections	
	Enable/Disable for Specific Protocols	
	Multi-Level User Account Management	
	Auto-disconnect for Telnet/Console Sessions	
	PPP User Authentication Supports → Password Authentication Protocol(PAP → Challenge Handshake Authentication Protocol (CHAP	
Operation	System Performance Analysis for Process, CPU, Connection I/F	

& Management	Configuration Backup & Restore for APOS Managements
	Debugging, System Auditing, and Diagnostics Support
	System Booting and Auto-rebooting with Watchdog Feature
	System Managements with Data Logging
	IP Traffic Statistics with Accounting
Other Scalability Features	DHCP Server & Relay Functions
	Network Address Translation (NAT Function
	Port Address Translation (PAT Function
	Transparent Bridging (IEEE Standard Function → Spanning Tree Bridging Protocol Support → Remote Bridging Support → Concurrent Routing and Bridging Support
	Cisco Style Command Line Interface(CLI
	Network time Protocol(NTP Support

Physical Description – Front View

The hard case of the AP-VP500 is a standalone type of network product, which is made of high-strength ABS. The main key buttons are placed on the front panel of this product, you can operate just about any and all system operations by using the key buttons. The rear panel consists of a variety of audio and video interfaces including the WAN/LAN interfaces.

Figure 1-2 AP-VP500 Front view



This table shows and describes the button features on the front side of your AP-VP500.

Table 1-3 Description of the Button Features

	Name	Description
(A)	SpeedDial	Brings out the Speed Dial menu.
(B)	F1~F4	Engages the function keys assigned to each of the soft key tab displayed on the bottom of the LCD screen when the menus such as PhoneBook and SpeedDial are used.
(C)	INFO	Chooses the option for displaying information such as line/call status, phone number, date, time and soft key tabs on the top and bottom of the screen
(D)	Keypad	Functions like a tradition telephone key pad. Also used for configuring the settings of OSD menu by using the remote control
(E)	Camera	Turns on/off the camera
(F)	Navigation & OK button	Scrolls through text and selects confirms the selection that are displayed on the OSD menu and sets volume
(G)	View	Changes to conversation, remote and local view during phone conversation
(H)	Menu	Brings out the OSD main menu
(I)	Cancel	Cancels the last selection and moves one level up from the present level in the OSD menu
(J)	Call	Brings out the recent call list Also makes a call after dialing the displayed number
(K)	END	Terminates the present call
(L)	Absence	Takes an incoming call when the phone user is away from the phone
(M)	Voice Mail	Listens to the voice mail
(N)	HDP Call	Activates a headset
(O)	SPK Call	Activates the built-in speaker phone
(P)	Privacy	Blocks the view on my side, so the other party can not see you while you are placing a call
(Q)	Hook Flash	Simulates quickly hanging up then picking up again (a quick off-hook/on-hook/off-hook cycle. This action can signal the telephone exchange to do something such as dialing the second number and greet the second party. A common use of hook flash is to switch to another incoming call with the call waiting service. Another use is to connect the speaker phone or headset

Physical Description – Rear View

The rear panel of AP-VP500 has two 10/100Mbps Fast Ethernet interfaces for WAN/LAN access, the PSTN port for accommodating the regular Central Office line, video I/O port and audio I/O port, which connect to video and acoustic devices, as well as the RS-232C port, which allows you to access the console for device management and camera control.

Figure 1-3 Rear View

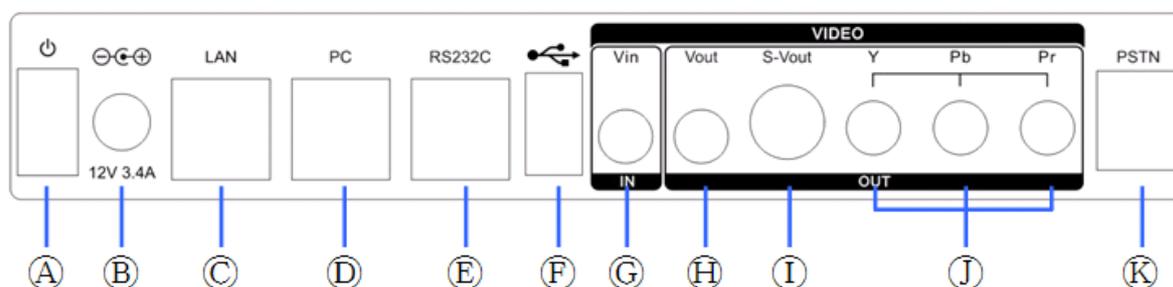


Table 1-4 Description of the Connectors on the Rear Side

	Name	Description
(A)	SW	Power Switch
(B)	DC 12V 3.4A	DC 12V 3.4A adapter port
(C)	LAN	Fast Ethernet port (10/100Mbps for connecting to the uplink (RJ45))
(D)	PC	Fast Ethernet port (10/100Mbps for connecting to the downlink (RJ45))
(E)	RS232C	Console port for network management and camera control (RJ45)
(F)	USB	Universal Serial Bus connector in the standard of 1.1 for transmitting 12Mbps at maximum and connecting to USB memory devices.
(G)	Video In	RCA composite video input port for connecting video input devices such as camera or DVR player.
(H)	Video Out	RCA composite video output port for connecting analog video output devices such as TV
(I)	S-Video Out	S-VIDEO video output port for connecting video output devices such as high video quality TV, projector and PDP.
(J)	Component Out	Component (720P S-VHS video output port for connecting video output devices such as High Definition TV, projector and PDP.
(K)	PSTN	1-port PSTN Backup port for accommodating PSTM Central Office line.

CHAPTER 2

Preparing for Installation

Safety Recommendations

The following safety guidelines are recommended when working with the equipment:

- Keep the area around the AP-VP500 as free from dust as is practical before and after installation..
- When you need to open the cover of the AP-VP500, please place the equipment on a flat and safe place.
- When you work on the equipment, please do not wear any loose clothes. When you wear a tie or scarf, please be careful not to slip down and roll up the sleeves because if you don't, you can entangled to the equipment
- Avoid any actions that may effect the equipment or the operator.

Maintaining Safety with Electricity

There are two main sources of electrical problems with the AP-VP500: the power supply and static electricity.

This section describes safety recommendations for each case.

Electrical Safety

- Work in a place where you can shut down the power immediately in case of an accident due to electricity.
- When you install or uncover the equipment, please turn off the power.
- Avoid operating the equipment alone at a potentially dangerous environment.
- Do not assume the power is switched off, but always confirm the power status.
- Be extremely cautious when operating in a humid environment or with an uncovered power extension cable.

Electrical Static Prevention

- The main chip sets are the components with high precision. When they are

mishandles, they can be damaged by electric static

Site Requirements

The AP-VP500 is ready for use where electronic products are used. However, a location with the following conditions is recommended for the maximum performance:

- A level and well ventilated location is recommended.
- Secure the equipment safely where intended to install.
- Avoid placing objects on top of the equipment.
- Install the equipment in a cool location avoiding direct sunlight.
- Maintain distance from flammable, chemical, or magnetic objects

Requirements for Network Connection

This procedure is to follow EIA standards and other EMI regulations when you install the Gateway

The following section describes the Ethernet Cable, and the Console Cable which can be connected to the AP-VP500.

Required Tools and Equipment

Some cables and equipment are not included and your need to purchase them separately. Please prepare the following tools and equipment

LAN Cable & Console Port Cable

- RJ-45 to RJ-45
- RS232C console cable with RJ-45 connector (included in the box)

Ethernet Port

The AP-VP500 has two RJ45 type of 10/100 BaseTX Ethernet ports on the rear side and LED for indicating the status of the port on the front. These ports are physically connected and using the direct cable you can connect to LAN0/ LAN1. Please use the standard cable and connector to access to LAN. You may refer to the cable details of Appendix in this guide

Console Port

AP-VP500 has one RJ-45 type3 of RS-232C Female DCE Connector Interface. Through this port, you can perform the initial setup, monitoring and debugging the system. The cable and connector must be used. You may refer to the pin connection for RS-232 console cable of appendix in this guide.

Package Contents

Completely unpack all of the contents from the box and inspect each item for damage and ensure that you have all of the components listed below:

Table 2-1 AP-VP500 Product Package

No	Name	Contents	Quantity
1	AP-VP500 Main Body		1
2	Remote Control		1
3	LAN Cable (RJ45 to RJ45)		1
4	Console Cable (RJ45 to DB9)		1
5	External Power Adapter and Power Cable (220V Power Cord)		1

Remote Control Button Features

Figure 2-1 Remote Control Button Features

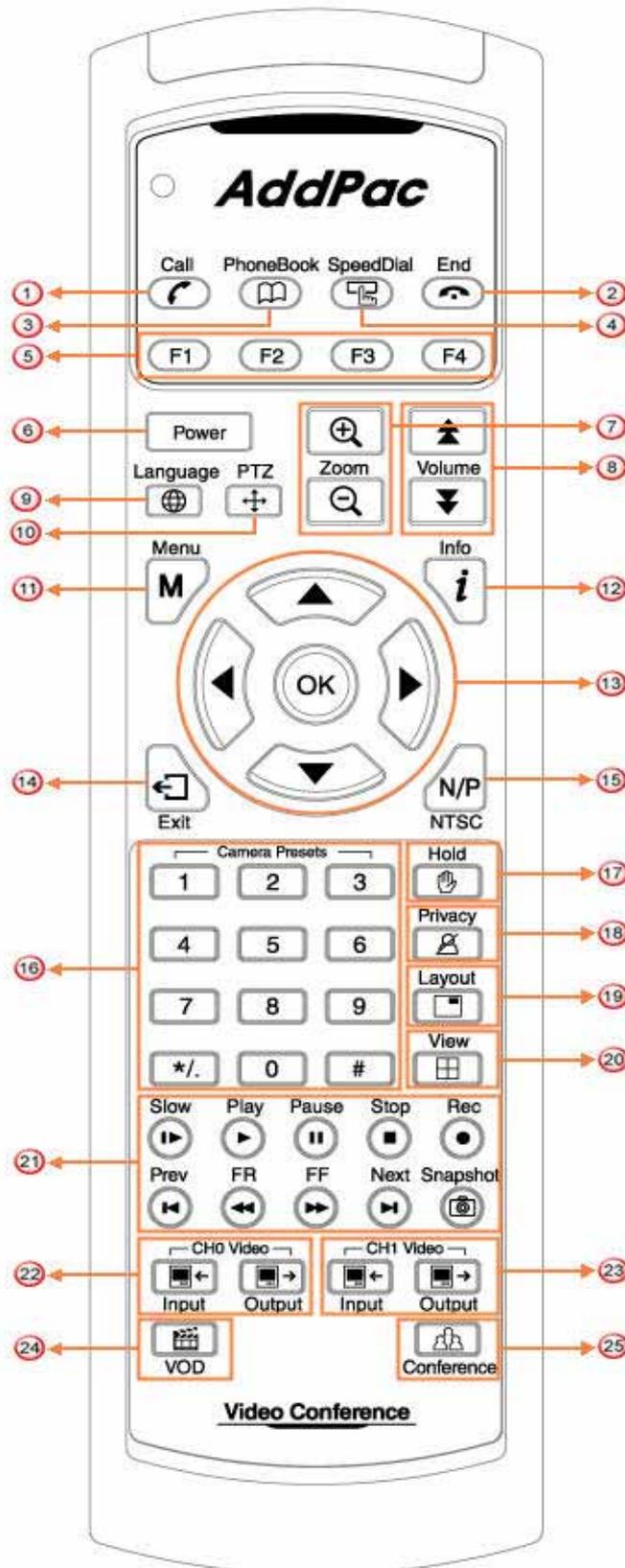


Table 2-2 Description of Remote Control Button Features

	Name	Features
(1)	Call	Brings out the recent call list Also makes a call after dialing the displayed number
(2)	END	Activate the power on suspend mode by giving the button a long press Release from the power on suspend mode by touching the button (a short press).
(3)	PhoneBook	Brings out the Phone Book menu
(4)	SpeedDial	Brings out the Speed Dial menu
(5)	F1~F4	Soft keys that can change the function of each OSD menu for the external camera of the other party's AddPac video devices in the remote location When your AP-VP500 is connected with the AddPac Video Conferencing Server AP-VC2000 or the Video Gateway AP-VG1000, which is connected with the external camera of EVI-D70 and 100, of the other party in the remote site, Press the PTZ button (in section10 first and then use the following soft keys to control the following functions of the camera in the remote or local site: F1 : Power on/off the external cameras in the remote location F2 : Enable direction reverse for controlling the camera or save the setting value of OSD in the remote location F3 : Display the input image of the camera on bilateral symmetry basis in the remote location F4 : Enable backlight of the camera in the remote location
(6)	Power	Turns on the power (short press) Turns off the power (long press)
(7)	Zoom (+/-)	Press the PTZ button first and then press this button to zoom in/out the external video camera (EVI-D70 or 100)
(8)	Volume (Up/down)	Increases or decreases ringer loudness, phone conversation volume or audio port volume
(9)	Language	Brings out the Language Selection menu
(10)	PTZ	Brings out the Pan/Tilt menu for controlling the external camera
(11)	Menu	Brings out the main OSD menu
(12)	Info	Chooses the option for displaying information such as line/call status, phone number, date, time and soft key tabs on the top and bottom of the LCD screen
(13)	Navigation Key, OK	Scrolls through text and selects confirms the selection that are displayed on the OSD menu or controls the external camera movement by using Pan/Tilt menu
(14)	Exit	Moves one level up from the present level in the OSD menu

(15)	N/P	Not in use
(16)	Keypad	Functions like a tradition telephone key pad. Another use is configuring the settings of OSD menu
(17)	Hold	Places an active call on hold. Resumes a held call
(18)	Privacy	Blocks the view on my side, so the other party can not see you while you are placing a call
(19)	Layout	Brings out the Layout menu which is used for videoconferencing. This button feature can be used only when your AP-VP500 is connected with the other party's AddPac videoconferencing server in the remote location
(20)	View	Changes the screen view for self/ the other party/ call
(21)	Slow/Play/Pause/ Stop/Rec/Prev/FR /FF/NEXT/Snaps hot	Functions VoD Browser. File Browser. This button feature can be used only when your AP-VP500 is connected with AddPac Video on Demand server such as AP-VD1000 in the remote location Rec, Snapshot buttons are not in use
(22)	CH0 Video Input, Output	Not in use
(23)	CH1 Video Input, Output	Not in use
(24)	VOD	Functions VoD Browser. File Browser. This button feature can be used only when your AP-VP500 is connected with the other party's AddPac Video on Demand server such as AP-VD1000 in the remote location
(25)	Conference	Brings out the Conference menu which is used for videoconferencing. This feature is used for Dial-Out, Meet-Me Conference. This button feature can be used only when your AP-VP500 is connected with the other party's AddPac videoconferencing server such as VP500 in the remote location

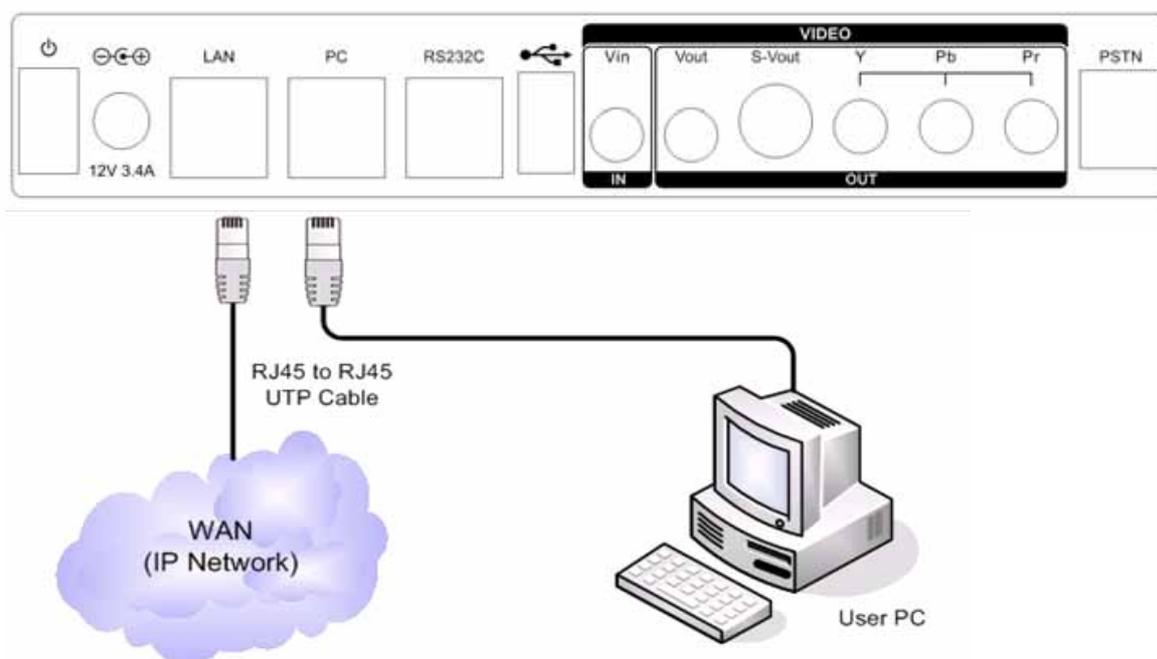
CHAPTER 3

Installing

Connecting Ethernet

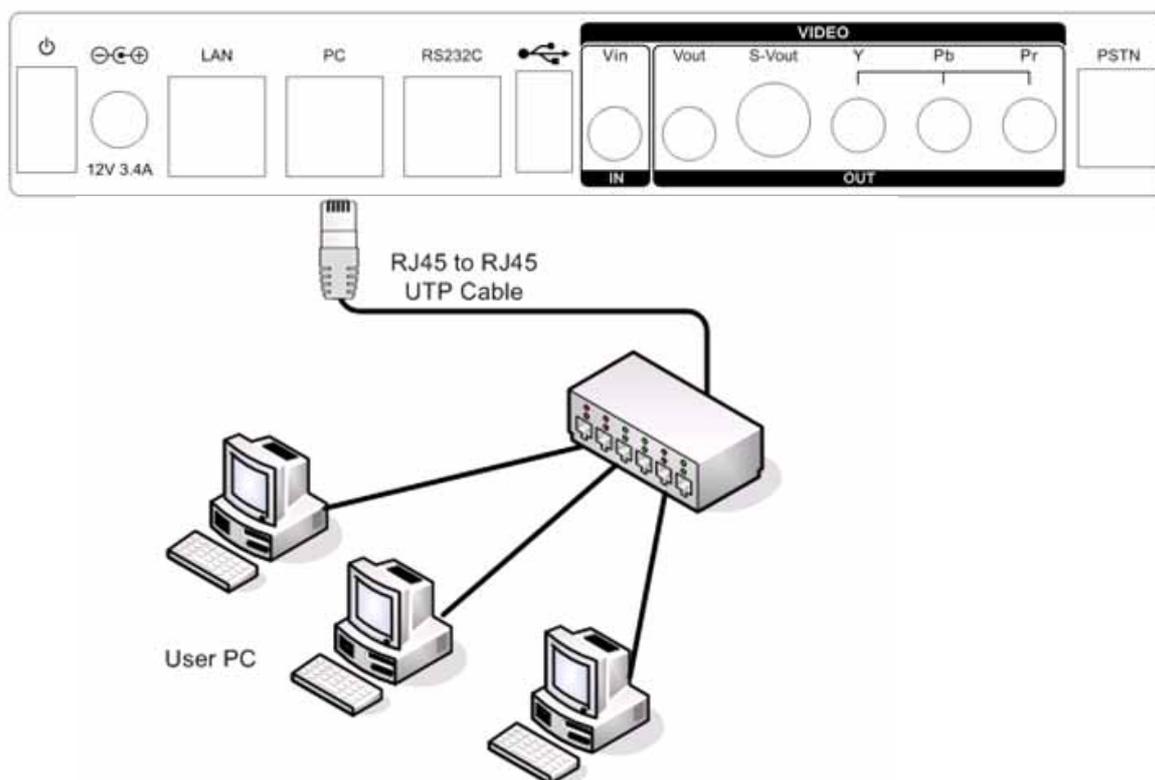
- A connection to Internet is made through the LAN interface of the WAN accessing equipment such as router, ADSL or cable modem. The LAN is connected by RJ45 standard of the UTP cable.
- Sometimes the cross-over cable is used to connect to the router, xDSL or cable modem
- Use Direct-Through cable for connecting to the hub

Figure 3-1 Connecting WAN



- When LAN1 is set to IP-Share mode, it is connected to PC on Direct-Through cable.
- Use Direct-Through cable to connect to PC directly
- User Cross-Over cable to connect to the hub directly

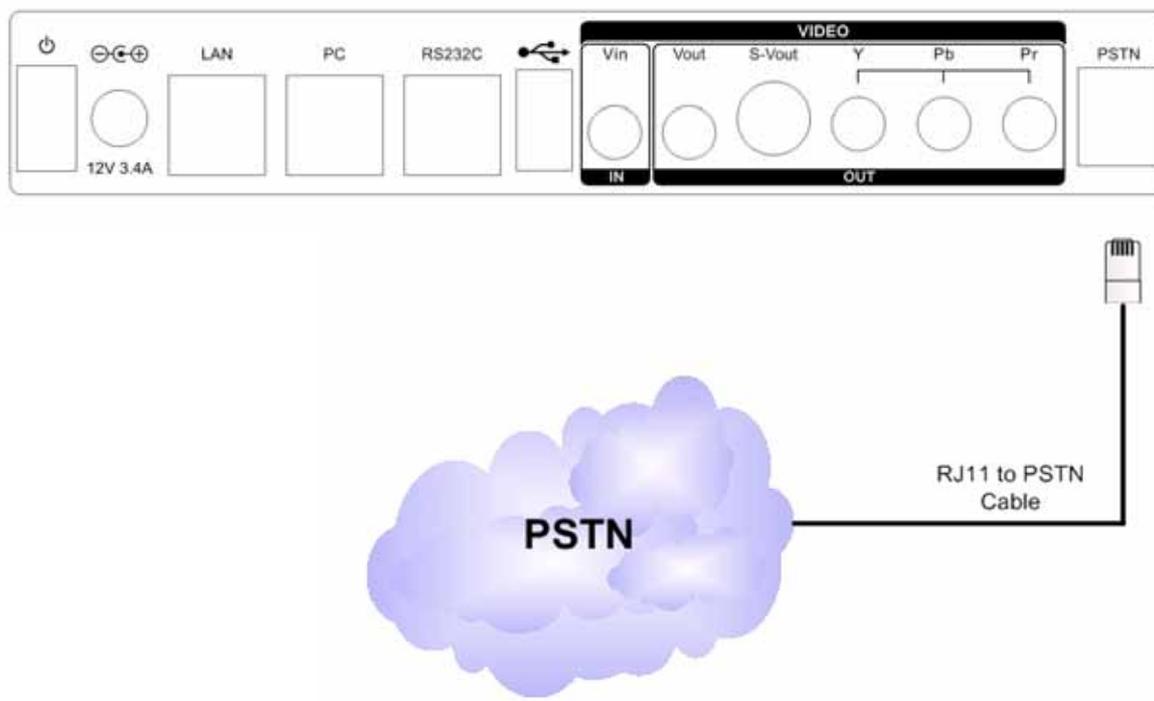
Figure 3-2 Connecting LAN



Connecting PSTN

This PSTN port is used for connecting PSTN Central Office line in case of a network failure. The user may connect the PSTN cable to the PSTN port in order to implement PSTN backup. As shown in the figure below, connect the PSTN cable:

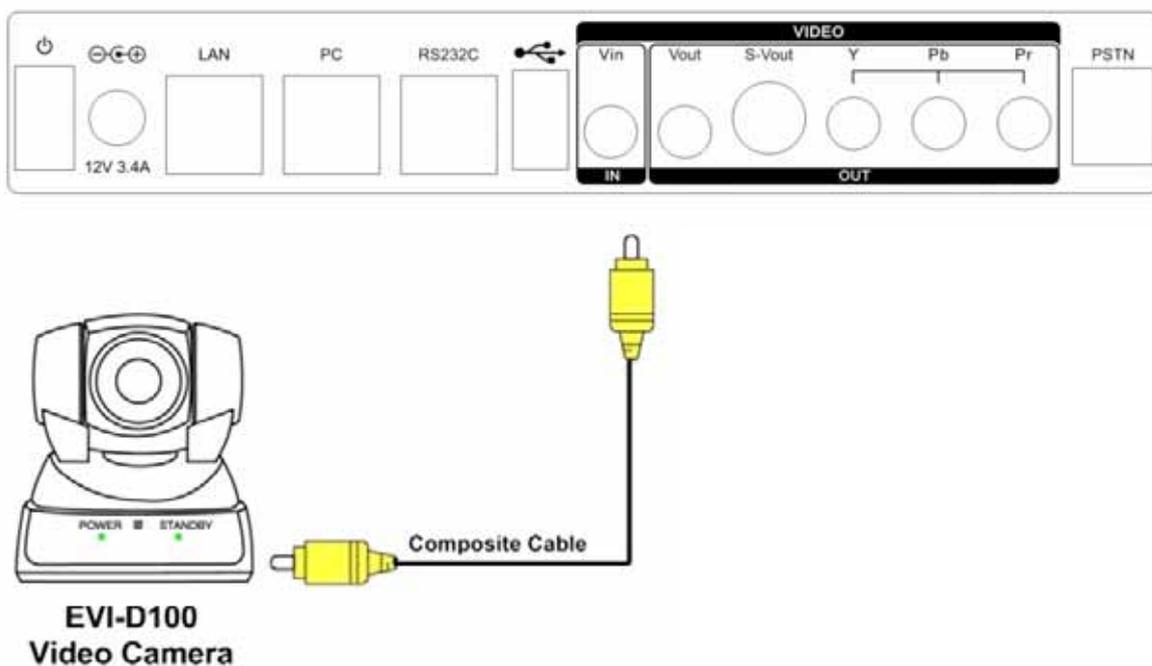
Figure 3-1 Connecting PSTN



Connecting Composite RCA Video Input Port

The video input port is basically used to connect to EVI-D70 video camera, but it can also be used for connecting to other video devices such as DVD player. This video input port has S-Video, composite RCA types. So any video device with the composite RCA video output port can be connected to AP-VP500. The following figure shows a connection with the video camera by using the composite RCA video cable.

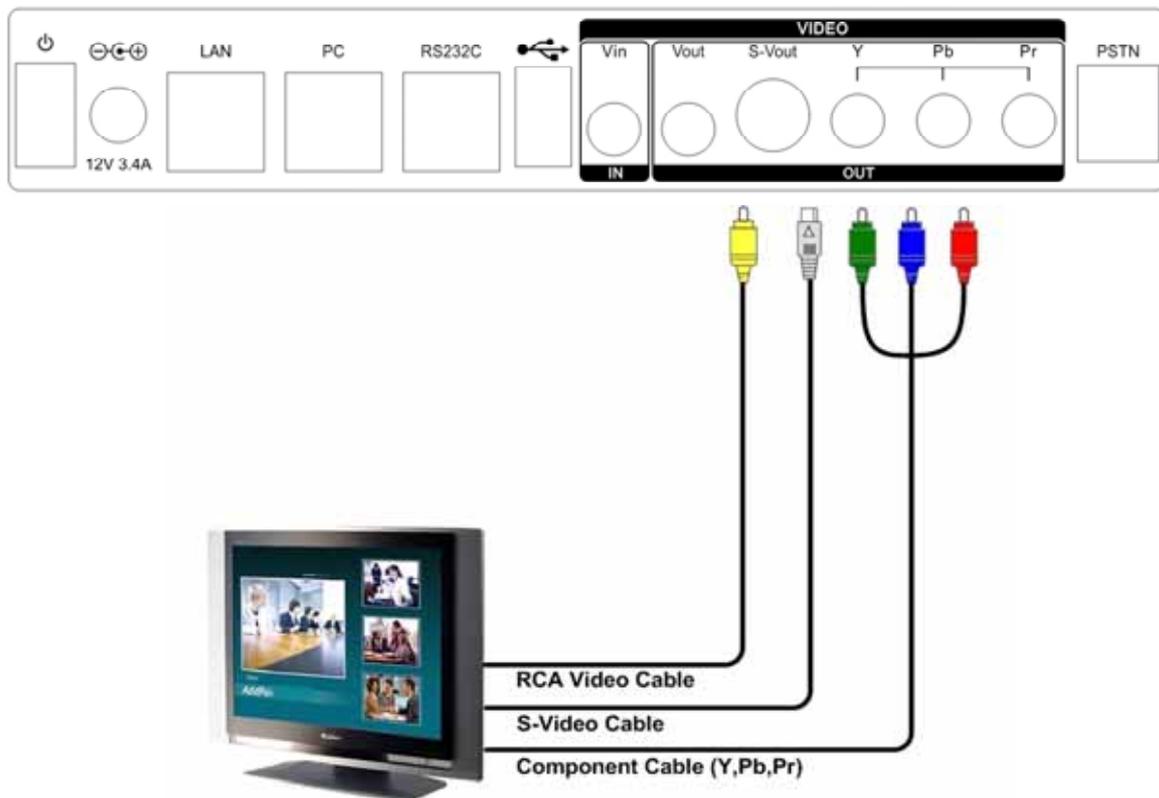
Figure 3-4 Connecting Video Input Port



Connecting Composite RCA/S-VHS Video Output Port

The available video output ports are categorized by Composite RCA, S-VHS and Component. The AP-VP500 is capable of displaying the video image to these 3 different types of interface simultaneously. All you have to do is just find and connect the matching type of cable. The following figure shows connecting RCA, S-VHS and Component cables to TV.

Figure 3-5 Connecting Video Output Port



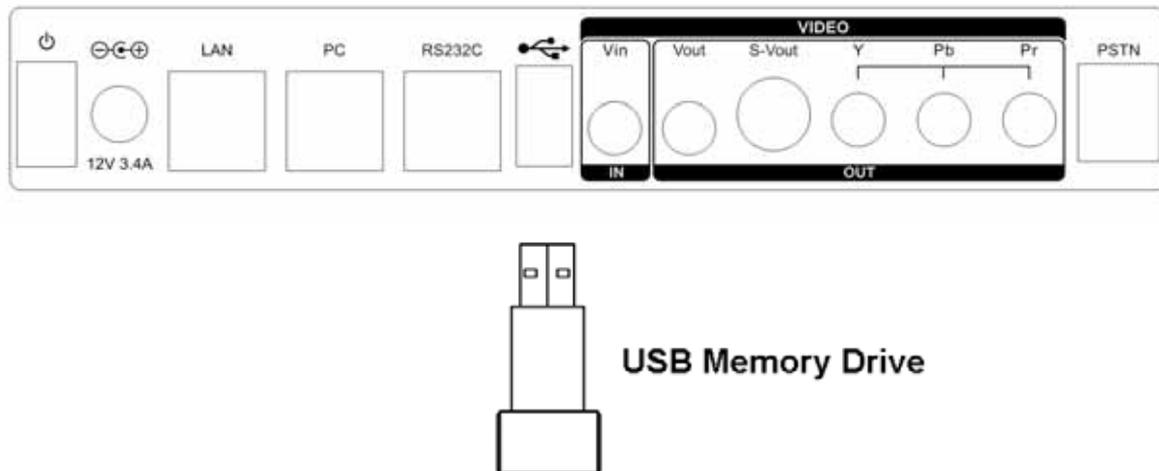
Connecting USB Port

The USB port of AP-VP500 is based on the standard of 1.1, which can transmit data at 12Mbps. The user can connect to the USB memory drive and Table 3-1 describes its usage. However, a standalone type of hard disk drive may not operate when enough power is not supplied.

Table 3-1 Description of USB Interface Usage

No	Features	Description	Comments
1	Voice Recording	Saves telephone conversation into the USB memory	voice
2	Video Recording	Saves telephone conversation into the USB memory	video + voice
3	Viewing Image	Views JPEG images saved in the USB memory	JPEG
4	Saving Image	Saves still motion of the video image in to the USB memory while talking over the phone	JPEG
5	Security Lock	Functions as a security lock or encryption key for telephone conversation	

Figure 3-6 Connecting USB Memory Drive to the USB Port



CHAPTER 4

Configuring OSD

Startup

The following figure shows the start of booting screen of the AP-VP500 when the power is turned on.

Figure 4-1 Startup Booting Screen



Default Screen Layout

The following figure shows layout display of basic screen, after the startup booting screen is finished.

Figure 4-2 Default Screen Layout



Table 4-1 Description of Layout Display of Basic Screen

Name	Description
Top Info Bar	<p>View Mode</p> <p>Local View: The default screen while AP-VP500 is not in use for a video call. The basic image of the video input is displayed</p> <p>Remote View : Displaying the video image transmitted from the other party during the call</p> <p>Conversation View: Splits the screen and displays the local and remote video images</p> <p>Camera Control : Displays the camera control mode when PTZ button of the remote control is pressed.</p>
	<p>Time</p> <p>Displaying the present time. The time for call duration is displayed when the call is on line. During the call, the present time can be displayed by pressing INFO on the remote control</p>
	<p> Displaying AP-VP500 is connected to the broadcasting system</p>
	<p> Displaying up/down of the link for WAN interface</p>
	<p> Blinks for arrival of the incoming call. It is enabled while the call is on line. When the call arrives during user's absence, it blinks periodically.</p>
	<p> Displays more than one subscriber numbers (Multiple Subscriber Number for different purposes. For instance, you need 2 different phone numbers, one for your desk and the other one for the meeting room</p>
	<p> Turns on/off LCD screen</p>
Video in Screen	<p>Displays the video image which has been entered to the video input port while the call is not received or placed.</p> <p>Displays local/ remote/ convention view depending on the user's mode setting while the call is received or placed. OSD menu is also displayed on this screen.</p>

Main Menu

When you press the menu button of the remote control, you can see the menu in the following figure. By using this menu, you can set up all the functions except pan/tilt of remote camera, changing the layout and verifying call status, which can be during online call state. You can still use the menu while you are remaining on line.

Figure 4-3 Main Menu

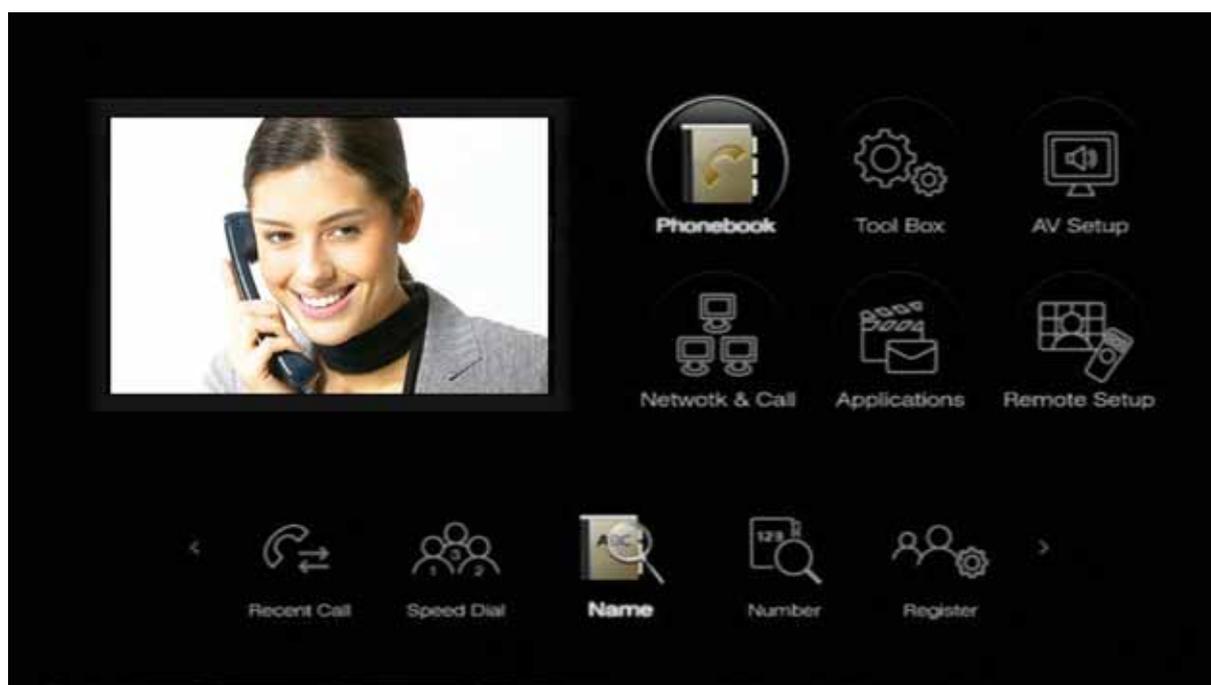


Table 4-2 Description of the Main Menu

Menu	Description
 <p data-bbox="245 501 395 528">Phonebook</p>	<p data-bbox="469 349 1378 427">Phonebook menu is a phone directory with the registered phone numbers, names and Number Search, Recent Call List and Speed Dial List.</p>
 <p data-bbox="272 714 376 741">Tool Box</p>	<p data-bbox="469 562 1378 685">Tool Box Menu provides the convenient functions for the user such as time setting of the device, saving the settings, initializing the settings, ringer sound selection, power saving and version information</p>
 <p data-bbox="268 927 381 954">AV Setup</p>	<p data-bbox="469 775 1378 898">AV Setup is the essential menu for the AP-VP500, which configures the settings for audio input and output volume, the color and brightness adjustments, voice codec selection, video codec selection and audio input an output properties.</p>
 <p data-bbox="240 1140 405 1167">Network & Call</p>	<p data-bbox="469 987 1378 1111">Network & Call menu configures the setting for WAN, LAN interface, selecting VoIP protocol, SSCP, incoming call, enabling/ disabling HTTP, FTP service port, selecting one's own number, option details</p>
 <p data-bbox="245 1352 400 1379">Applications</p>	<p data-bbox="469 1200 1378 1323">Applications menu allows you to use the supplementary functions such as VoD Browser, IPTV (to be available in future, Network Camera, Conferencing, Voice Message, File Browser</p>
 <p data-bbox="240 1565 405 1592">Remote Setup</p>	<p data-bbox="469 1413 1378 1536">Remote Setup menu allows you to change the the bandwidth and image size, frame rate of the other party, while the user is on a call (Applicable only to the call which has been applied with the setup. When the call is ended, it returns to a default value.</p>

Using Input Mode

Input Mode takes the entry for some texts, numbers, special characters by using remote control.

The Input Mode is used for Phone Phone Book Management, Account and IP Address Input in Network Configurations, so you should know thoroughly. Each function key corresponds to F1~F4 of the remote control.

Figure 4-4 Input Mode

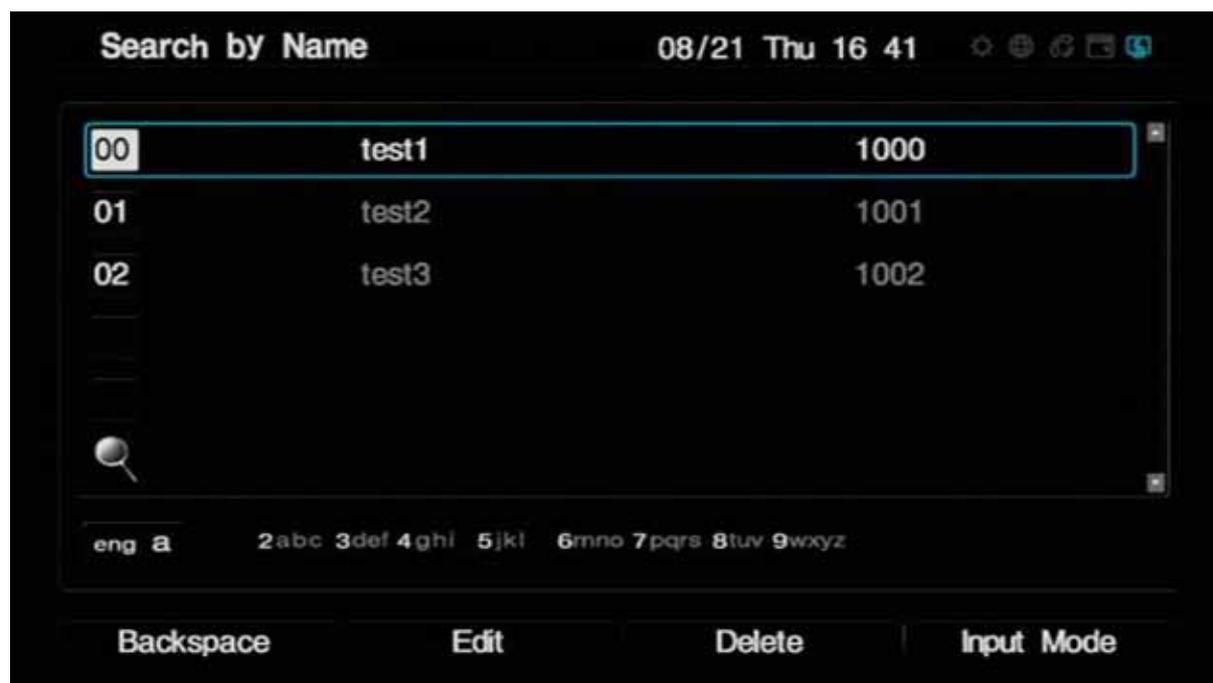
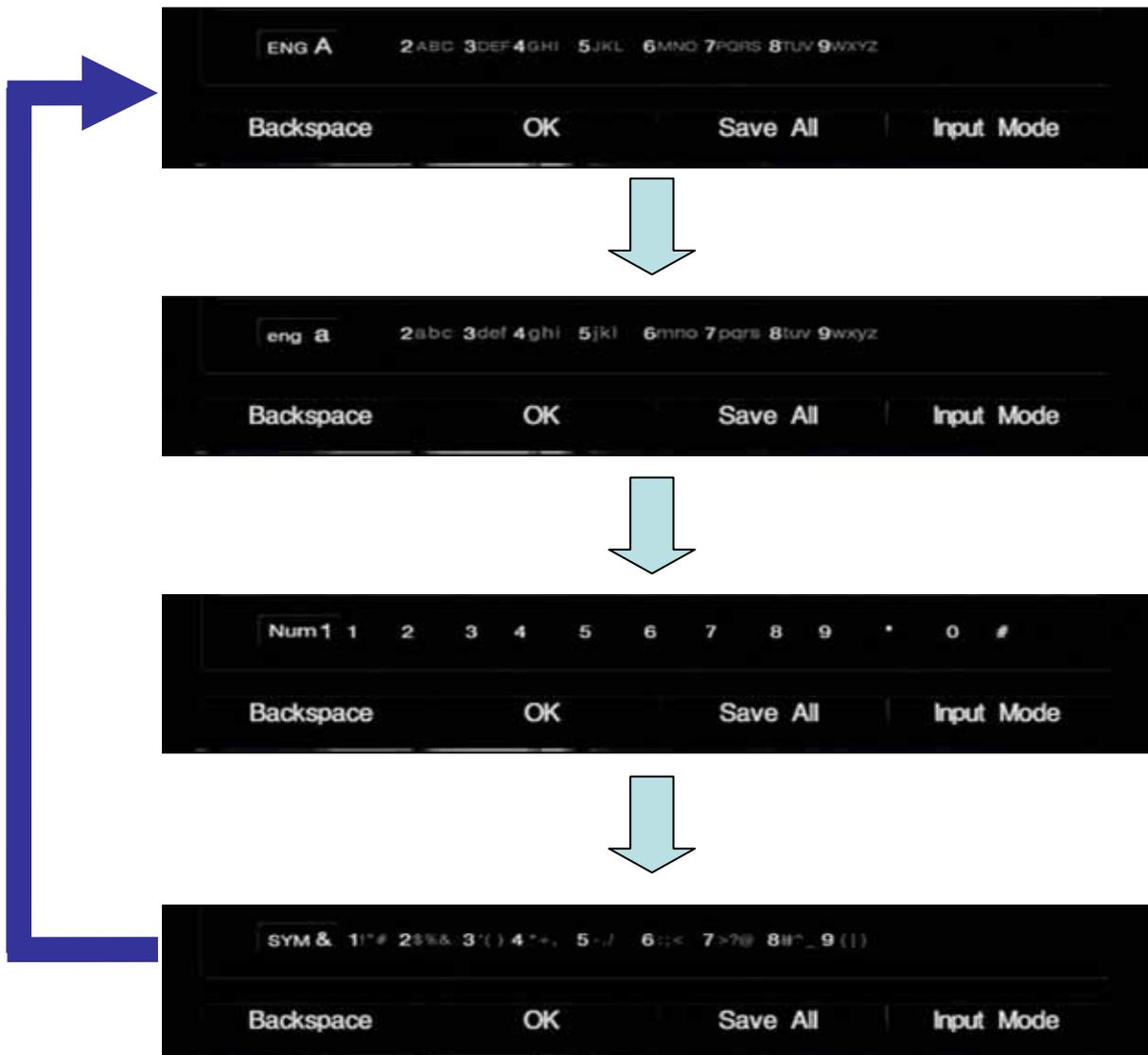


Table 4-3 Description of Input Mode

Name	Description
Character Set (F4)	To input letters in OSD by using the remote control, use Character Set. By using 4 function buttons of the remote control, you can have 6 different kinds of character sets as they are shown in Figure 4-5. To enter the relevant letters, you need to press the numeric keys of the remote control 1 to 3 times. To enter the next set of letters, press the left or right button of the navigation key of the remote control for more than 3 seconds..
Erase (F1)	Use the backspace key to correct an error made during the text entry.
Save/Edit (F2)	When the system is rebooted, all the values that have been entered disappear. Thus, use this SAVE key to save all the values that have been entered. For some entries, this key can be used as EDIT also.

- ④ Input Mode (F4) Changes each character set each time the button is pressed in the order of 'Lowercase Letters in English → Number → IPv6 → Special Characters → Korean → Capital Letter in English

Figure 4-5 Changing the Input Mode by Pressing F4 on the Remote Control



Phonebook Menu

Phone Book menu is a phone directory and it consists of Name or Number Search, Phone Number Registration, Recent Call, Speed Dial:

Figure 4-6 Phonebook Menu



Table 4-4 Description of the Sub-Menus in Phonebook

Name	Description
 Name	Name searches a phone number by using a registered name in the Phonebook. The user can enter the name by using the remote control to find the phone number and then press Call on the remote control to place a call.
 Number	Number searches a phone number which has been registered to the Phonebook. The user can enter the name by using the remote control to find the number and then press Call on the remote control to place the call.
 Register	To register a new phone number, use Register. Name, number, IP address, transmission settings can be specified.
 Speed Dial	Speed Dial displays 7 names per screen in the order of Speed Dial numbers associated with name and numbers. So the user can find the other party's name quickly and place the call.
 Recent Call	Recent Call reads the recent call list. The list provides caller number, name and IP address. So the user can find the other party's name quickly and place a call to the caller.

Search by Name

Figure 4-7 shows the screen by locating OSD>> Phone Book>> Search by Name. The Search by Name menu searches the other party's name which has been saved. Thus, whenever the user enters a letter of a name by using the remote control, the search moves to the matching field of the name. If the first letter of the filed is found same more than twice, enter the second letter to search the number that you want to find. You can also place the call by using the information of the party found or revise the information.

Figure 4-7 Layout Display of Search by Name

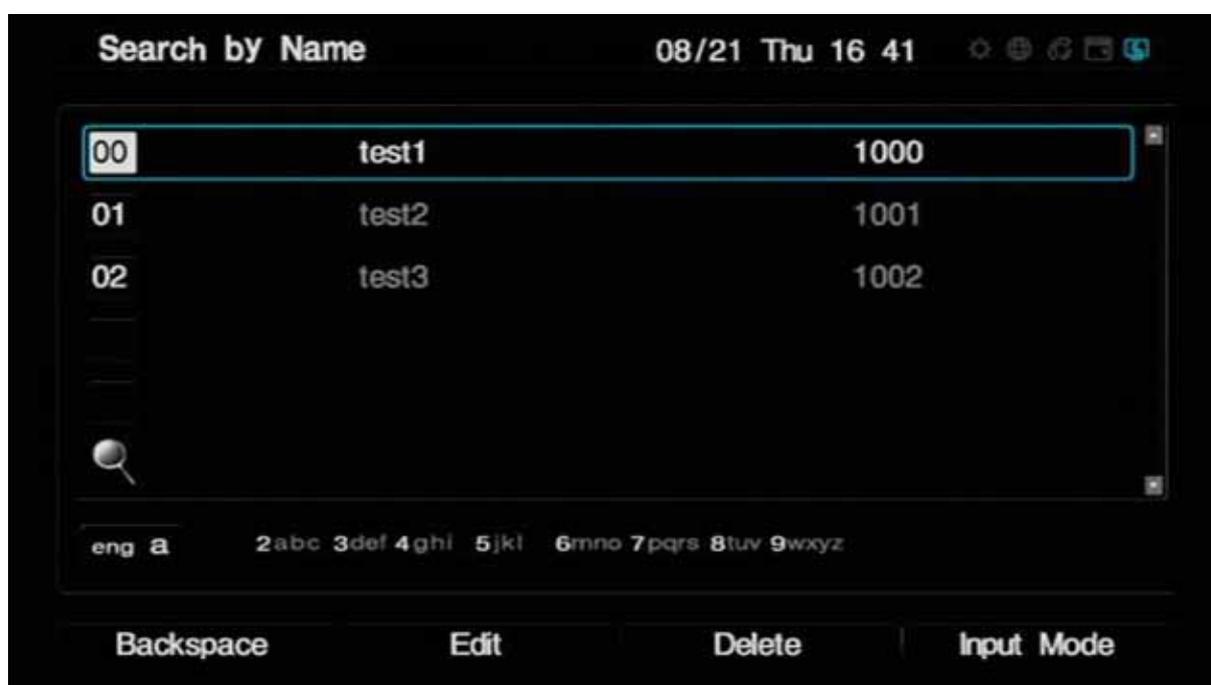


Figure 4-8 shows searching a specific name from the Name Search Menu by using the remote control:

Figure 4-8 Menu >> Phonebook



Figure 4-9 Phonebook >> Name



Figure 4-10 Search by Name

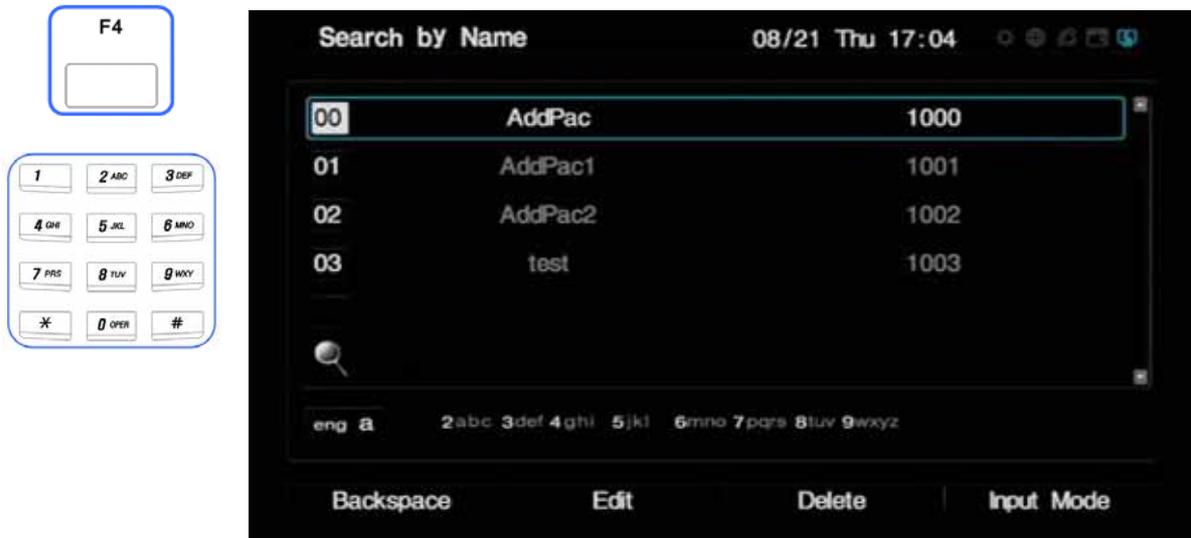


Figure 4-11 Enter "t" from Character Set

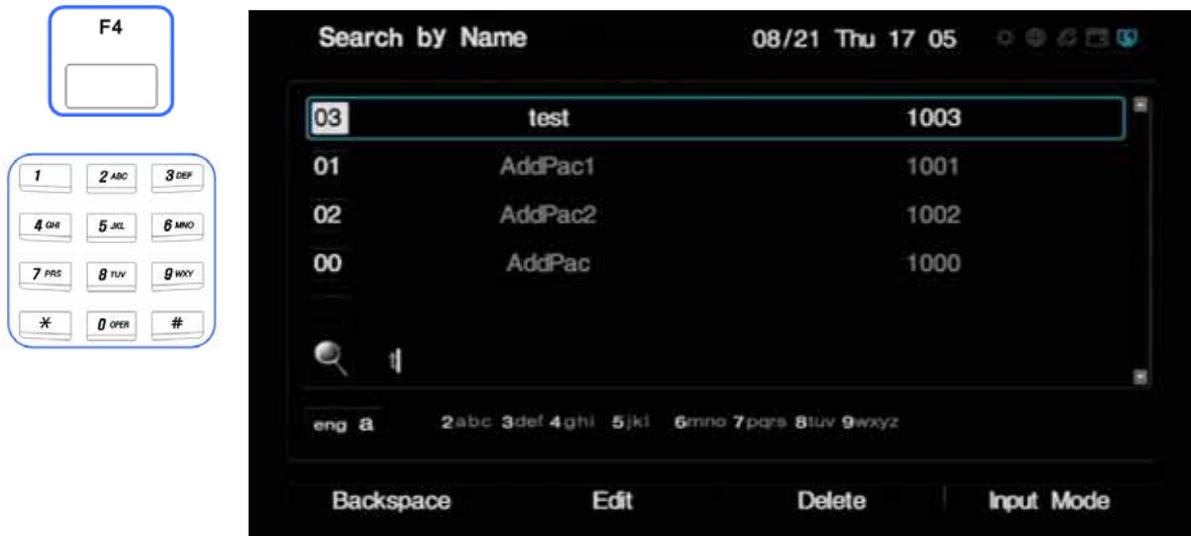
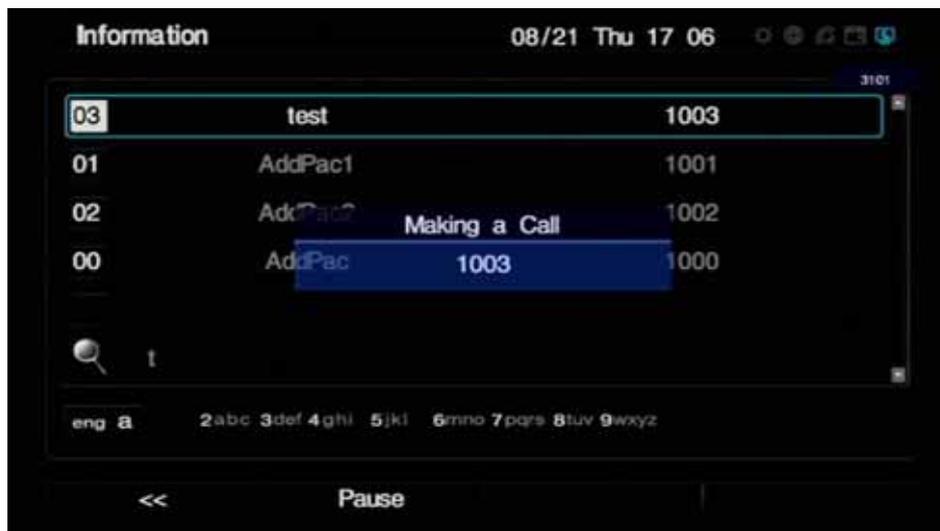
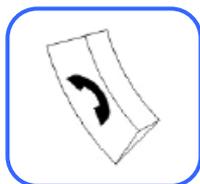


Figure 4-12 Placing call to the searched name, 'test', by pressing Call on the remote control



Search by Number

Figure 4-13 shows the screen by specifying OSD>> Phonebook>> Search by Number. The Search by Number menu searches the other party's number in the Phone Book. Thus, whenever the user enters a number by using the remote control, the search moves to the matching field of the number. If the first number of the filed is found same more than twice, enter the second number to search the number that you want to find. You can also place the call by using the information of the party found or revise the information.

Figure 4-13 Search by Number Layout

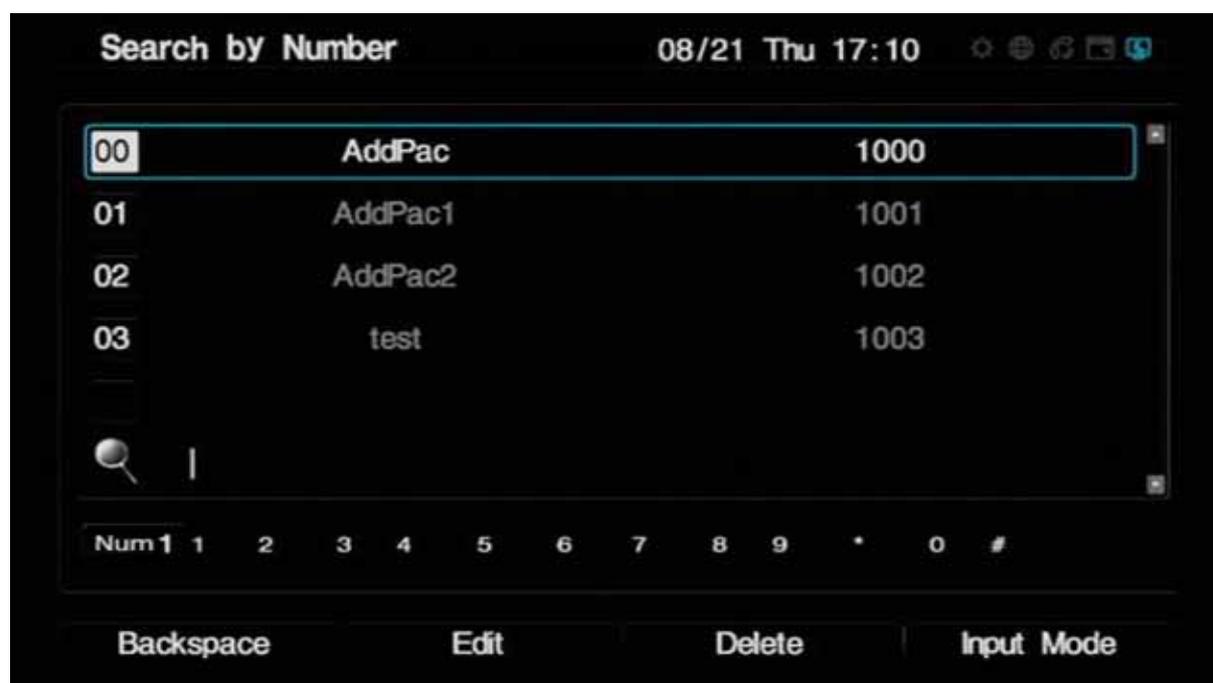


Figure 4-9 shows searching and editing a specific number from the Search by Number menu by using the remote control:

Figure 4-14 Menu >> Phonebook



Figure 4-15 Phonebook >> Search By Number



Figure 4-16 Search by Number



Figure 4-17 Entering '1003' by using the remote control

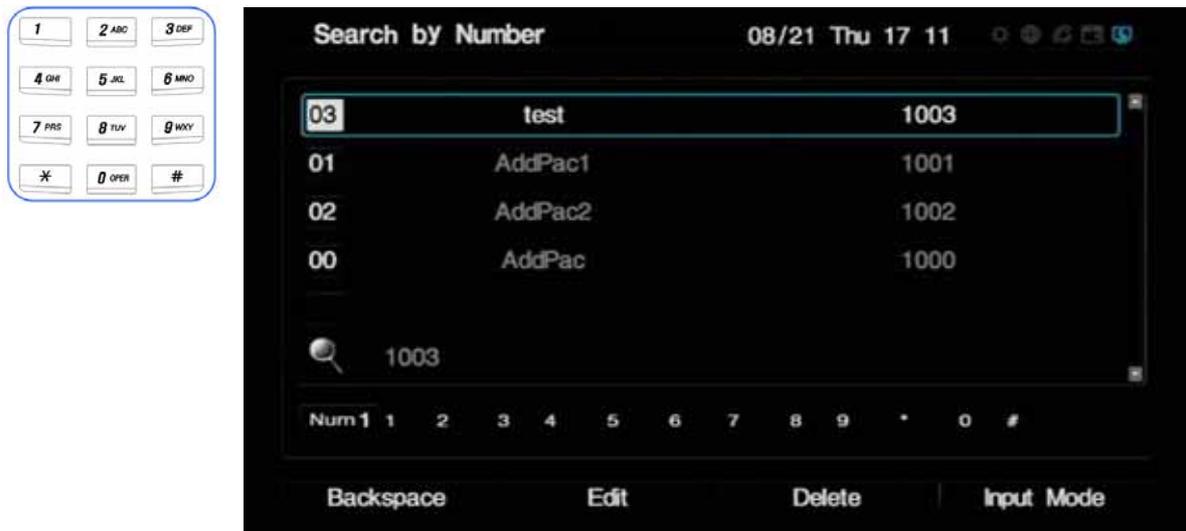


Figure 4-18 Automatically finding the phone number starting with 1003

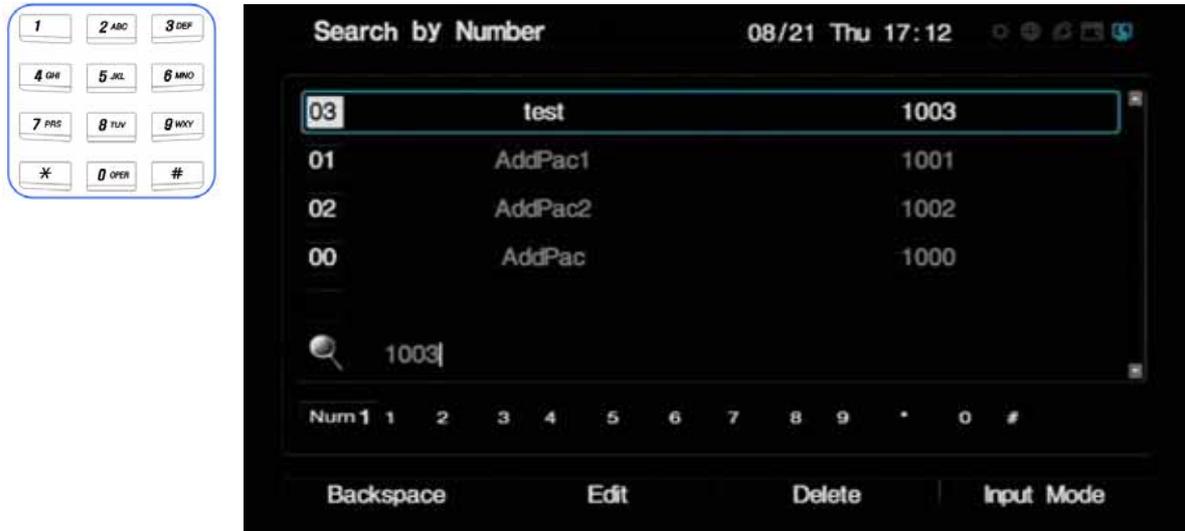


Figure 4-19 Select Edit Mode by pressing F2 on the remote control

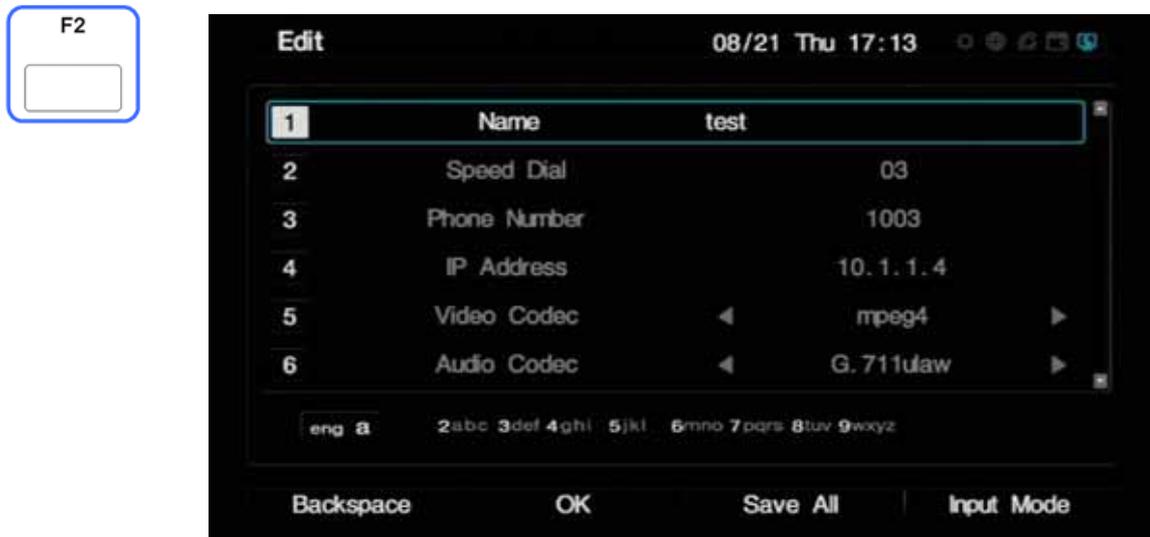


Figure 4-20 Move to IP Address by pressing the Navigation Key on the remote control

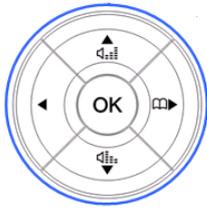


Figure 4-21 Change the IP address to “20.1.1.1”



Figure 4-22 Press 'OK' on the remote control and then press 'F3' to save the changed setting



Registration

Figure 4-23 shows the screen for selecting OSD>> Phone Book>> Registration. The Registration Menu is to add a new phone number to the Phone Book. The user enters the other party's name, number, IP Address for registration. Once the phone number is saved, the Speed Dial Number is registered automatically.

Figure 4-23 Registration Menu

The screenshot shows a black OSD interface with white text. At the top left is the word "Edit". At the top right is the date and time "08/21 Thu 17:23" followed by several small icons. The main content area is a list of settings:

1	Name	
2	Speed Dial	00
3	Phone Number	
4	IP Address	
5	Video Codec	◀ mpeg4 ▶
6	Audio Codec	◀ G.711uaw ▶

Below the list is a keyboard layout: "ENG A" followed by "2 ABC 3 DEF 4 GHI 5 JKL 6 MNO 7 PQRS 8 TUV 9 WXYZ". At the bottom are four buttons: "Backspace", "OK", "Save All", and "Input Mode".

Figure 4-24 shows an example for registering a new number by using the remote control.

Figure 4-24 Menu >> Phone Book



Figure 4-25 Phone Book >> Registration



Figure 4-26 Registration



Figure 4-27 Enter a name by using F4 and the number key on the remote control

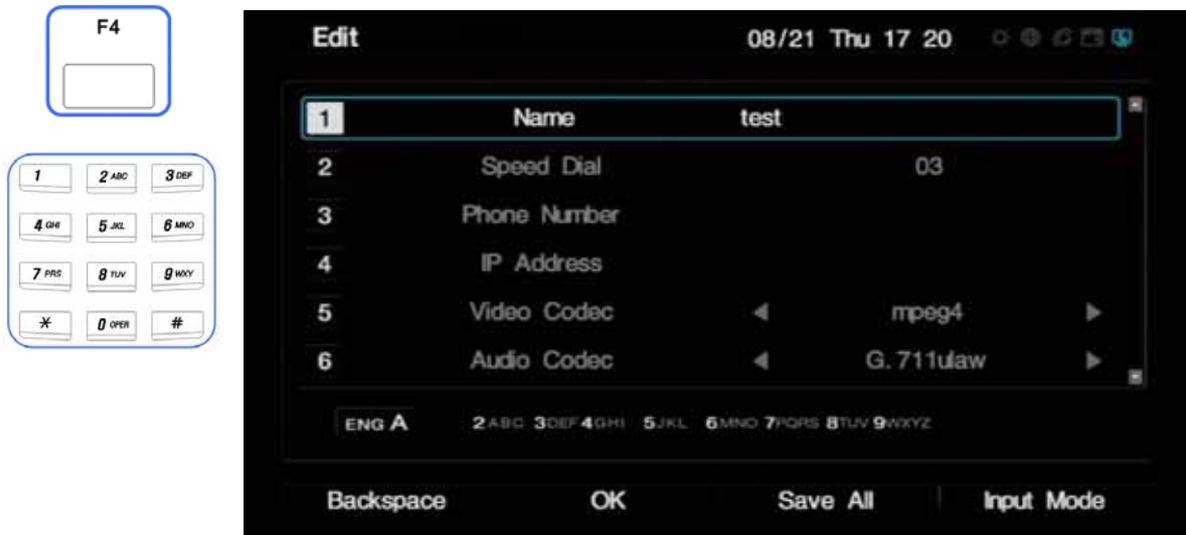


Figure 4-28 Enter a Speed Dial Number by using the keypad on the remote control

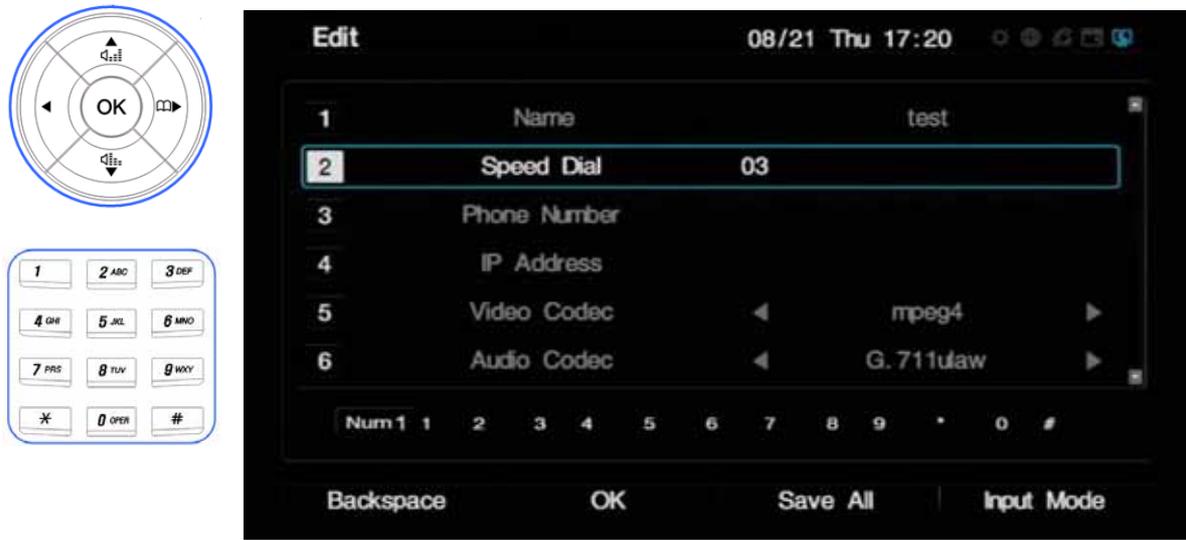


Figure 4-29 Enter a Phone Number



Figure 4-30 Enter an IP address



Figure 4-31 Specify Video Codec by choosing an option

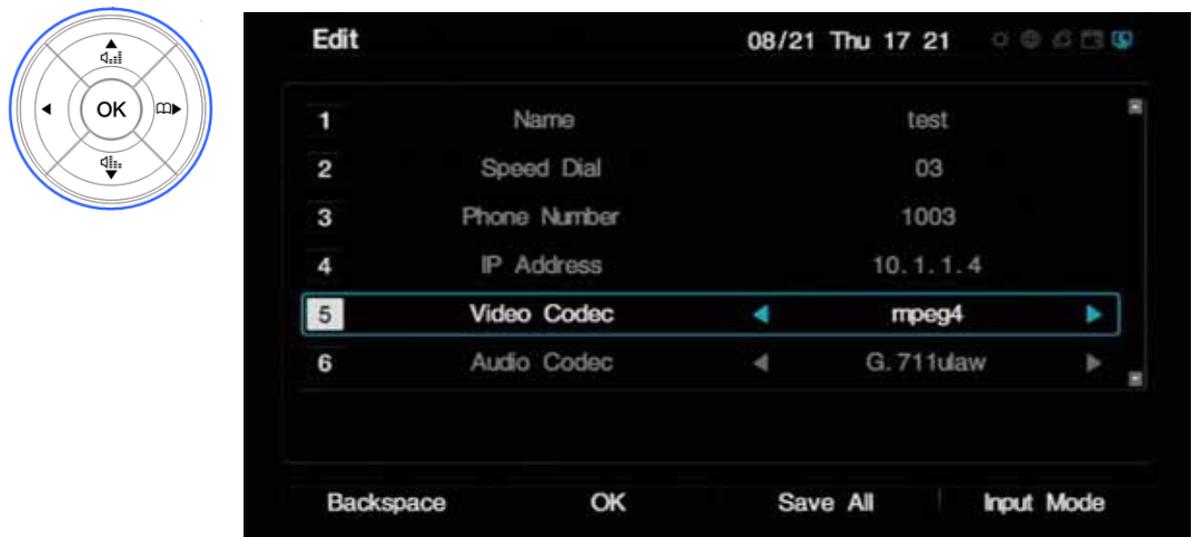


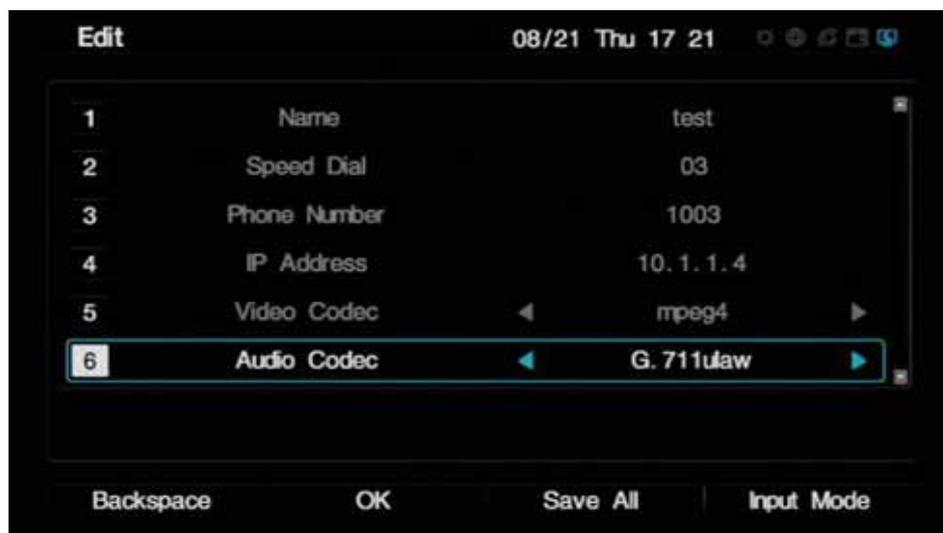
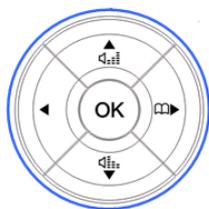
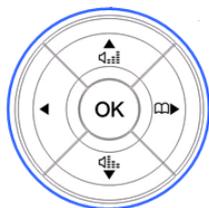
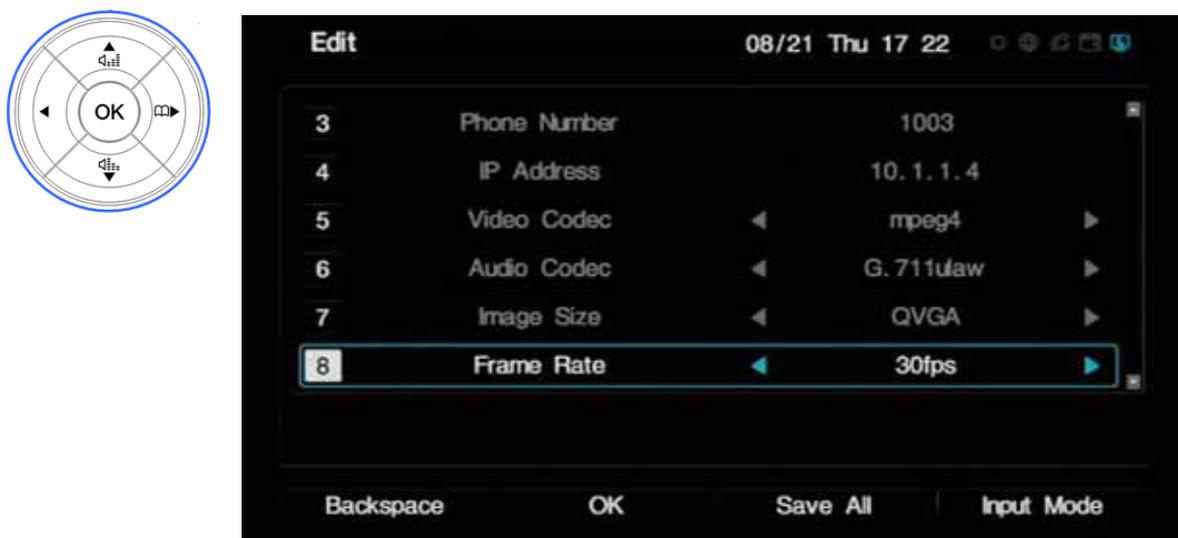
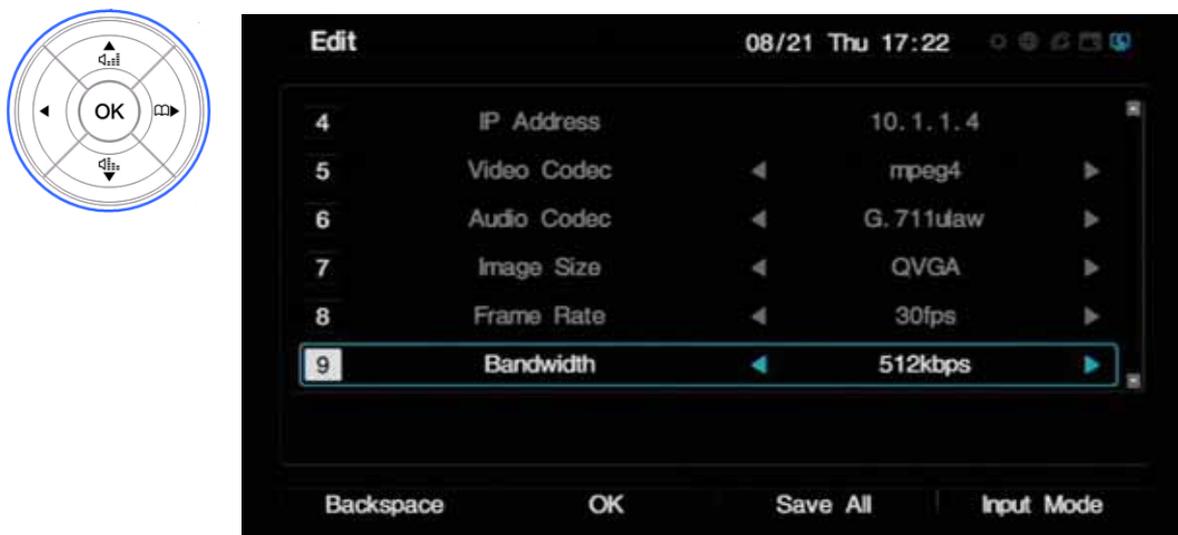
Figure 4-32 Specify Audio Codec by choosing the option**Figure 4-33 Specify Image Size by choosing the option**

Figure 4-34 Specify Frame Rate by choosing the option**Figure 4-35 Specify Bandwidth by choosing an option**

Recent Call

Figure 4-36 shows Recent Call by specifying OSD >> Phone Book >> Recent Call. Recent Calls display the other party's information for details of all incoming and outgoing calls, including the time of the calls. The user may be able to choose a number to call from the Recent Calls List and checks a call during one's absence and save the incoming number.

Figure 4-36 Recent Call



Table 4-5 describes the Layout Display of Recent Calls in Figure 4-36.

Table 4-5 Description for Layout Display of Recent Calls

No.	Description
Incoming/ Outgoing	 Displays an incoming call
	 Displays an unanswered incoming call
	 Displays an outgoing call
	 Displays an unanswered outgoing call
Index Number	Displays the index number in the Phonebook
Remote Information	Displays the other party's call information of H.323 ID for H.323 protocol and SIP Protocol as URL
Phone Number	Displays the other party's call number
Call Duration	Displays the time consumption between the instant an off-hook condition at each end
Delete (F1)	Deletes the call record
Register (F2)	Saves the session information
Page Up (F3)	Moves to the last page
Page Down (F4)	Moves to the next page

Figure 4-37 shows an example of placing a call by using the incoming call information from the Recent Calls.

Figure 4-37 Menu >> Phone Book



Figure 4-38 Phonebook >> Recent Call



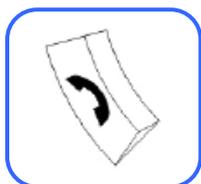
Figure 4-39 Recent Call



Figure 4-40 Choose the most recent phone number



Figure 4-41 Place a call by using Call on the keypad



Speed Dial

Figure 4-43 shows Speed Dial by specifying OSD >> Phone Book >> Speed Dial. The Speed Dial menu has a list of Index Numbers and Names. The list with 8 Index Numbers and Names can be displayed on one screen and helps to find the other party's number quickly. When a name is selected, the relevant details of information are displayed at the lower end, so you can make a call right away.

Figure 4-42 Speed Dial Number Layout



Table 4-6 describes Speed Dial Number Layout in Figure 4-42.

Table 4-6 Description of Speed Dial Number Layout

No.	Description
Index Number	Index Number in the Phonebook
Name	Name in the Phonebook
Phone Number	The other party's call number
IP Address	The other party's IP Address
Video Codec	The video codec information
Audio Codec	The audio codec information
Delete	Delete the Speed Dial Number
Edit	Edit the registered Speed Dial Number Information
Page Up	Move to the last page
Page Down	Move to the next page

From Figure 4-43 the examples for placing the call by the Speed Dial Number are shown.

Figure 4-43 Menu >> Phone Book

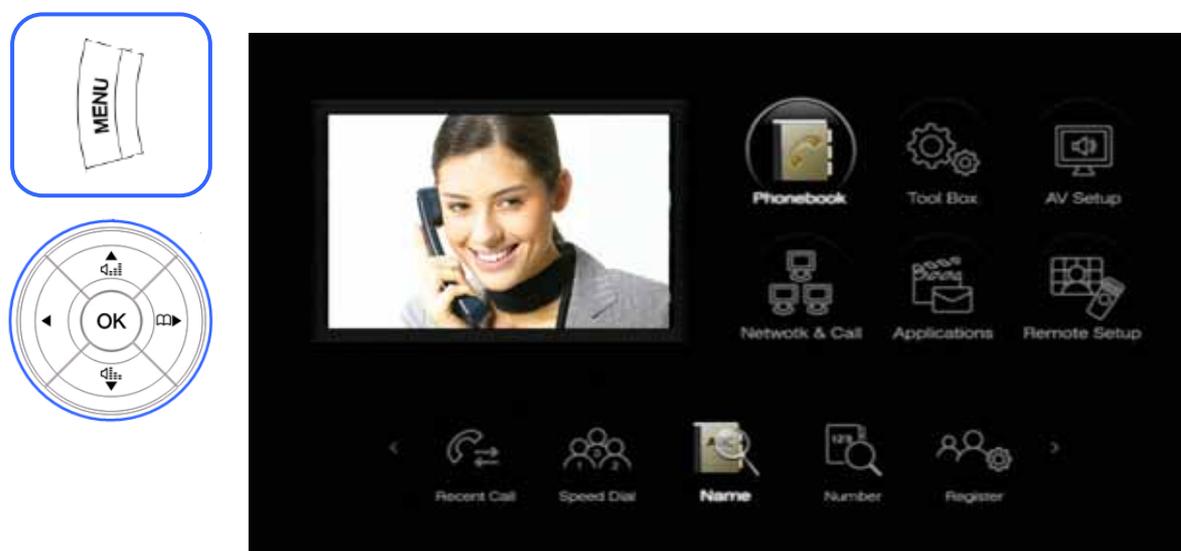


Figure 4-44 Phone Book >> Speed Dial Number



Figure 4-45 Choose '00' for Speed Dial

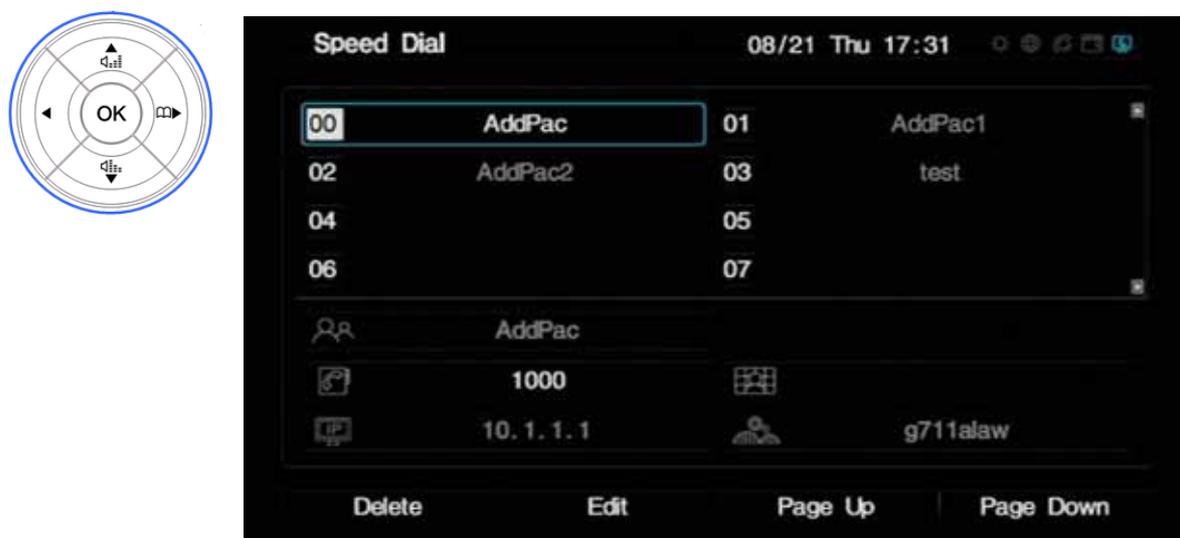


Figure 4-46 Choose '01' for Speed Dial

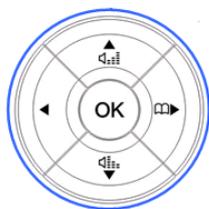
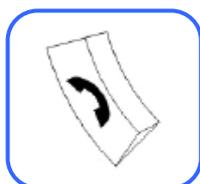


Figure 4-47 Press Call on the Keypad to place a call



Tool Box

Tool Box is organized by Date & Time, Save all, Factory Default, Ring, Power Save.

Figure 4-48 Tool Box Main Menu

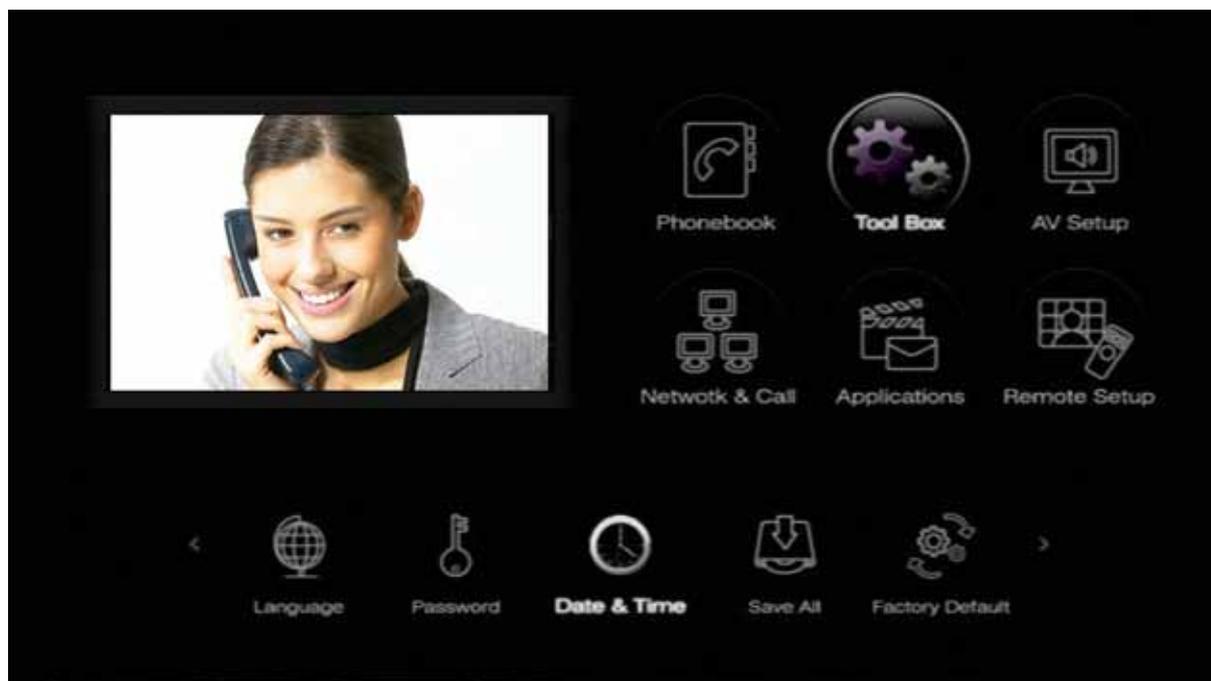


Table 4-7 Tool Box Menu Layout

Name	Description
 Date & Time	Takes the time entry and changes
 Save All	Saves all the changes have been made in OSD
 Factory Default	Initializes the settings of AP-VP500 to the factory default.
 Ring	Changes the ringer sound of AP-VP500
 Power Save	Power Saving options for LCD/ Camera.
 Information	Informs the version of the firmware
 Language	Selects a language
 Password	Locks AP-VP500

Date&Time

This menu configures the settings for Date&Time of AP-VP500. You can use the remote control to enter the date and time and press F2 to save afterwards.

Figure 4-49 Date&Time Menu Layout



Figure 4-50 shows an example to change the date and time on the keypad.

Figure 4-50 Menu >> Tool Box

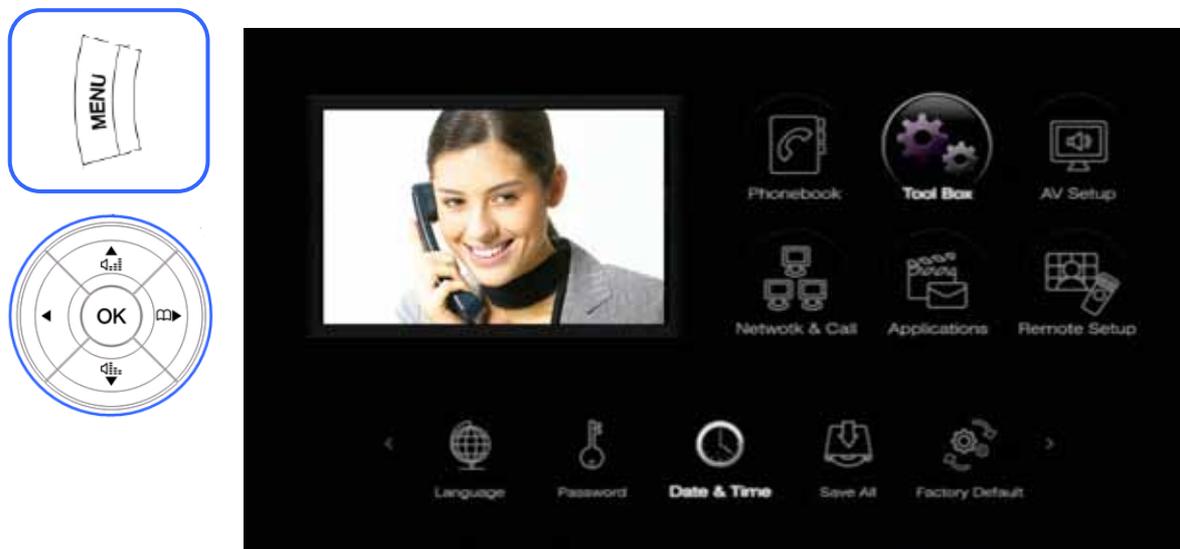


Figure 4-51 Menu >> Tool Box >> Date&Time

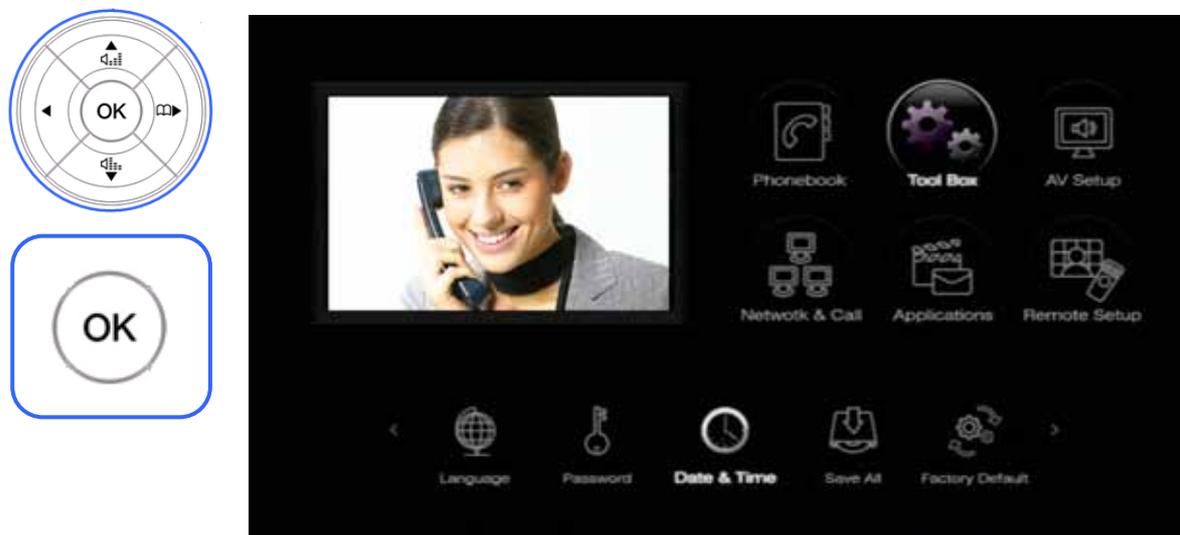


Figure 4-52 Date&Time**Table 4-8 Description of Date&Time Options**

Category	Description
Year	Enter the present year of the system
Month	Enter the present month of the system
Day	Enter the present day of the system
Hour	Enter the present hour of the system
Minute	Enter the present minute of the system
Second	Enter the present second of the system

Save All

This command saves the values which have been entered in OSD. The values are still saved as they are even after the reboot of AP-VP500.

Figure 4-53 Save All Main Screen



Figure 4-54 shows an example for saving the settings.

Figure 4-54 Menu >> Tool Box



Figure 4-55 Menu >> Tool Box >> Save All



Figure 4-56 Press OK on the keypad to save

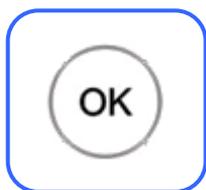


Figure 4-57 A confirming message display of 'Writing Success' for saving the data has been completed



Factory Default

This command is not recommended for use unless the user really needs to erase and reset all contents of Configuration, Phonebook and Recent Calls.

Figure 4-58 Factory Default Menu



Figure 4-59 presents an example for resetting to Factory Default.

Figure 4-59 Menu >> Tool Box

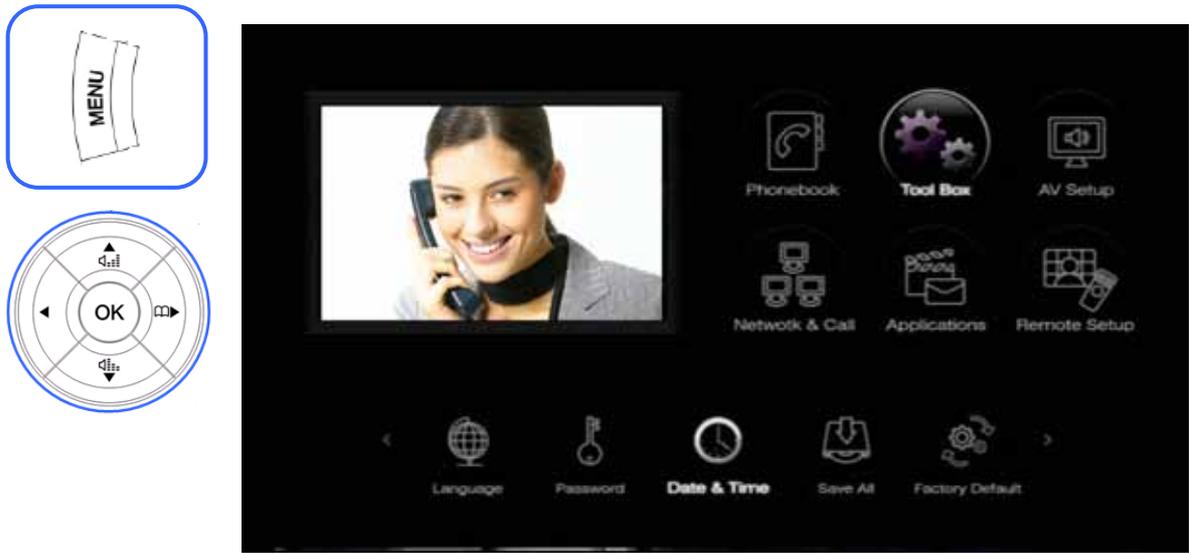


Figure 4-60 Menu >> Tool Box >> Factory Default



Figure 4-61 Press OK for 3 seconds

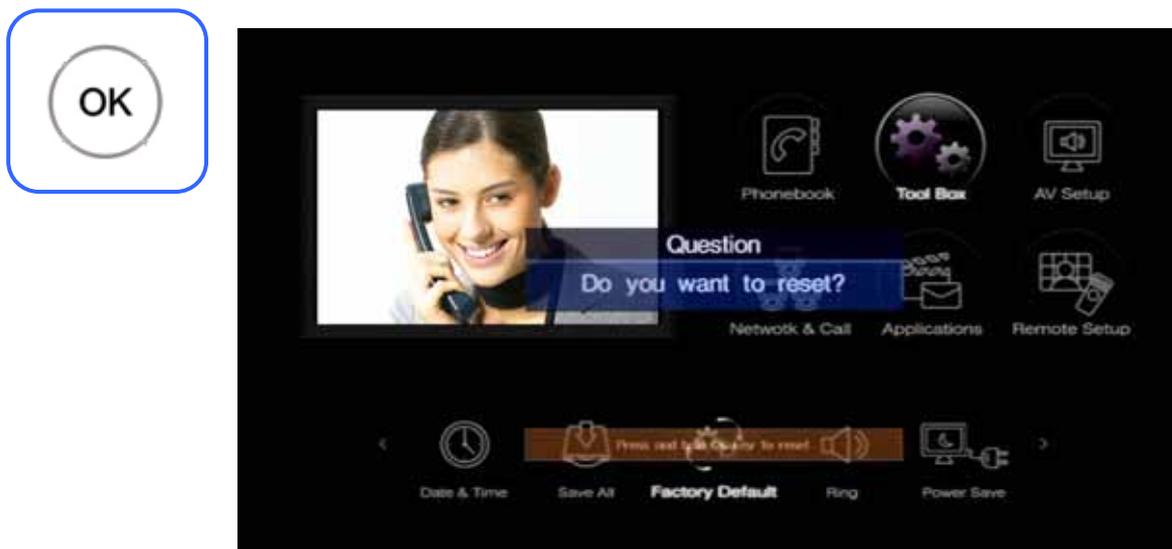
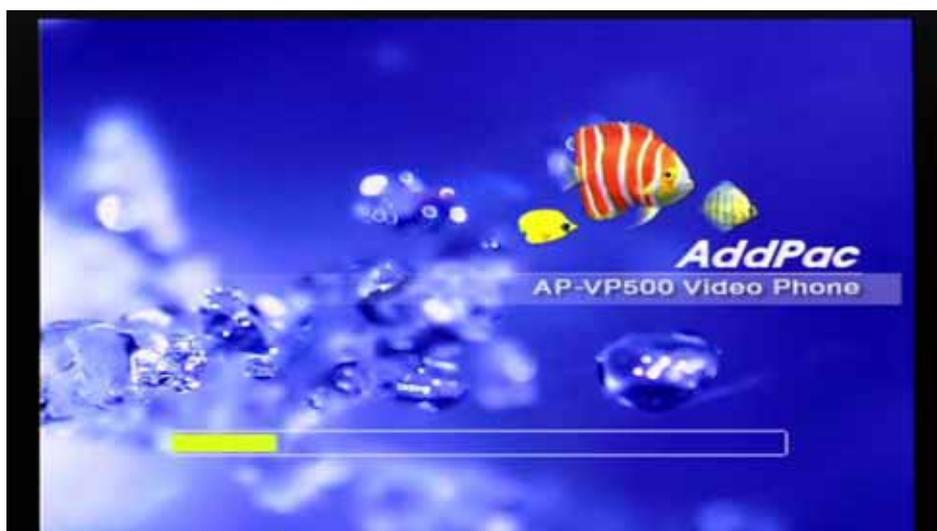


Figure 4-62 All the settings are erased and automatically reset



Ring

Ring menu provides 11 different kinds of sounds for the incoming call including the mute. The user may use F1 key (Play) to listen the sounds and choose the one that the user like. Also this menu allows the user to turn up or down the volume for the ringer sound.

Figure 4-63 Ring Options



Figure 4-64 shows an example for specifying the ringer sound by using the keypad.

Figure 4-64 Menu >> Tool Box

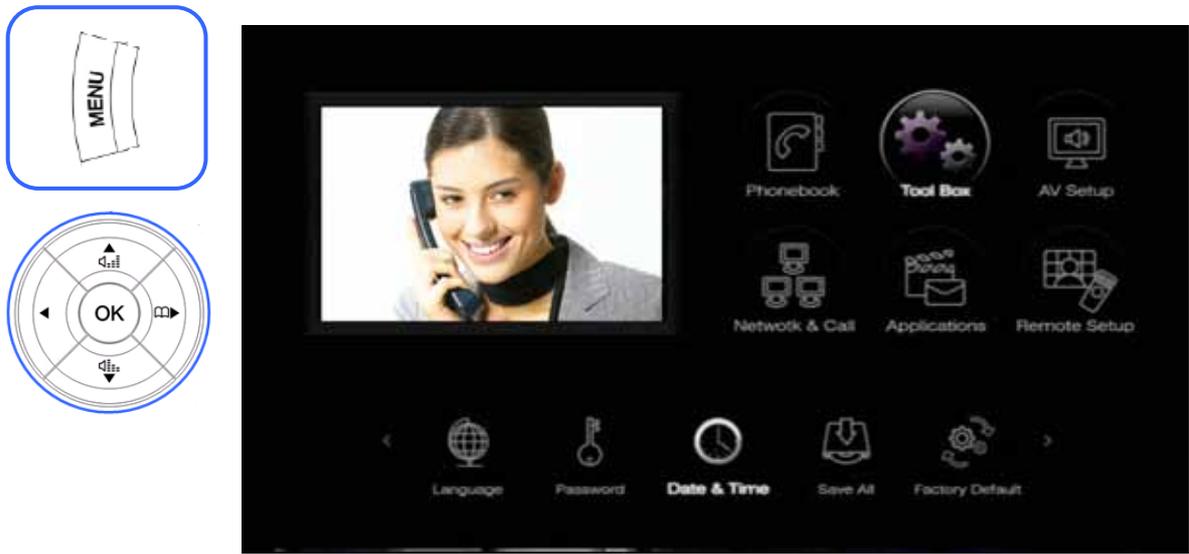


Figure 4-65 Menu >> Tool Box>> Ring



Figure 4-66 Choosing a ringer sound from the given options



Power Save

The Power Saving turns off the LCD screen and the built-in camera automatically, in a time specified by the user. By touching the touchscreen or pressing any button on the keypad, the user can turn on the screen and camera. **To optimize the lifetime and quality of the LCD screen and camera, using this menu is recommended.**

Figure 4-67 Power Save Options



As it is shown in Figure 4-68, the user may choose one of the time options, which are 15 seconds, 30 seconds, 1 minute, 3 minutes and 10 minutes (default setting: 30 seconds).

Figure 4-68 Menu >> Tool Box



Figure 4-69 Menu >> Tool Box >> Power Save



Figure 4-70 Time Options for Power Save



Information

This menu verifies the present version of the software (firmware of the AP-VP500).

Figure 4-71 Information Options



An example for verifying the present software version by using the keypad is shown from Figure 4-72.

Figure 4-72 Menu >> Tool Box

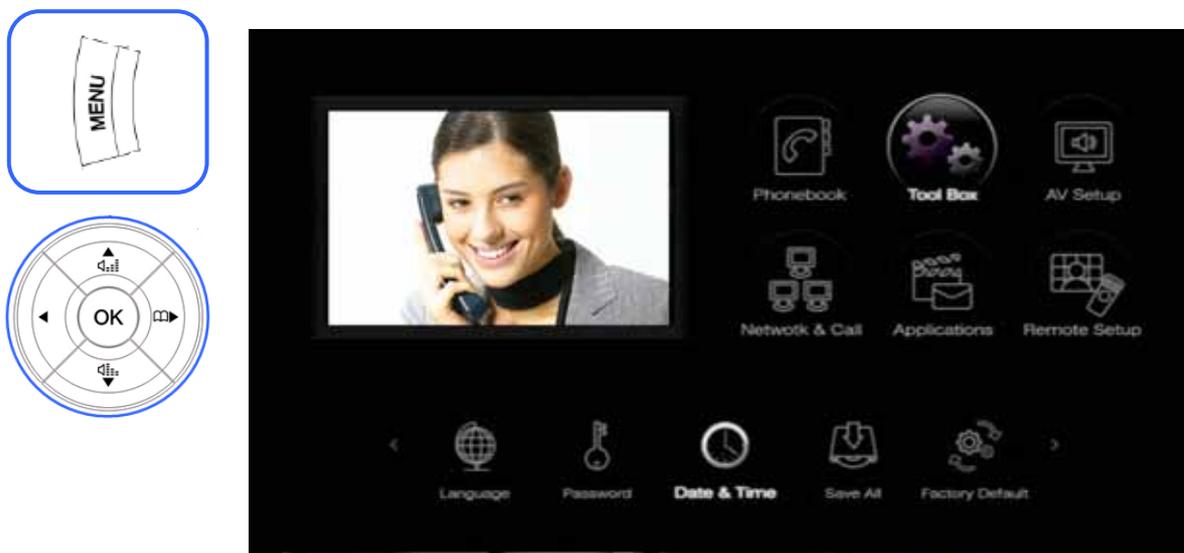


Figure 4-73 Menu >> Tool Box >> Information



Figure 4-74 Displaying the version**Table 4-9 Description of the Firmware Version**

Name	Description
SW Name	The file name of the firmware being implanted to the AP-VP500
SW Version	The version name being implanted to the AP-VP500

Language Setup

This menu verifies the language in use and selects the choice of language for the AP-VP500.

Figure 4-75 Language Setup Options



The example for verifying and specifying the language information is shown from Figure 4-76.

Figure 4-76 Menu >> Tool Box

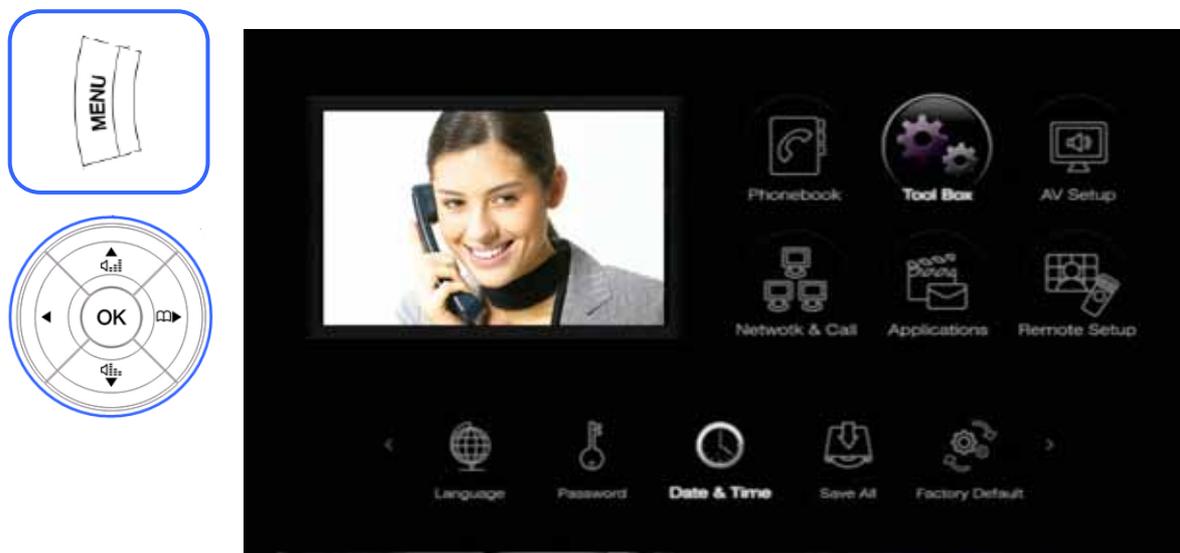


Figure 4-77 Menu >> Tool Box >> Language



Figure 4-78 Language Setup



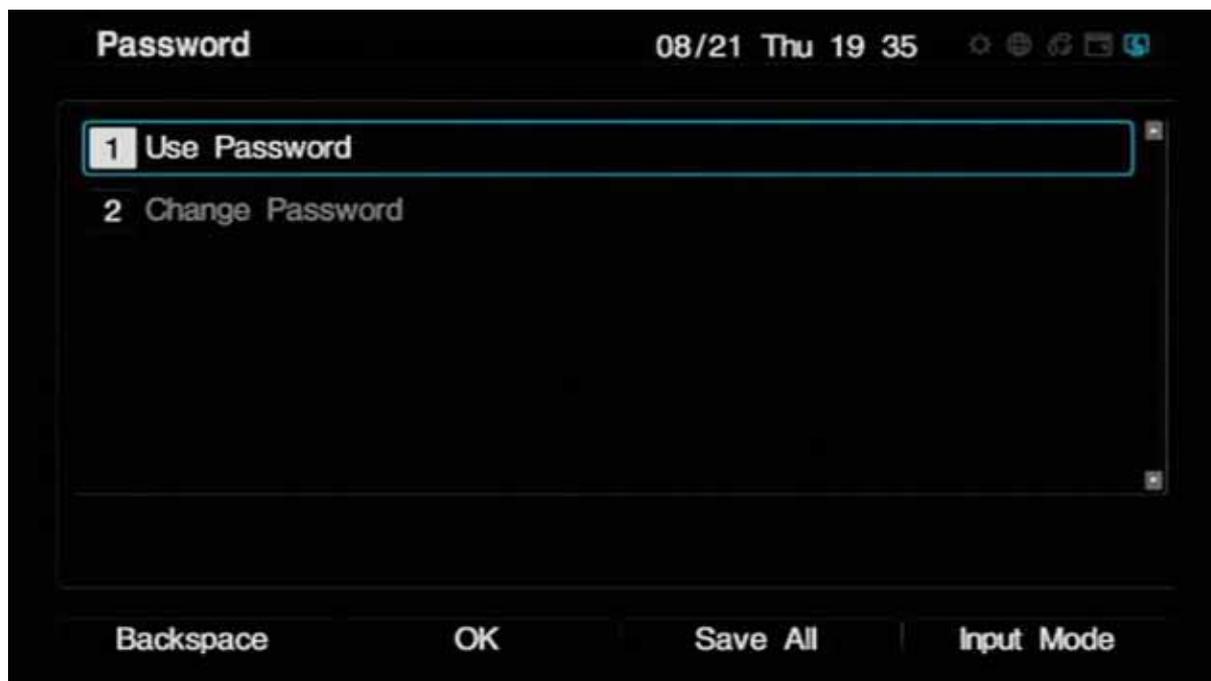
Table 4-10 Description of Language Setup Options

Language	Description
English	English setup mode
Korean	Korean setup mode

Password

Password configures the settings to block the entry to a particular menu and changes the password. '2337' is set at the default.

Figure 4-79 Password Options



The example for setting the password is presented from Figure 4-80.

Figure 4-80 Menu >> Tool Box

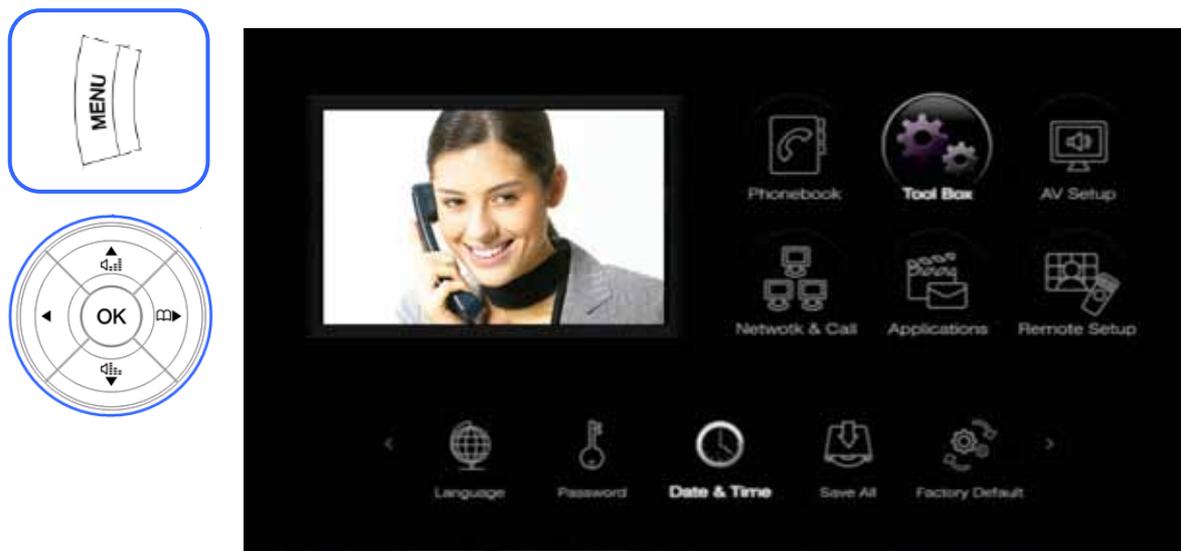


Figure 4-81 Menu >> Tool Box >> Password



Figure 4-82 Password Menu Layout



Figure 4-83 Use Password Options



Figure 4-84 Change Password Options**Table 4-11 Description of Password Options**

Option	Description
Use Password	Enables or Disables Password (default : Disable If Password is enabled, you must enter the password for entering the menus of Factory Default, Internet Setup, VoIP Setup, Message, Register and Speed Dial
Change Password	Repeat entering the same password to confirm

AV Setup

Audio/ Video Setup menu configures the basic settings for video call and conference. This menu has Bandwidth, IO Ports, Camera and Display. The features of this menu are mainly dealt with the video and audio. The user can control all features, by using the remote control; most of these functions can be selected and applied on the real-time basis, even during a call.

Figure 4-85 AV Setup Main Menu



Table 4-12 Description of AV Setup Menu Layout

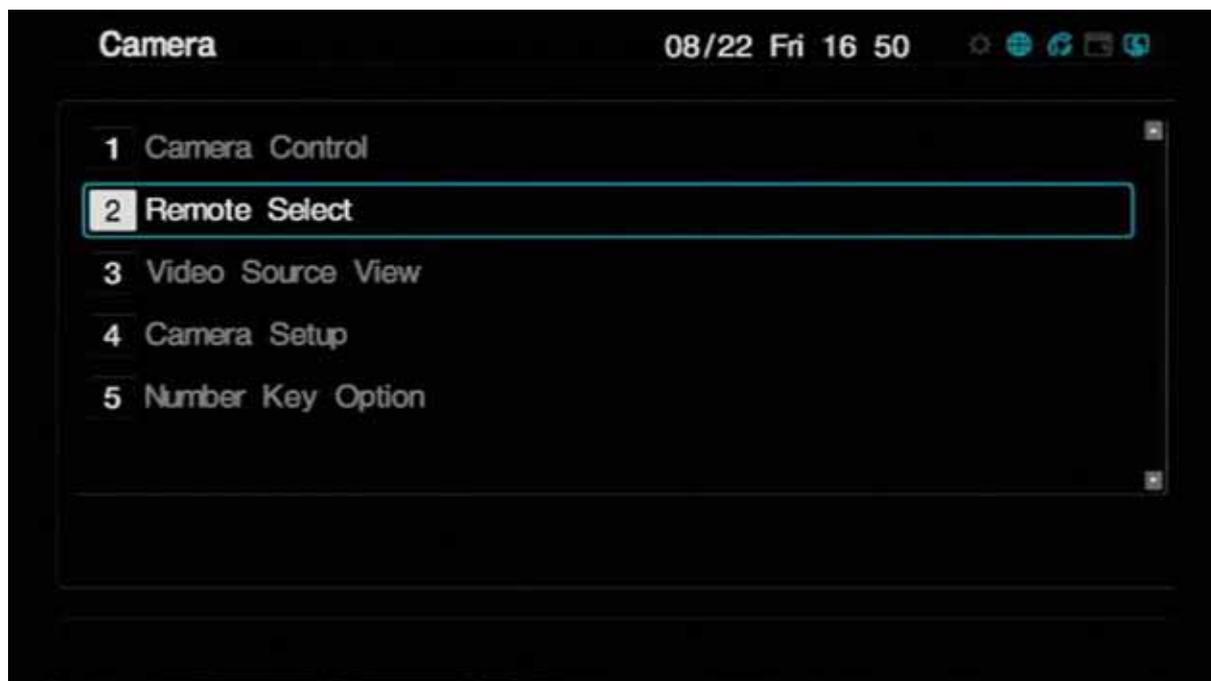
Name	Description
 Camera	Configures the setting of both local and remote cameras and Pan/Tilt for the video call by connecting the external camera to the AP-VP500.
 Volume	Adjusts the ring volume for the built-in speaker volume and audio input and output port volume. The user may adjust the volume by moving along with the slide type of bar.
 Display	Adjusts the definition and brightness of the Composite RCA Video Input and Composite RCA Video and S-VHS Output.
 Audio Codec	Determines the type option of audio codec for the audio input and output port. The available type options are G.711 (PCM), G.726 (ADPCM), G.723 and G.729.
 Video Codec	Adjusts MPEG4/H.263, resolution, frame rate. Depending on the network condition, you can select the optimal video quality.
 Bandwidth	Sets the bandwidth ranging from 128Kbps to 4160Kbps at maximum.
 IO Ports	Controls the properties of the speaker/ line-out of the audio output port and microphone/ line-in of the audio input port. Also controls the properties of the input and output port of the external audio equipment.

Camera

Camera Control menu configures or changes the settings of both local and remote cameras.

During a video call, the can change the setting of Pan/Tilt.

Figure 4-86 Camera Menu



The example for configuring the settings of Camera Control by using the keypad is presented from Figure 4-87.

Figure 4-87 Menu >> AV Setup



Figure 4-88 AV Setup >> Camera



Figure 4-89 Camera Menu Options

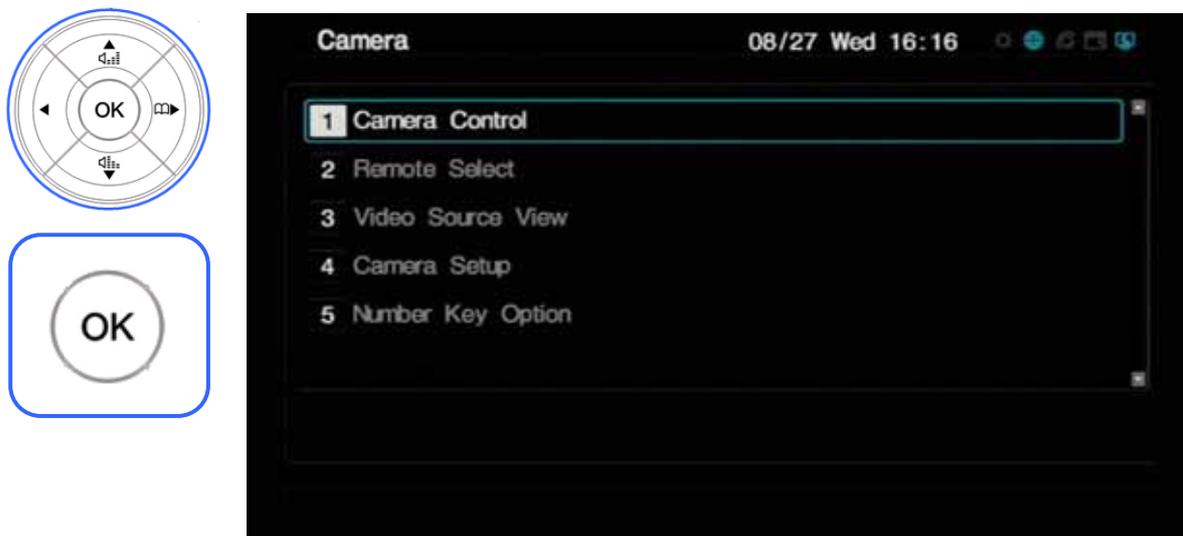


Figure 4-90 Camera Control >> Video Source Selection

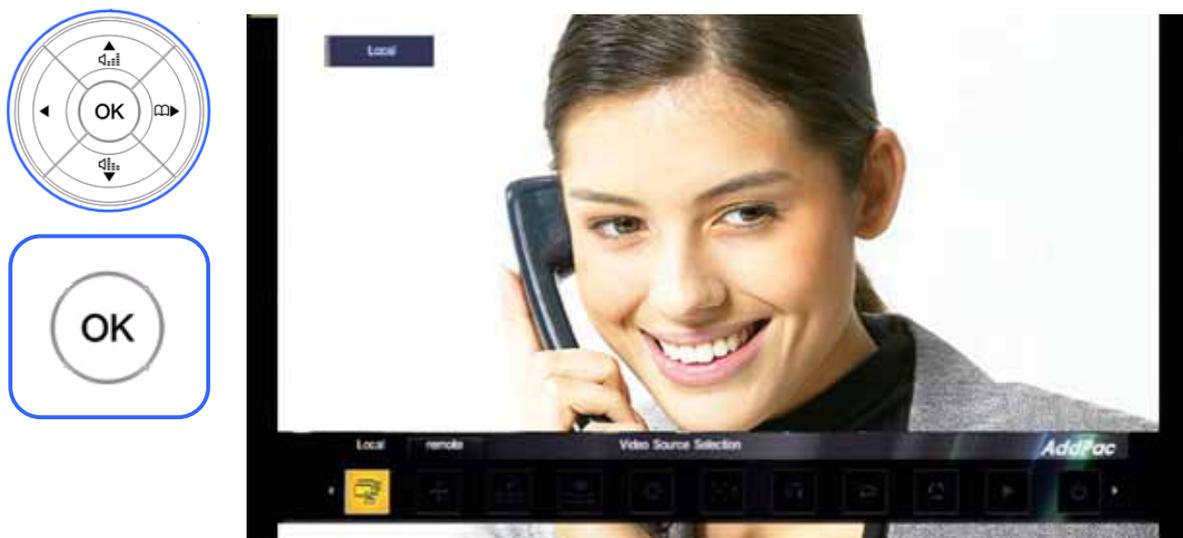
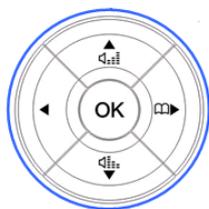


Figure 4-91 Camera Control >> Pan/Tilt/Zoom Settings



Volume

Volume menu adjusts the volumes of the Audio Input and output, built-in speaker and microphone amplification.

Figure 4-92 Volume Menu Options



Table 4-13 Description of Volume

Menu Option	Description
Ext In	Adjusts the volume of the Audio Input Port
Ext Out	Adjusts the Volume of the Audio Output Port
Bell Vol	Adjusts the loudness of the Bell Sound for the built-in speaker
Input	Adjusts the input volume of the built-in microphone
Output	Adjusts the output volume of the built-in speaker
ExtMicBoost	Adjusts the boost when the audio input is connected to the microphone

The example for adjusting the volume level for the Audio Input and Output ports are shown from Figure 4-93. The user may control the level by using the left/right navigation key on the remote control.

Figure 4-93 Menu >> AV Setup



Figure 4-94 AV Setup >> Volume



Figure 4-95 Adjusting the External Input Audio Volume



Display

Display setup has Camera/ External Input (for the built-in camera and composite RCA video input and Monitor Output (for the built-in LCD and composite RCA video output or S-VHS. Camera/ External Input consists of brightness and Saturation. Monitor Output consists of SD, HD and LCD.

Figure 4-96 Display Menu Details

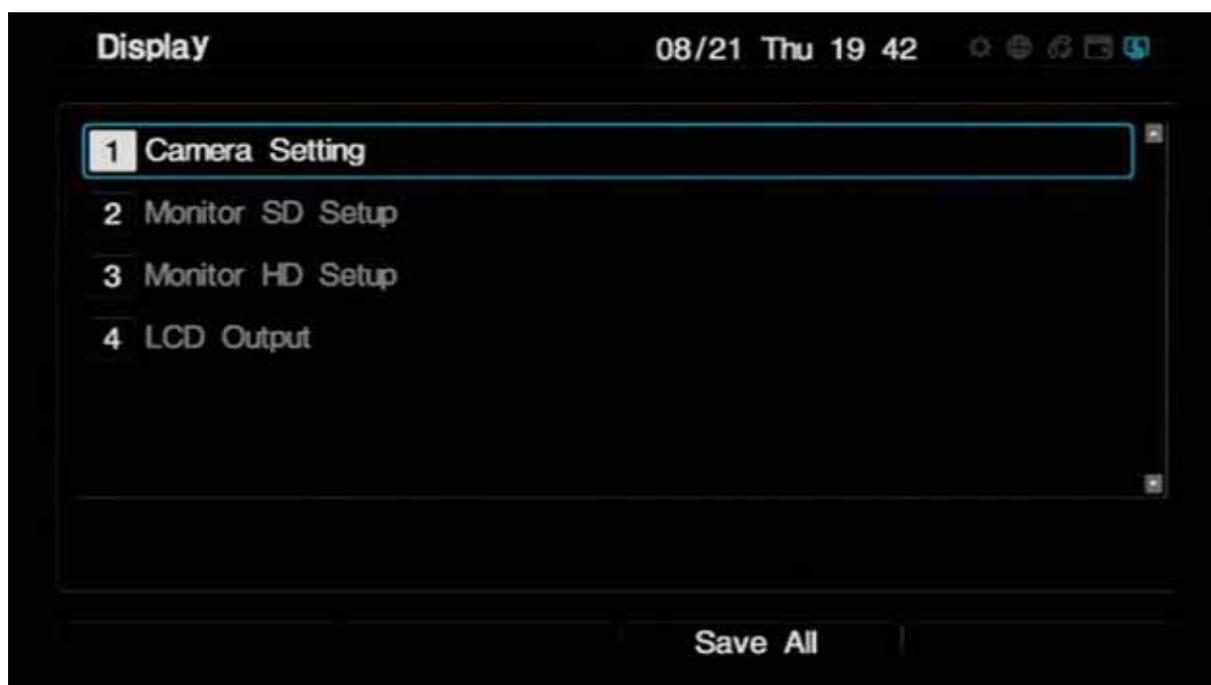


Table 4-14 Description of Display Menu Options

Menu	Features
Camera Setting	Adjusts Brightness, Contrast and Color Saturation of the built-in camera and Composite RCA video input port and sets the option for enabling Mirror function. Use the Navigation key to scroll through the options. Press OK to make your selection.
Monitor SD Setup	Adjusts Brightness, Contrast and Color Saturation of the SD video output port (RCA, S-Video Out which is displayed externally. Use the Navigation key to scroll through the options. Press OK to make your selection.
Monitor HD Setup	Adjusts Brightness, Contrast and Color Saturation of the HD video output port (Component Out which is displayed externally. Use the Navigation key to scroll through the options. Press OK to make your selection.
LCD Output	Adjusts Brightness, Red-Gain and Blue Gain of Composite RCA and S-VHS video output port which is displayed. Use the Navigation key to scroll through the options. Press OK to make your selection.

Figure 4-97 Camera Input Display Setting Options**Table 4-15 Description of Camera Input Display Setting Options**

Menu Option	Description
Brightness	Adjusts Brightness of the Camera Input. Brightness is set to 4 at default
Contrast	Adjusts Contrast of the Camera Input. Contrast is set to 4 at default.
Flickless	Prevents flick or afterimage lag which can be caused by the florescent lamp characteristics. Flickless is set to Off at default
Mirror Effect	Changes the image from the left to right. Mirror Effect is set to Off at default.

The example for adjusting the display of Camera Input is shown from Figure 4-98.

Figure 4-98 Menu >> AV Setup

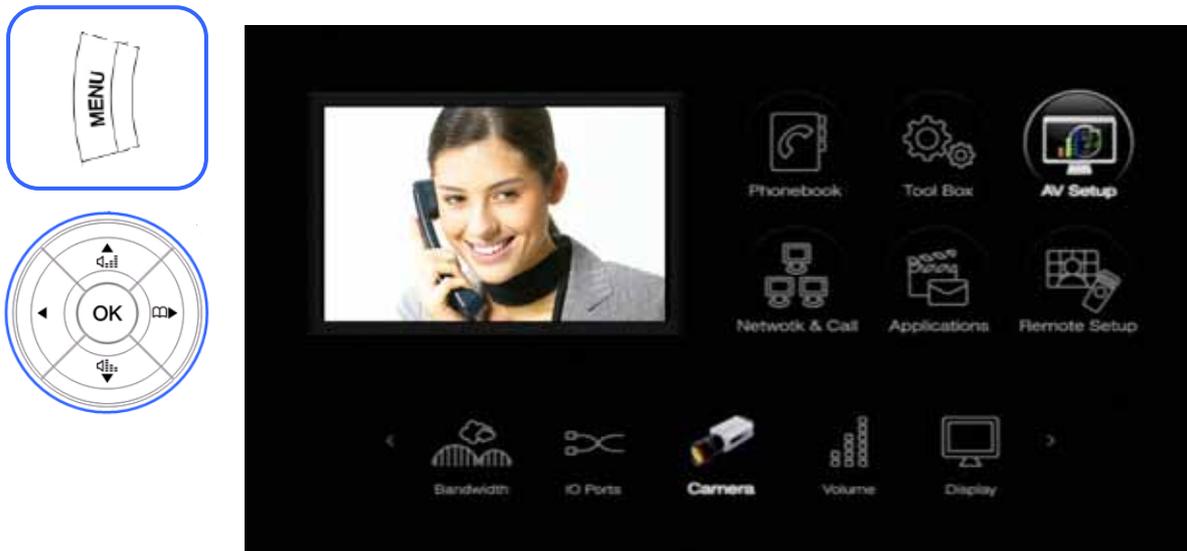


Figure 4-99 AV Setup >> Display



Figure 4-100 Display >> Camera Setting

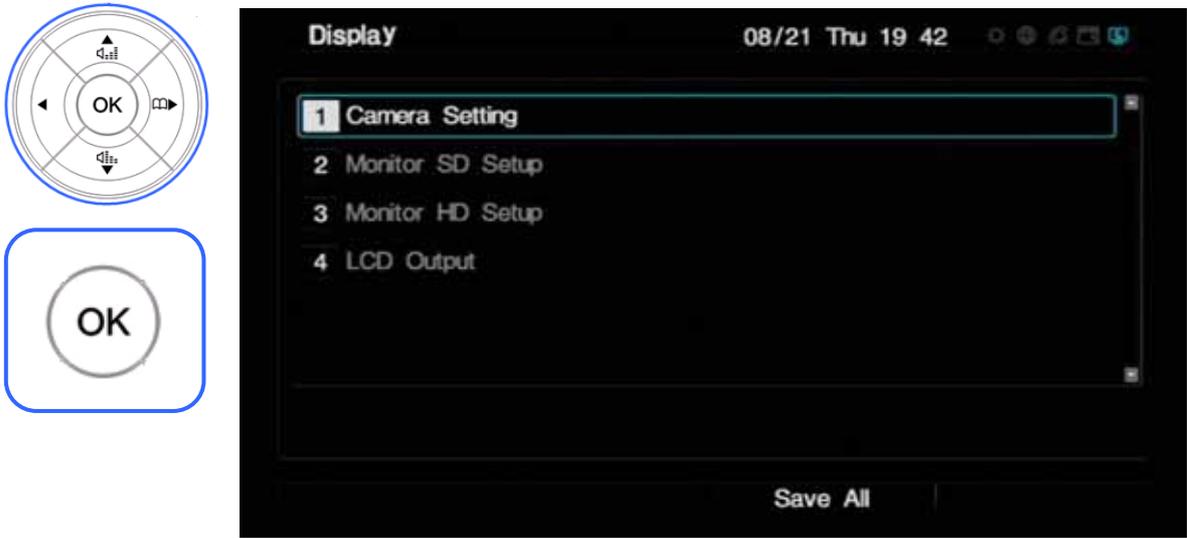


Figure 4-101 Adjusting Brightness



Figure 4-102 Monitor SD Setup**Table 4-16 Description of Monitor SD Setting Options**

Option	Description
Brightness	Adjusts the brightness of RCA & S-Video input. The brightness is set to 50 at default.
Contrast	Adjusts the contrast of RCA & S-Video input. The color saturation is set to 7 at default
Color Saturation	Adjusts the color saturation of RCA & S-Video input. The color saturation is set to 7 at default

The example for adjusting SD screen display is shown from Figure 4-103.

Figure 4-103 Menu >> AV Setup

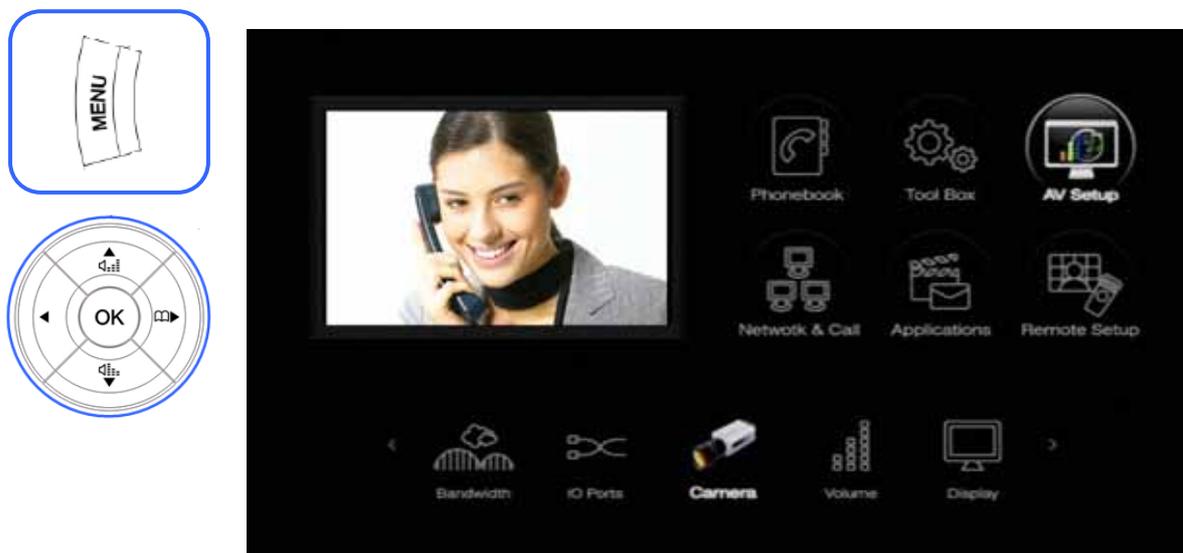


Figure 4-104 AV Setup >> Display

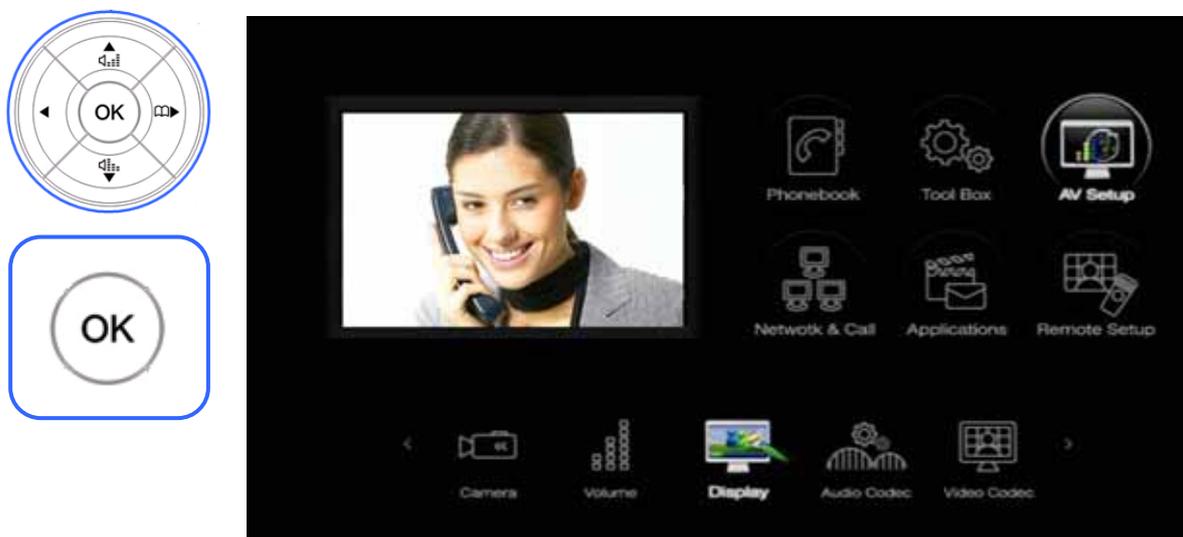


Figure 4-105 Display >> Monitor SD Setup



Figure 4-106 Adjusting Brightness



Figure 4-107 Adjusting HD Screen Display**Table 4-17 Description of HD Display Options**

Option	Description
Horizontal Offset	Adjusts the basic horizontal position for the Component Output
Vertical	Adjusts the basic vertical position for the Component Output

The example for adjusting HD display is presented from Figure 4-108.

Figure 4-108 Menu >> AV Setup

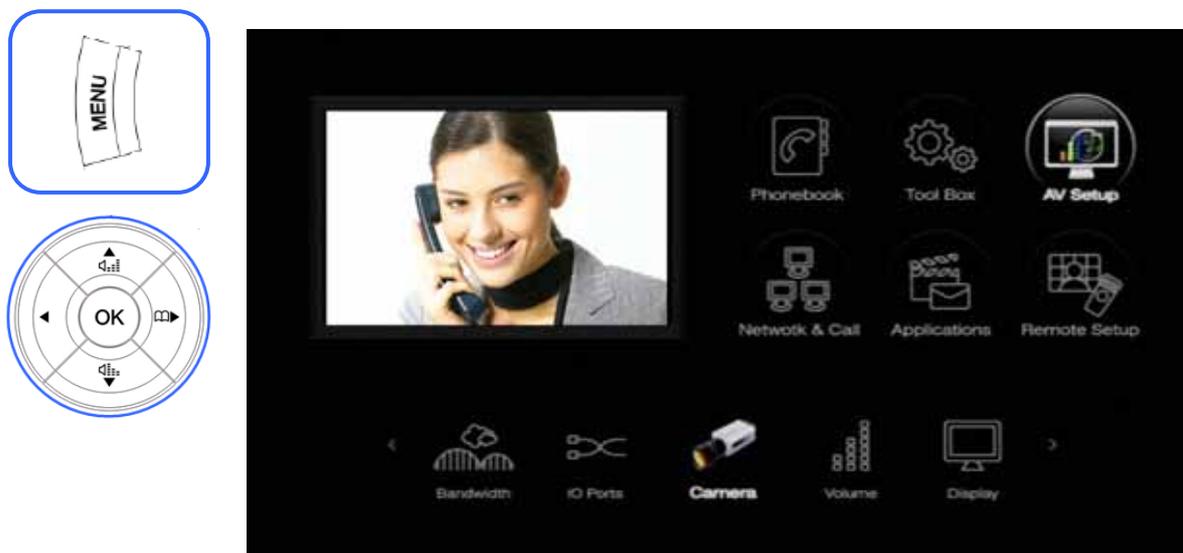


Figure 4-109 AV Setup >> Display

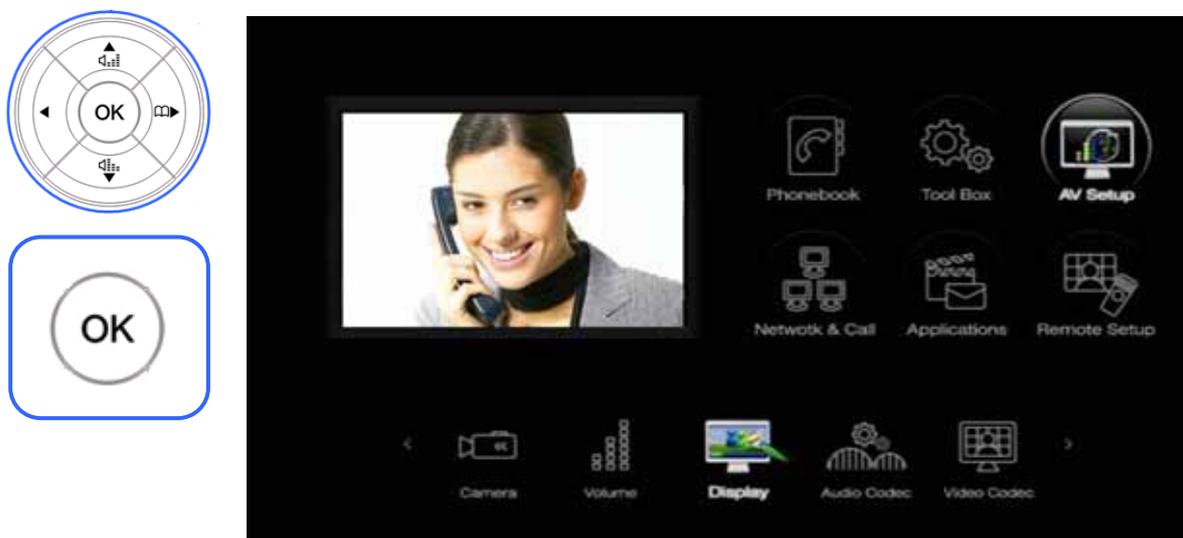


Figure 4-110 AV Setup >> Monitor HD Setup



Figure 4-111 Adjusting Horizontal Offset



Figure 4-112 LCD Output Setting Options**Table 4-18 Description LCD Output Setting Options**

Option	Description
Brightness	Adjust the brightness for the LCD output. The brightness is set to 50 at default.
Red Gain	Adjust the red gain level for the LCD output. Red Gain is set to 50 at default.
Green Gain	Adjust the green gain level for the LCD output. Green Gain is set to 50 at default.
Blue Gain	Adjust the blue gain level for the LCD output. Blue Gain is set to 50 at default.
Definition	Adjust the definition level for LCD output. Definition is set to 7 at default.

The example for adjusting HD display is shown from Figure 4-113.

Figure 4-113 Menu >> Av Setup

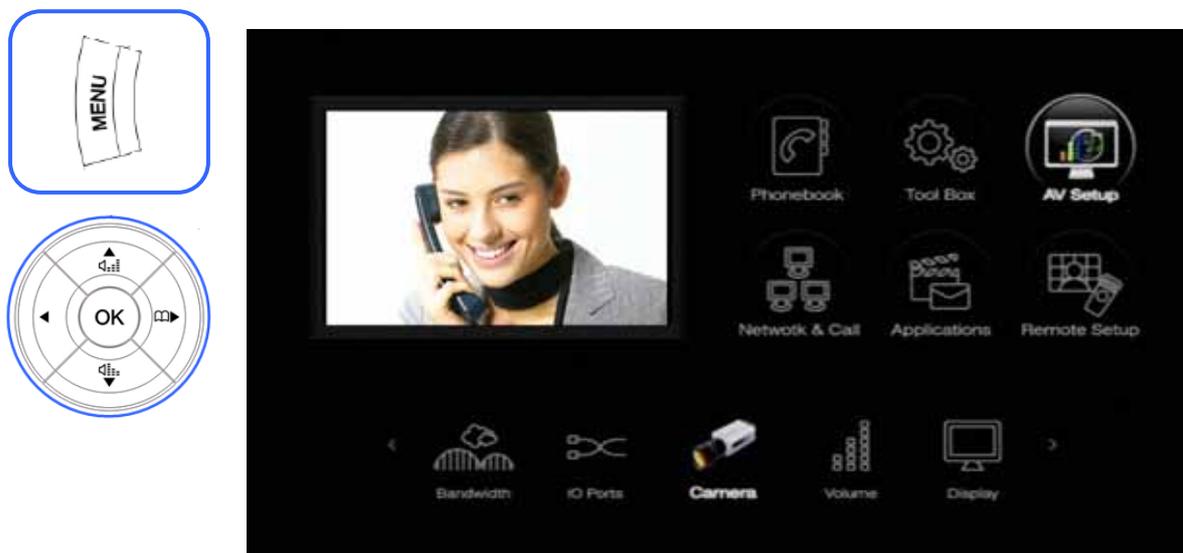


Figure 4-114 AV Setup >> Display



Figure 4-115 Display >> LCD Output



Figure 4-116 Adjusting Red Gain



Audio Codec

The available codec types for selection are G.711 [PCM, G.729 and G.723.1. These audio codec types are arranged in a different preference depending on the user's environment. The user may select a set which can be most appropriate to the use's network settings and one's preference over audio quality.

Figure 4-117 Screen Layout for Audio Codec Types in Preference Order



The example for specifying the audio codec is shown from Figure 4-118 below:

Figure 4-118 Menu >> AV Setup



Figure 4-119 AV Setup >> Audio Codec



Figure 4-120 Changing the Preference Order of the Codec



Video Codec

Video Codec is the menu which determines a video codec type to be used for a video call. The AP-VP500 supports MPEG-4, H.264 and H.263. The video quality of MPEG-4 tends to be better than H.263. H.263 has the resolution of QCIF and CIF, MPEG-4 has QVGA, HalfVGA and VGA. The user may make one's selection of Video Codec, Image Size and Frame Rate.

Figure 4-121 Video Codec Menu Details



Table 4-19 Description of Video Codec Menu Details

Option	Description						
Frame Rate	Determines the frame rate per second. The frame rate is most sensitive before the human eyes. You may not see much difference for 30 frame rate per second, but any rate lower than this rate may cause some distortions on the video and the user may feel some discomfort for watching the video. The rate ranges from 3fps to 30fps (by 3 multiples).						
Codec	<p>Selecting a video codec type depends on the user's preference under a given environment. The user may select an appropriate video codec by one's preference over a given environment and video quality.</p> <p>The available codec types are MPEG-4, H.263 and H.264. Among these codec types, select 1 for the codec type with the user's highest preference. If the user does not use this codec type, select None. If 2 and 3 does not have any codec setting, only one single codec type is used.</p>						
Image Size	Determines a size of image to be transmitted to the other party. As the resolution gets higher for more definition, more the bandwidth is required.						
	<table border="1"> <tbody> <tr> <td>H.263</td> <td>QCIF(176x144, CIF(352x288</td> </tr> <tr> <td>MPEG-4</td> <td>QVGA(320x240, HalfVGA(640x240, VGA(640x480</td> </tr> <tr> <td>H.264</td> <td>QVGA(320x240, HalfVGA(640x240, VGA(640x480</td> </tr> </tbody> </table>	H.263	QCIF(176x144, CIF(352x288	MPEG-4	QVGA(320x240, HalfVGA(640x240, VGA(640x480	H.264	QVGA(320x240, HalfVGA(640x240, VGA(640x480
H.263	QCIF(176x144, CIF(352x288						
MPEG-4	QVGA(320x240, HalfVGA(640x240, VGA(640x480						
H.264	QVGA(320x240, HalfVGA(640x240, VGA(640x480						

The example for selecting a video codec type is shown by the following figures:

Figure 4-122 Menu >> AV Setup



Figure 4-123 AV Setup >> Video Codec



Figure 4-124 Specifying Frame Rate



Figure 4-125 Selecting the option for Video Codec 1



Figure 4-126 Specifying Image Size



Figure 4-127 Specifying Image Size



Bandwidth

This menu determines a range of bandwidth to be used for a video call.

Figure 4-128 Specifying Video Bandwidth



Table 4-20 Description of Video Bandwidth Setting Options

Option	Description
Bandwidth	Changes a range of bandwidth setting
Detail	Changes a bandwidth setting by a unit of 64kbps

The example for specifying video bandwidth is shown in the following figures:

Figure 4-129 Menu >> AV Setup



Figure 4-130 AV Setup >> Bandwidth



Figure 4-131 Specifying a Range of Bandwidth



Figure 4-132 Specifying a Detailed Bandwidth Setting



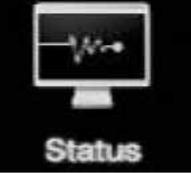
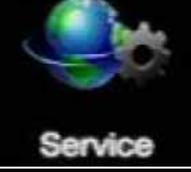
Network & Call Menu

Network & Call menu is composed of WAN, LAN Interface Setup, SIP/H.323 Signaling, FTP, QoS and other call options. You should know this menu thoroughly to use AP-VP500. This is a very important menu to optimize the settings of the configuration.

Figure 4-133 Network & Call Menu Layout



Table 4-21 Network & Call Menu Layout

Menu	Description
 Internet	This menu configures the settings for WAN interface. Depending on the user's network environment, select DHCP, Static IP Address or PPPoE.
 LAN	This menu configures the settings for LAN interface with a router or bridge.
 Status	This menu displays the present network status.
 VoIP Setup	Has SIP/H.323 Protocol for using SIP Server or the gatekeeper to make a call and controls other protocol information and QoS.
 Add. Service	Configures the setting for Call Forward, DND, Call Waiting and Auto-Answering.
 Multi Number	Assigns a caller's number to an outbound call when the AP-VP500 has more than one number
 Service	Enables or disables FTP, HTTP, TELNET, SNMP and changes TCP/ UDP port number
 Auto Upgrade	Accesses to a particular server automatically and periodically and compares OS and Configuration versions of itself and then determines downloading
 SSCP Setup	Configures the settings of Smart Service Control Protocol (SSCP based operation, which is the AddPac proprietary protocol which communicates between the AddPac IPNext PBX and AP-VP500

Internet Setup

Internet Setup menu has the setting options of WAN interface. The user needs to adjust the settings on this menu to be adaptive to one's environment because the network environment can be diversified. The supporting WAN protocols are DHCP, Static IP, PPPoE, static IPv6 and IPv6 EUI-64, IPv6 auto-config and IPv6 None.

Figure 4-134 Internet Setup Menu Options

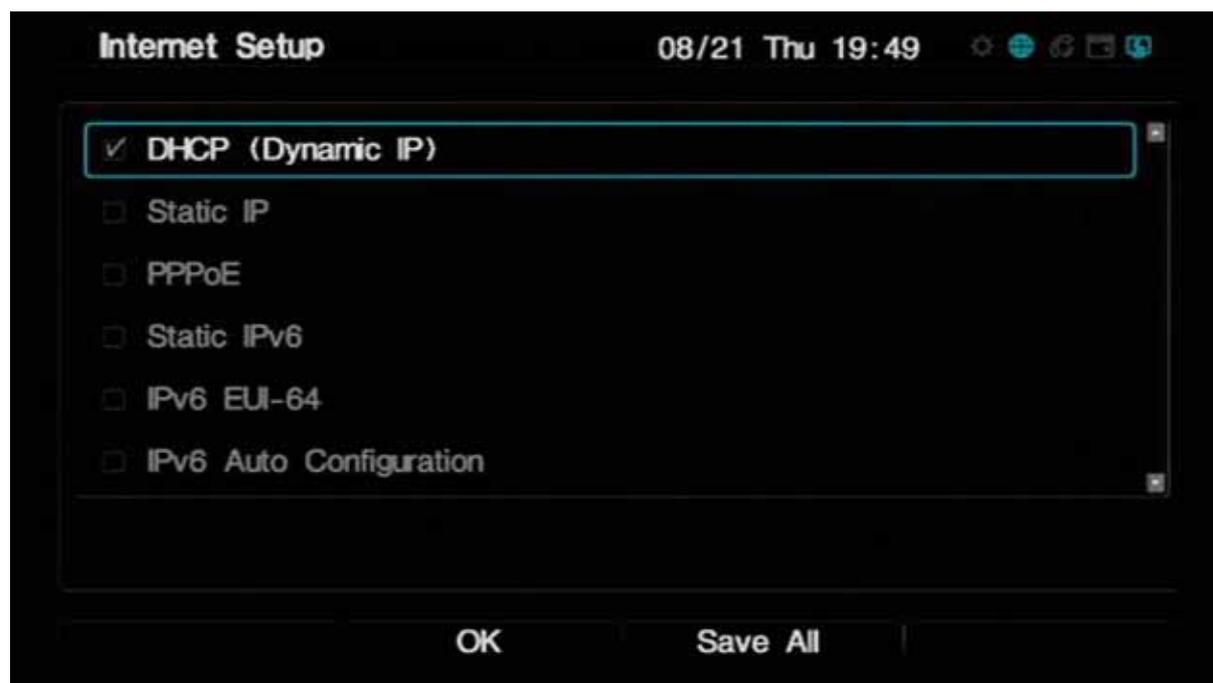


Table 4-22 Description of Internet Setup Menu Options

Option	Description
DHCP(Dynamic IP)	The representative applications for using the dynamic IP of this WAN protocol the cable, VDSL and IP-ADSL modems.
Static(Fixed IP)	Configures the WAN Interface by fixing the IP address manually. The representative applications are ADSL(My IP, E1/T1 leased line).
PPPoE(Dynamic IP)	This WAN protocol takes the dynamic IP address from a PPP server. The representative application is ADSL.
IPv6	Takes the entry of IPv6 address. Set up either Static, EUI-64 or Auto Configuration, which ever is suitable to the settings
VLan	The networks connected to each other physically, but separated logically different to each other, divides the broadcasting regions

The following figures exhibit the method for selecting DHCP option which commonly used for the cable modem settings:

Figure 4-135 Menu >> Network & Call



Figure 4-136 Network & Call >> Internet



Figure 4-137 Select DHCP then press OK

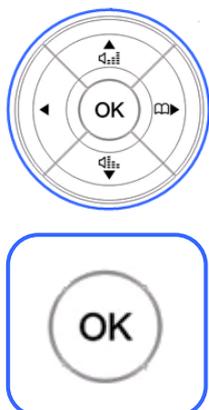


Figure 4-111 shows the method for selecting the static IP option.

Figure 4-138 Menu >> Network & Call



Figure 4-139 Network & Call >> Internet Setup



Figure 4-140 Select Static IP



Figure 4-141 Enter the IP address of '172.17.115.69'

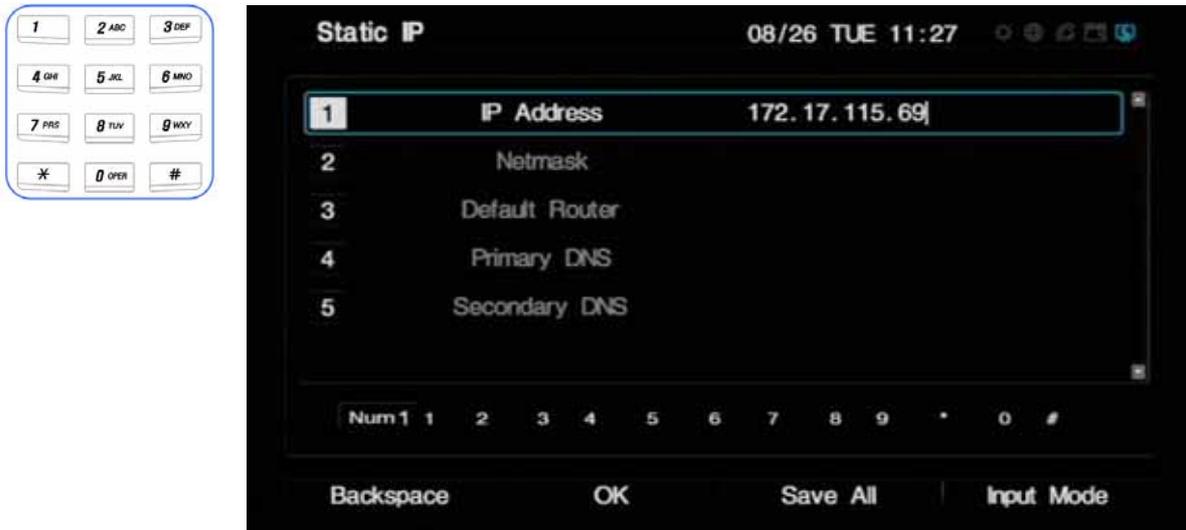


Figure 4-142 Enter the Netmask of '255.255.0.0'



Figure 4-143 Enter the Default Gateway of '172.17.1.1'

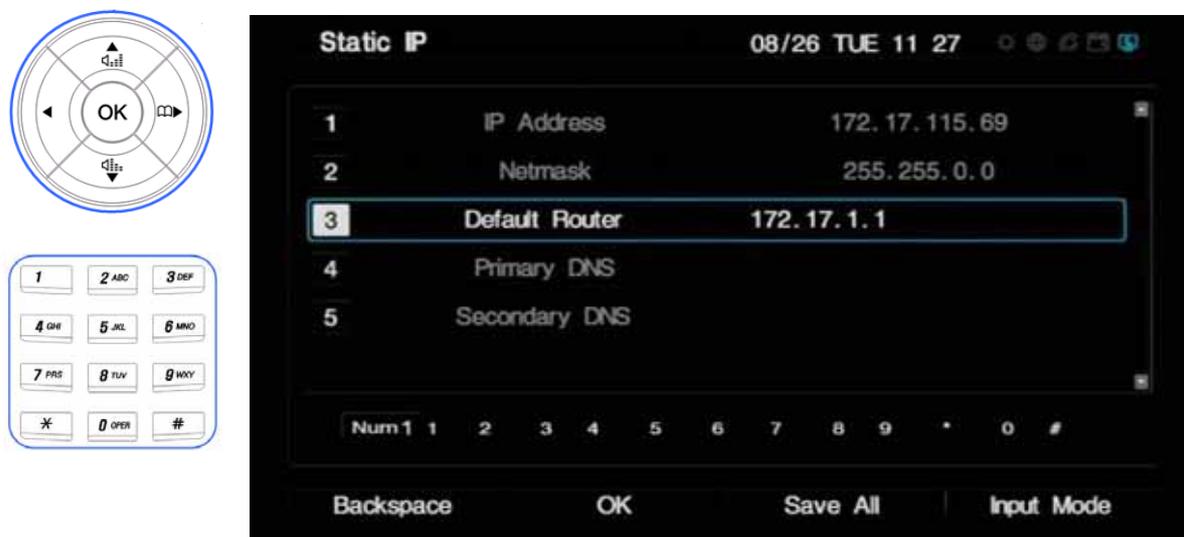


Figure 4-144 Enter the Primary DNS of '168.126.63.1'

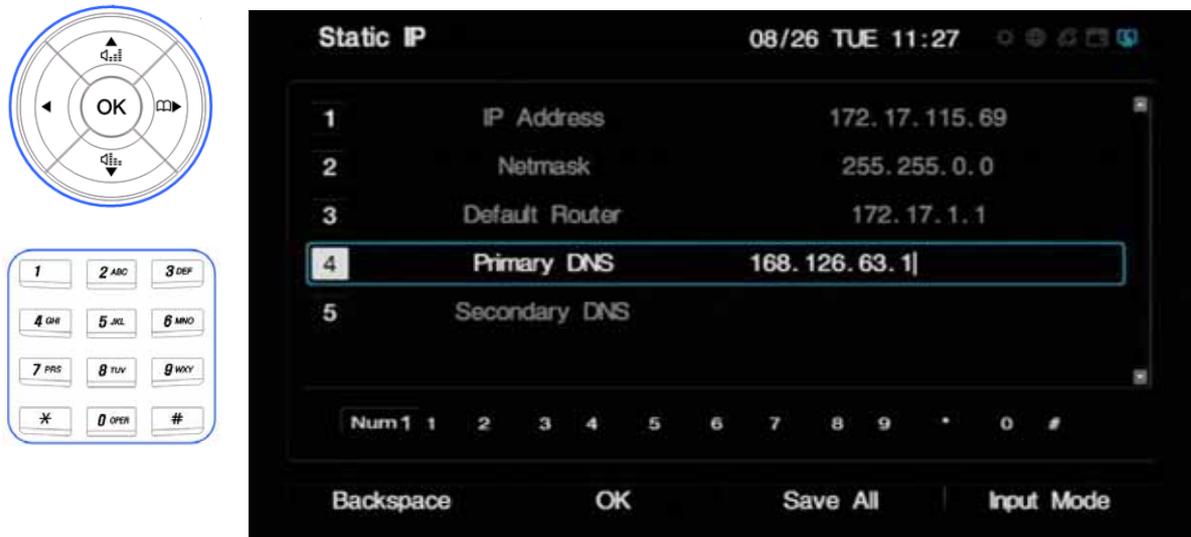


Figure 4-145 Enter the Secondary DNS of '126.63.10.5' (optional)

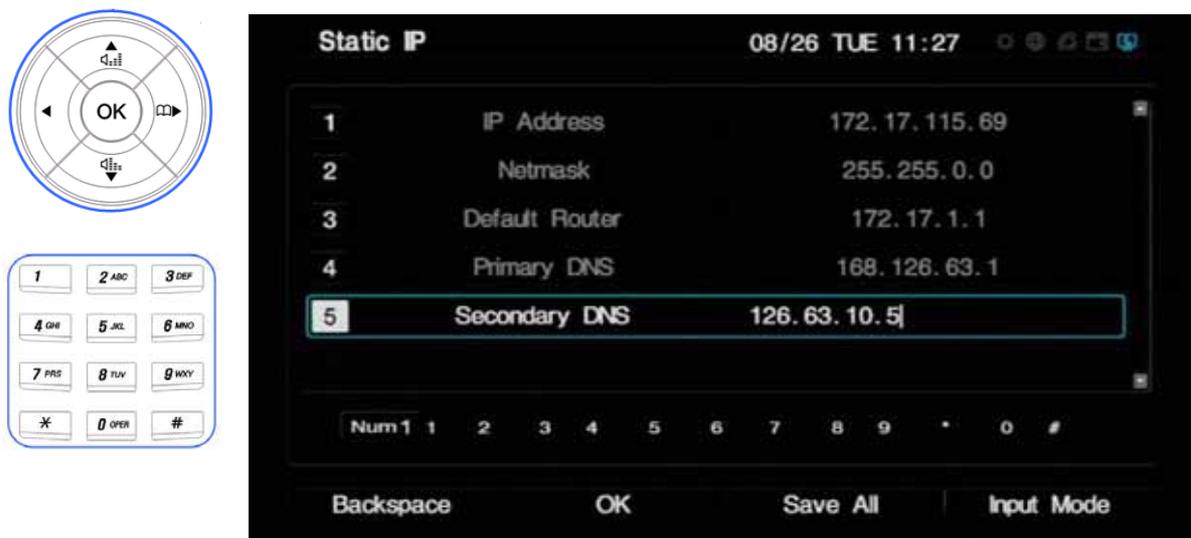
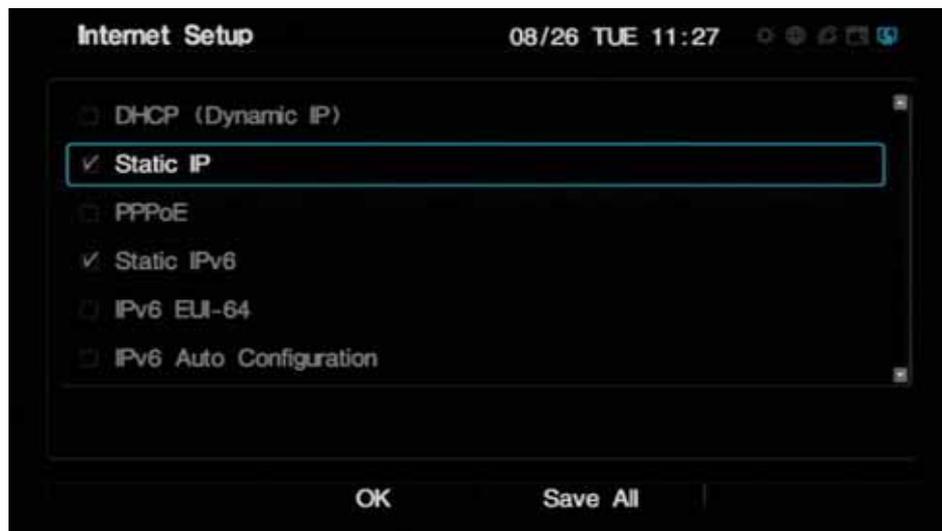


Figure 4-146 Press OK and then the screen moves to the upper menu



The following figures show the method of selecting PPPoE which is used for the application of ADSL:

Figure 4-147 Menu >> Network & Call

Use the Navigation key to scroll through the Menu. Select Network & Call menu and then press OK.



Figure 4-148 Network & Call >> Internet

Use the Navigation key to scroll through the Network & Call menu. Select Internet and then press OK.



Figure 4-149 Select PPPoE

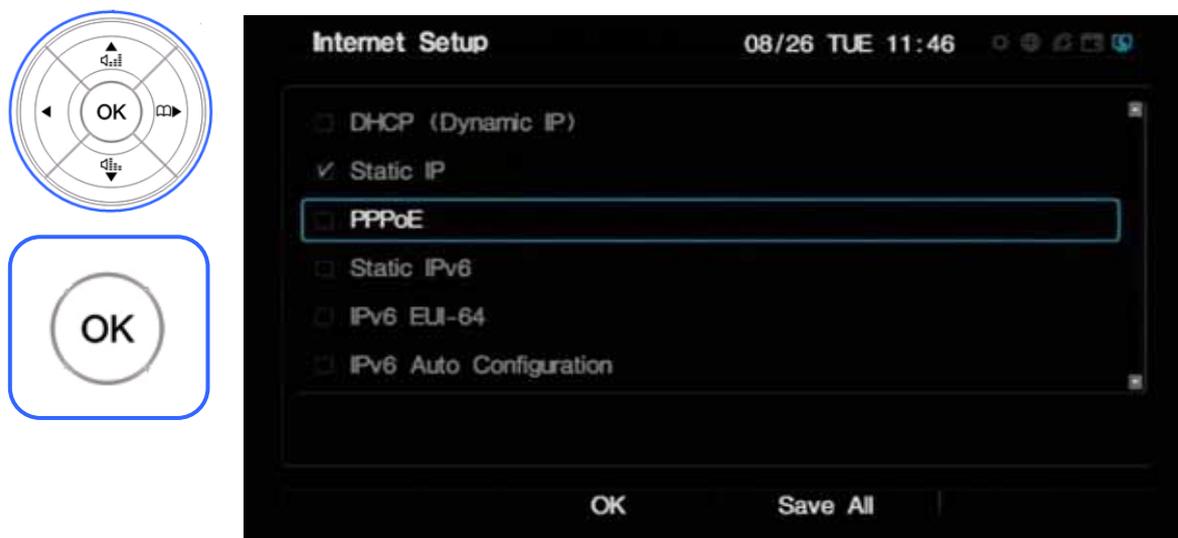


Figure 4-150 Select the option for PPPoE authentication method



Figure 4-151 Enter 'Addpac' for the User Name

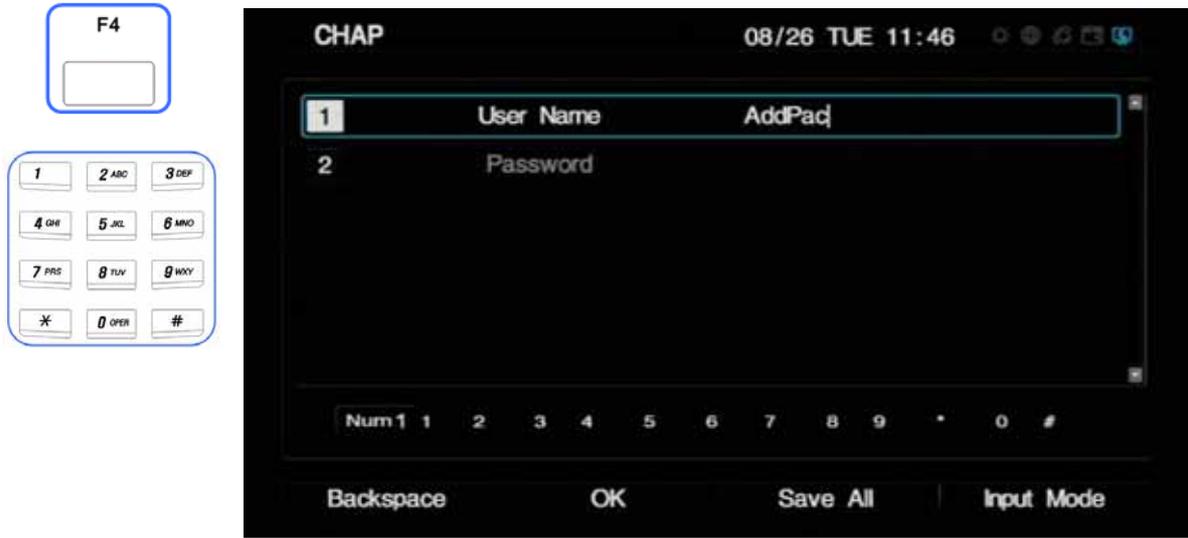


Figure 4-152 Enter 'addpac' for the user password

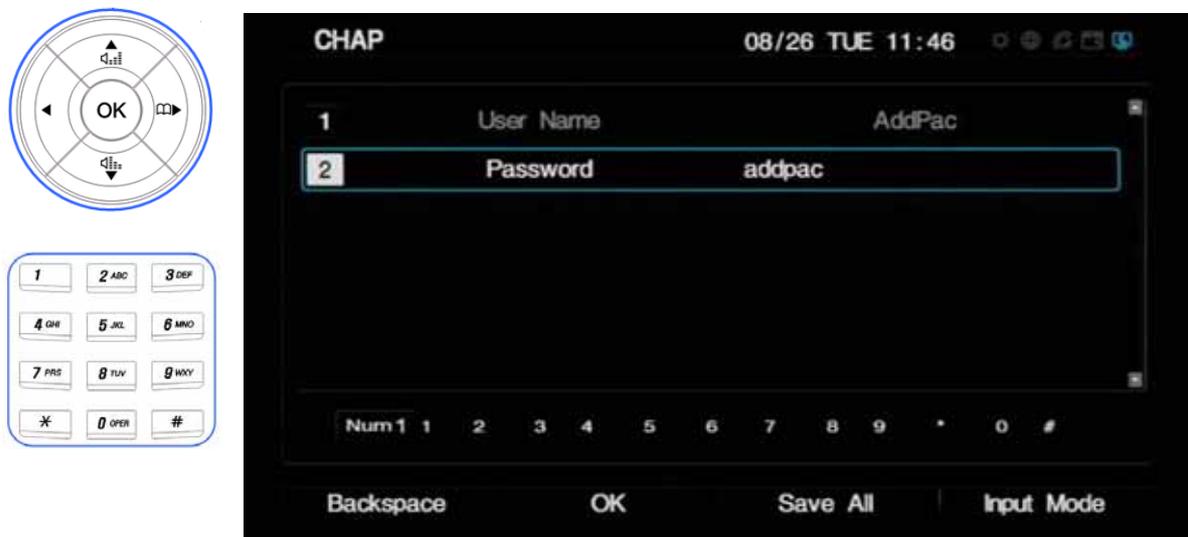
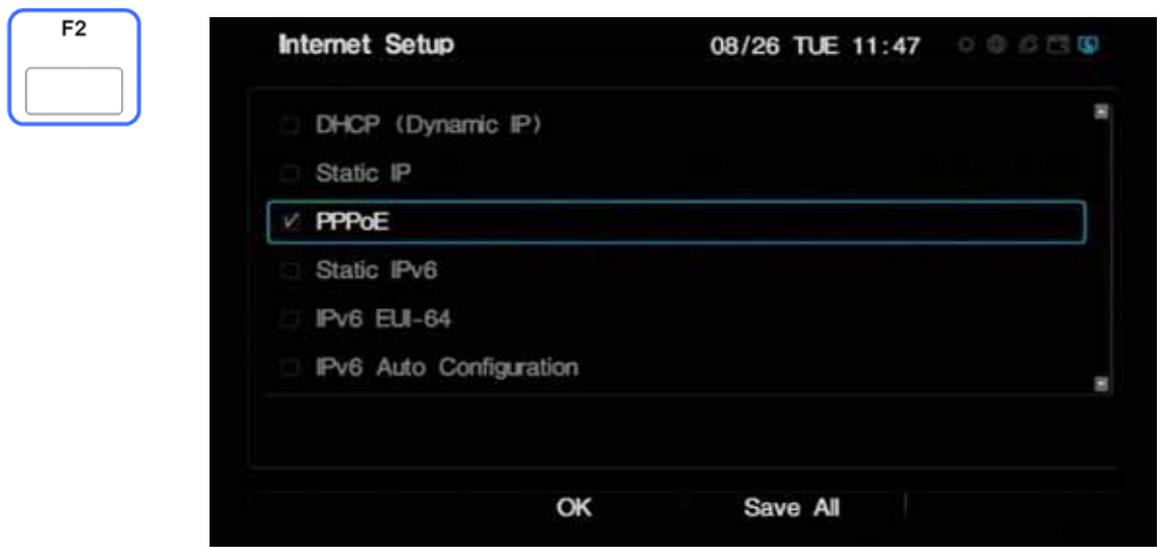


Figure 4-153 Press OK then the screen moves to the upper menu



The method for selecting the Static IPv6 is shown from Figure 4-154.

Figure 4-154 Menu >> Network & Call



Figure 4-155 Network & Call >> Internet Setup



Figure 4-156 Select the option for configuring Static IPv6

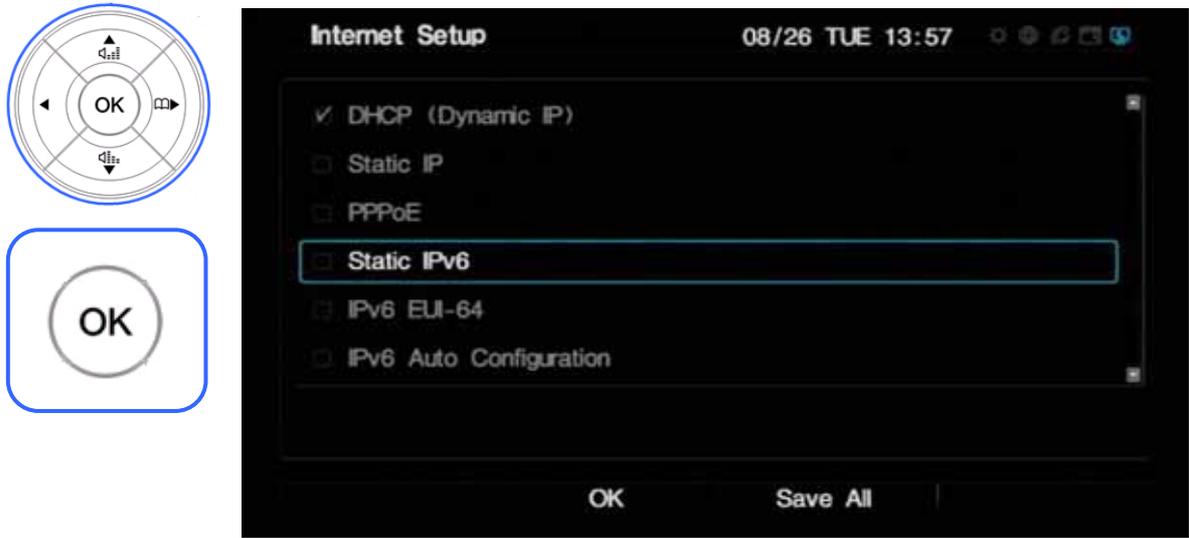


Figure 4-157 Enter IPv6 address of '2001:e78:b01:17:10::60/64'



Figure 4-158 Enter the Default Gateway address of '2001:e78:b01:17:1::1'

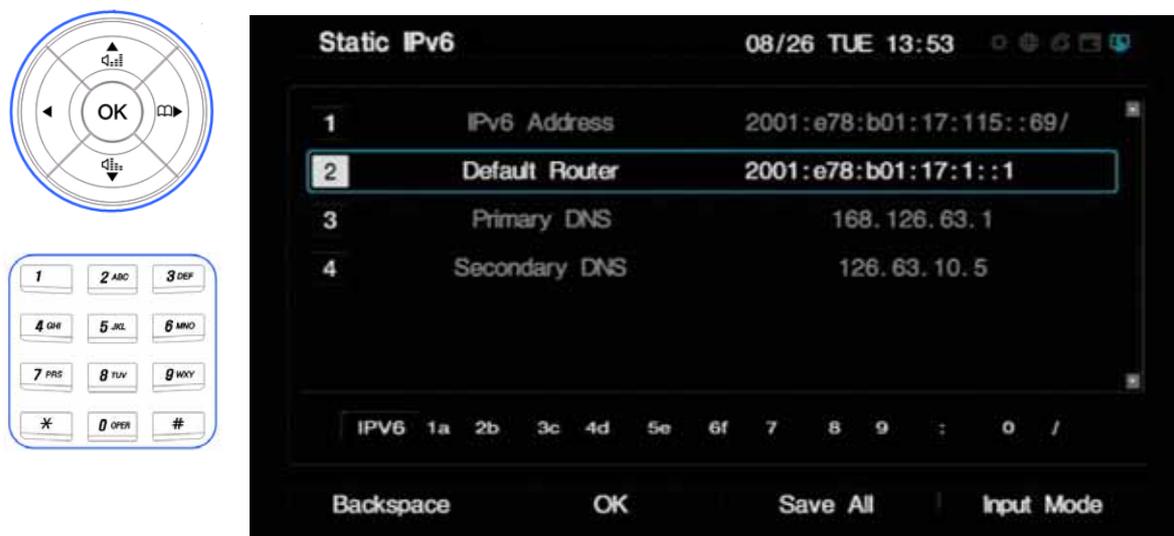
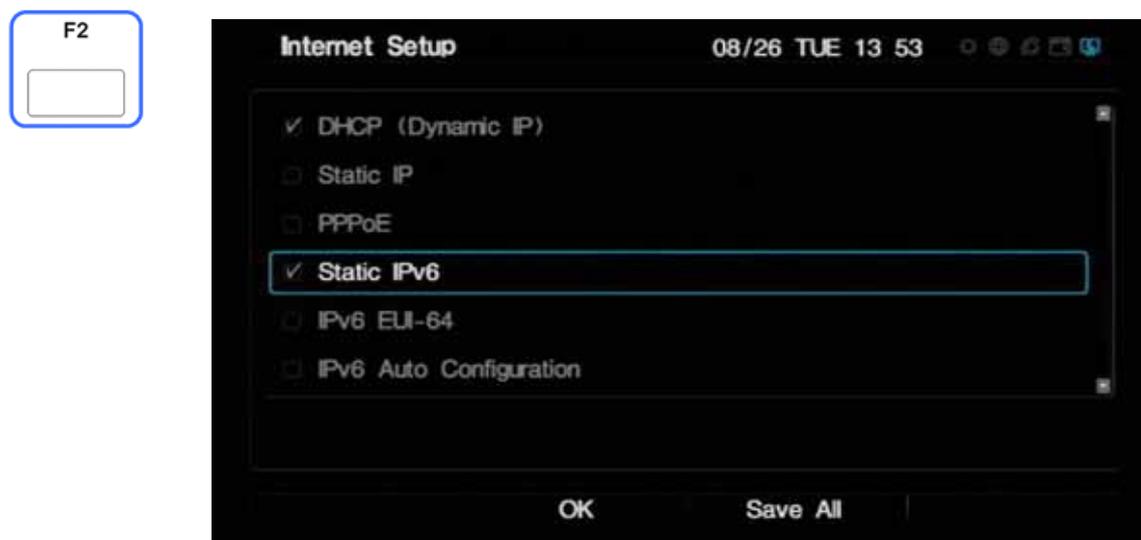


Figure 4-159 Press OK then the screen moves to the upper menu category



The method for configuring VLAN is shown from Figure 4-160.

Figure 4-160 Menu >> Network & Call



Figure 4-161 Network & Call >> Internet Setup



Figure 4-162 Select VLAN Setup



Figure 4-163 Select the option for enabling or disabling VLAN

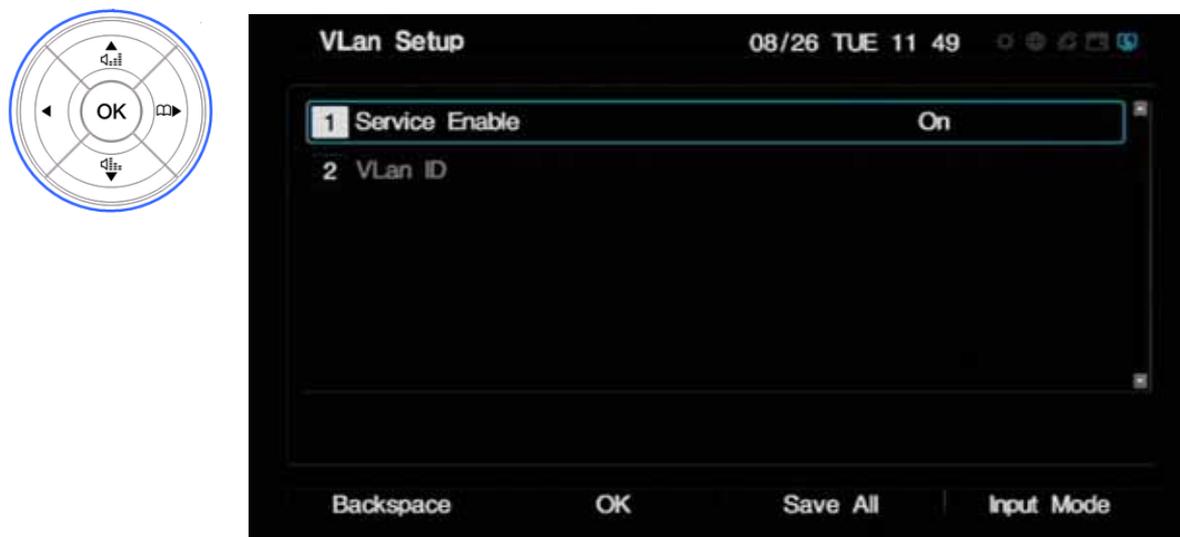
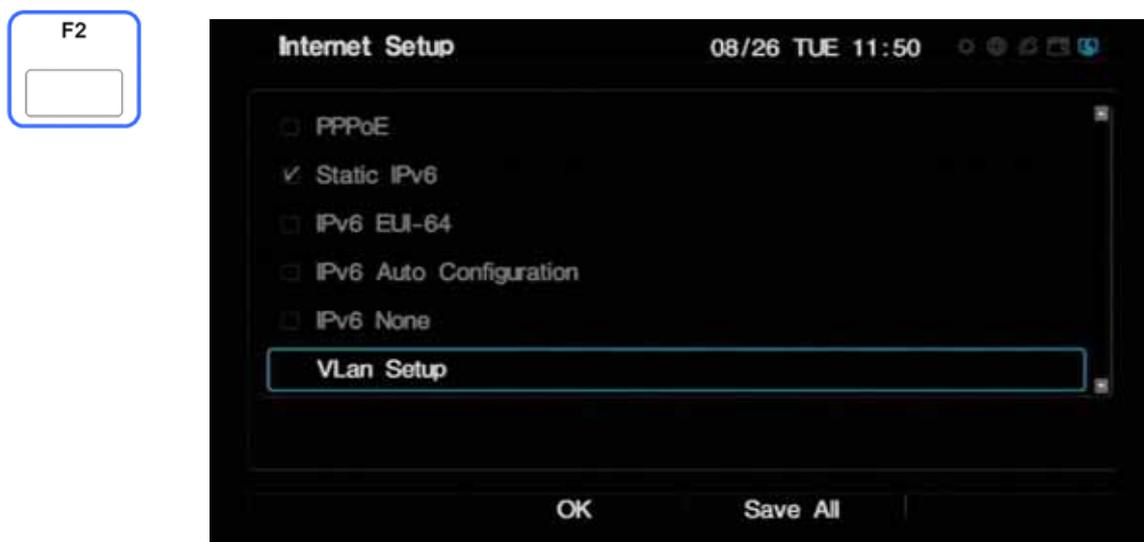


Figure 4-164 Enter '10' for Vlan ID



Figure 4-165 Press OK then the screen moves to the upper menu



LAN Setup

LAN Setup Menu determines a use for the LAN1 interface of the AP-VP500. This menu connects the LAN1 to the PC or hub, the available options are None, DHCP for 1PC, DHCP for Several PCs and bridge. 'DHCP for 1PC shares the same IP address with the PC connected to the LAN1 with the AP-VP500. DHCP for Several PC has a function of router, which is used for connecting more 2 PCs.

Figure 4-166 LAN Setup Menu Layout



Table 4-23 Description of LAN Setup Menu Options

Option	Description
Factory	Sets to the factory default mode. (192.168.10.1 is set at default)
Static	This mode allows the user to configure the LAN setting directly.
None	This option disables the LAN settings
DHCP for 1 PC	DHCP for Several PCs and bridge. 'DHCP for 1PC shares the same IP address with the PC connected to the LAN1 with the AP-VP500.
DHCP for Several PCs	Has a function of router, which is used for connecting more 2 PCs
Bridge	Configures the LAN setting to the bridge mode

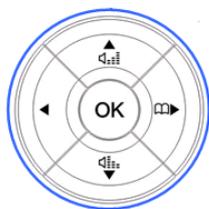
Figure 4-167 Menu >> Network & Call



Figure 4-168 Network & Call >> LAN Setup



Figure 4-169 LAN Setup Menu



Network Status

This menu displays 11 details of network status for protocols, Ethernet ports, IP, DNS, GK (H.323) and SIP Proxy Server at a glance.

Figure 4-170 Network Status Menu Details

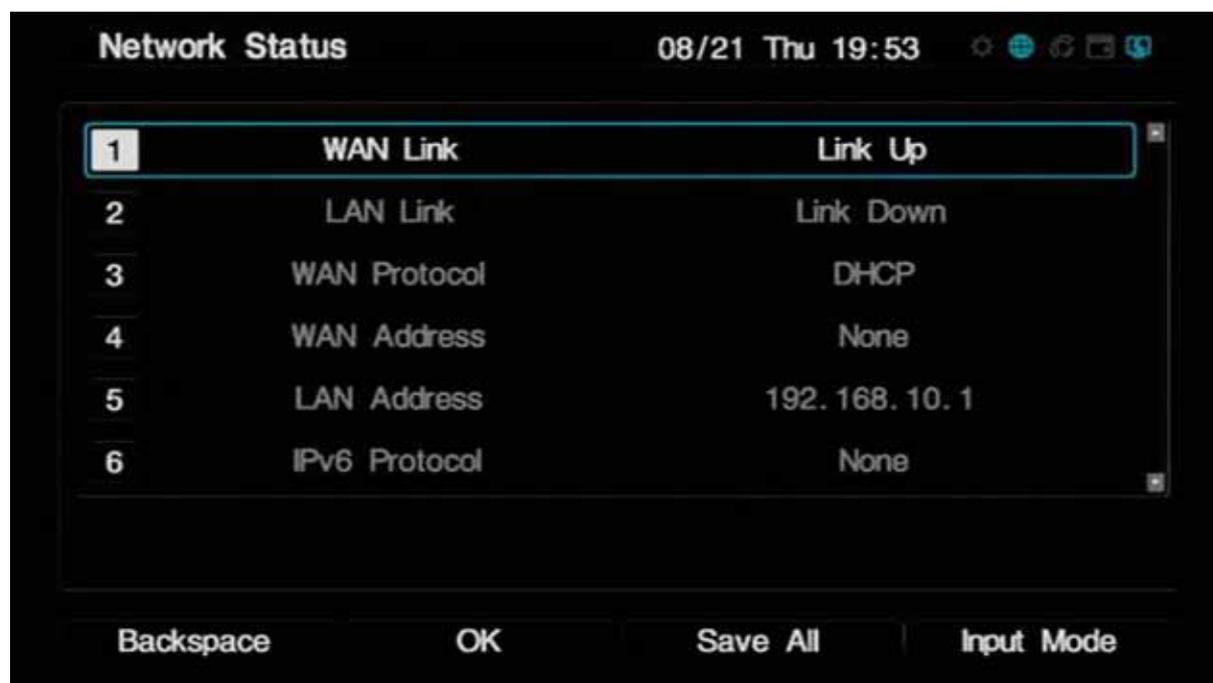


Table 4-24 Network Status Details

	Details
1	WAN Link
2	LAN Link
3	WAN Protocol
4	WAN Address
5	LAN Address
6	IPv6 Protocol
7	IPv6 Address
8	Primary DNS
9	Secondary DNS
10	GK Registration
11	SIP Proxy Registration Status

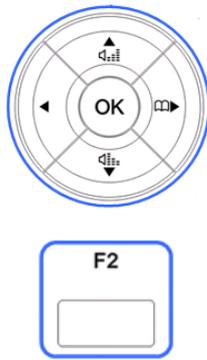
Figure 4-71 Menu >> Network & Call



Figure 4-172 Network & Call >> Status



Figure 4-173 Network Status



The screenshot shows a 'Network Status' menu on a device. At the top right, it displays the date and time: '08/21 Thu 19:53'. The menu contains a list of network parameters:

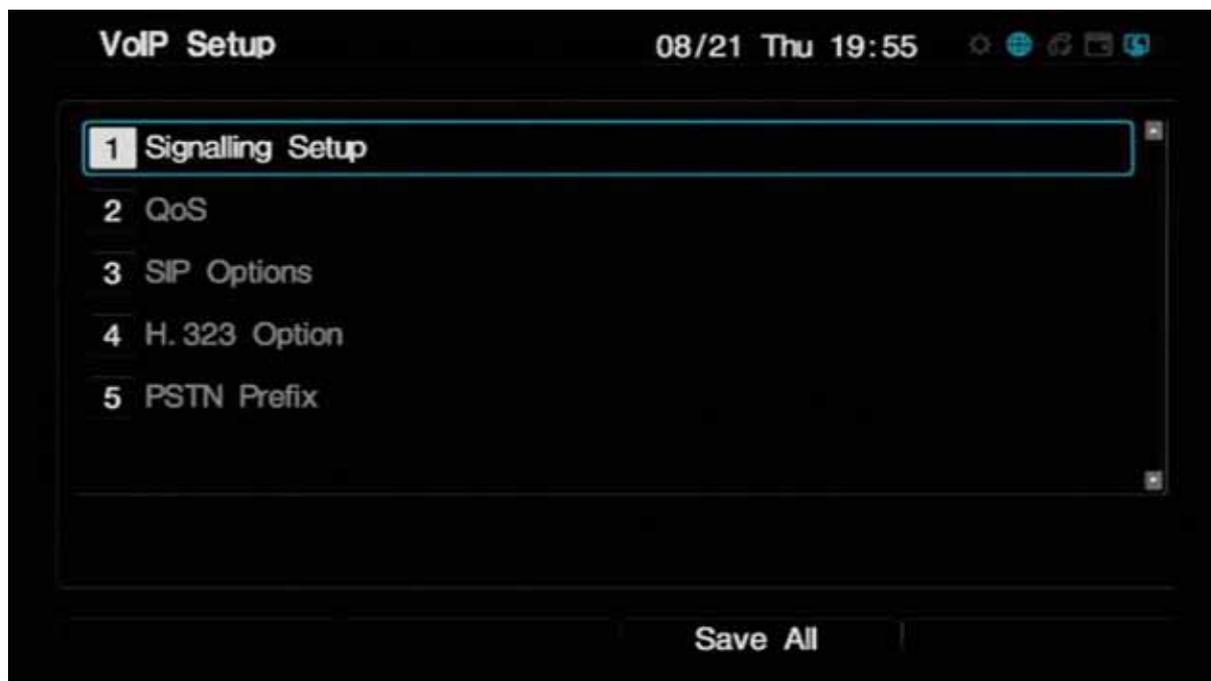
Item	Parameter	Status
1	WAN Link	Link Up
2	LAN Link	Link Down
3	WAN Protocol	DHCP
4	WAN Address	None
5	LAN Address	192.168.10.1
6	IPv6 Protocol	None

At the bottom of the screen, there are four navigation options: 'Backspace', 'OK', 'Save All', and 'Input Mode'.

VoIP Setup

VoIP Setup menu is used for interoperating with SIP Server or gatekeeper or making adjustment of E.164 and QoS on SIP and H.323 basis.

Figure 4-174 VoIP Setup Menu Layout



- VoIP Signaling Setup

Figure 4-175 Menu >> Network & Call



Figure 4-176 Network & Call >> VoIP Setup



Figure 4-177 Signaling Setup

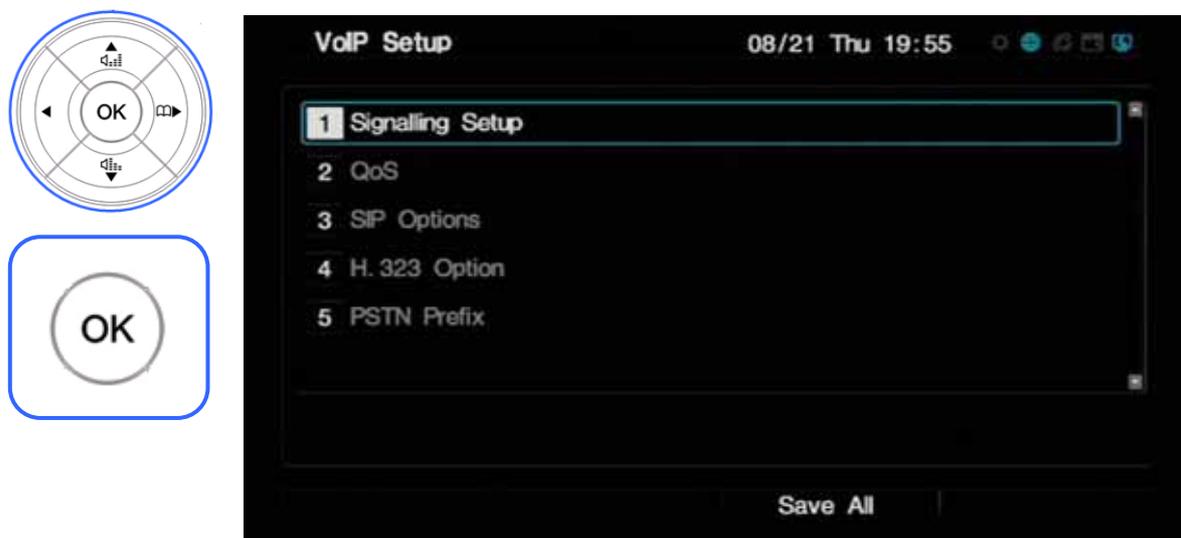


Figure 4-178 SIP Protocol



Figure 4-179 shows the setting details after you select SIP Protocol.

Figure 4-179 SIP Protocol

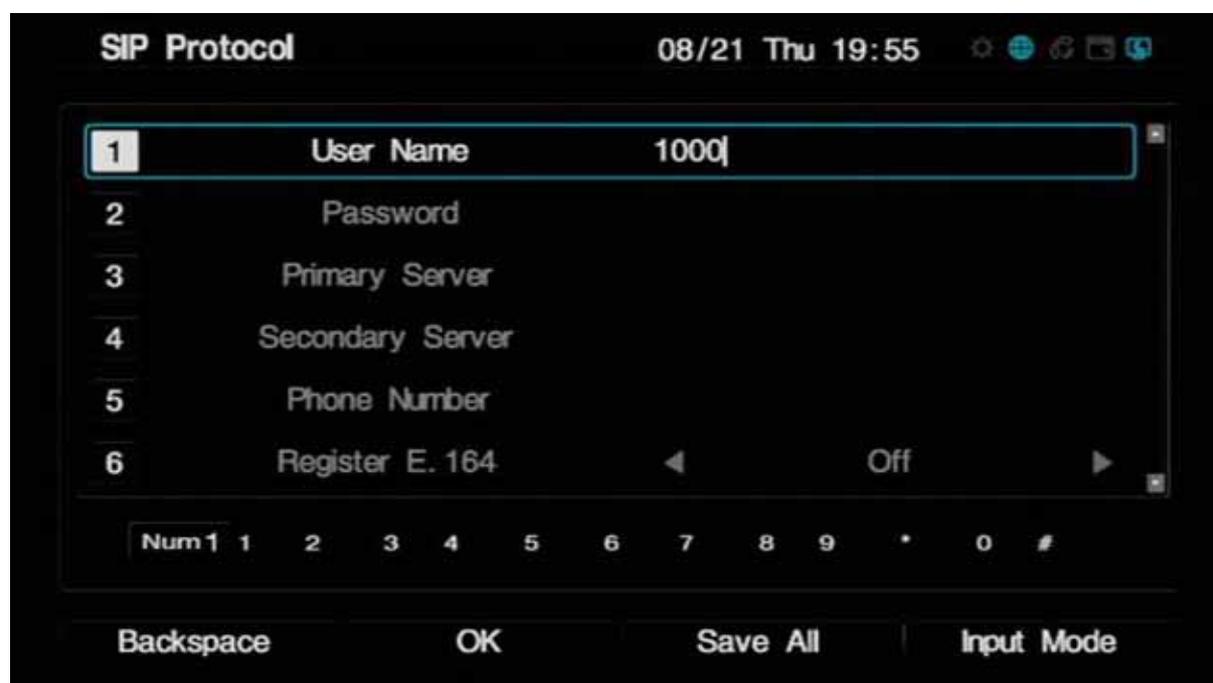


Table 4-25 Description of SIP Protocol Setting Details

Detail	Description
User Name	For registration to SIP server
Password	For registration to SIP server
Primary Server	Enter an IP address or a domain of the primary SIP sever
Secondary Server	Enter an IP address or a domain of the secondary SIP sever
Phone Number	Enter the user's E.164 Number
e.164 Registration	Register E.164 number

The following figures present an example for entering the setting values for internetworking with SIP server:

Figure 4-180 Enter SIP User Name

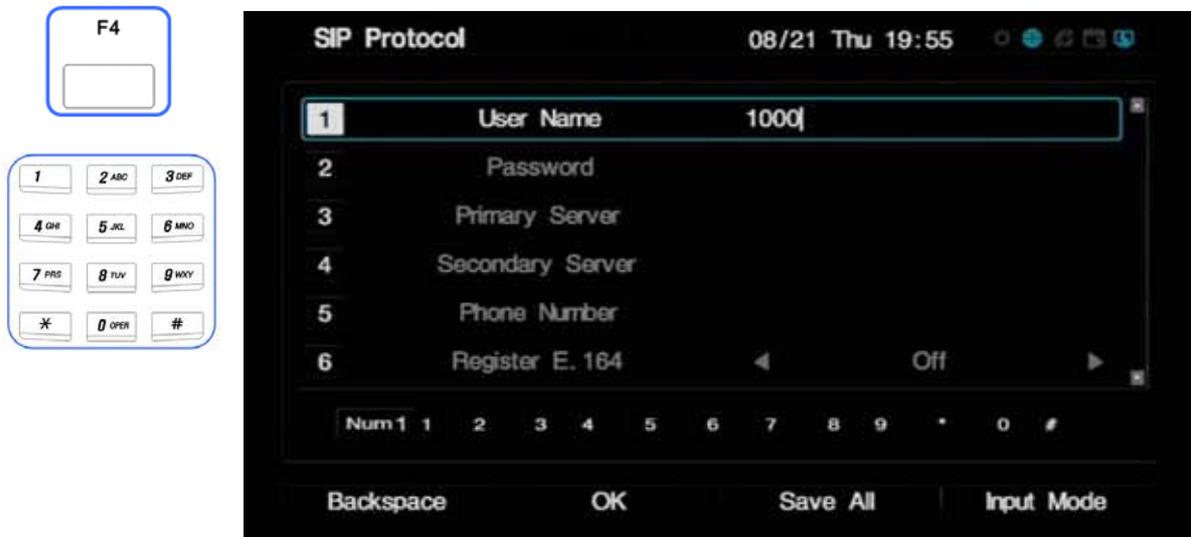


Figure 4-181 Enter SIP User Password



Figure 4-182 Enter e.164 number



Figure 4-183 Set 'Register E.164' to 'On' and press F2 to save



Figure 4-184 exhibits the screen after H.323 is selected.

Figure 4-184 H.323 Protocol Menu Details



Table 4-26 Description of H.323 Setting Items

Item	Description
H.323 ID	Enter H.323 ID for a gatekeeper registration
H.323 Password	Enter a password for authentication when to register the gatekeeper
Primary GK	Enter an IP address of the primary gatekeeper to be used first
Secondary GK	Enter an IP address of the secondary gatekeeper
Phone number	Enter the user's e.164 number
Register GK	Register a gatekeeper

The following figures show the example for entering the setting values for interwork with a gatekeeper.

Figure 4-185 Enter H.323 ID



Figure 4-186 Enter the password for registering the gatekeeper



Figure 4-187 Enter the IP address of the primary gatekeeper.



Figure 4-188 Enter E.164 phone number



Figure 4-189 Select the option for registering the gatekeeper and the press F2 to save



- QoS (Quality of Service)

The AP-VP500 Video Phone transmits the video compression format of MPEG-4 or H.263 and the voice compression format of VoIP. A high video quality video stream such as MPEG-4 is affected very largely by a network status. Thus, when the network is not in a good condition, the video transmission to the other party can be problematic.

QoS limits transmitting the video and voice packet under the guaranteed bandwidth. The user should calculate the required bandwidth for the video codec and voice packet and then apply that bandwidth to QoS.

Figure 4-190 QoS Options



Table 4-27 Description of QoS Options

Option	Description
QoS Disable	Disables QoS
QoS Enable	Enbles QoS
QoS Control with Bandwidth	This setting is for WAN interface and ranges from 48Kbps to 4Mbps

This QoS feature is applied to the WAN interface and does not apply to the LAN. The setting ranges from 48Kbps to 4Mbps. Enter the summation of the bandwidths for the video codec and

voice packet.

For example, the bandwidth of MPEG4/QVGA requires 512Kbps. If G.711 is voice codec, the total bandwidth required for the WAN interface is 600Kbps, then enter '600'.

Figure 4-191 Menu >> Network & Call >> VoIP Setup



Figure 4-192 Select QoS

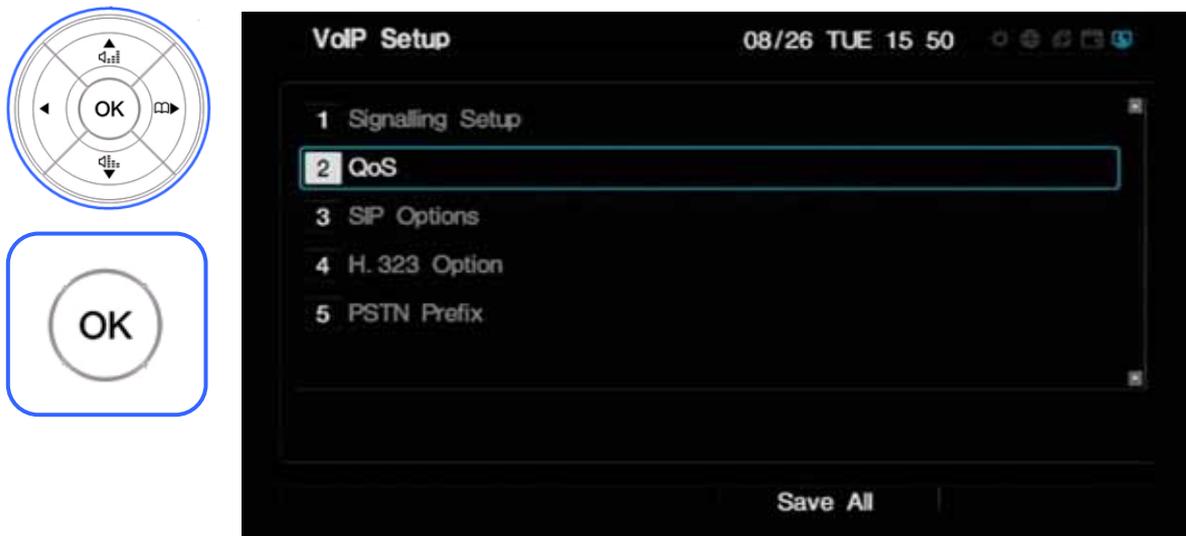


Figure 4-193 QoS Options

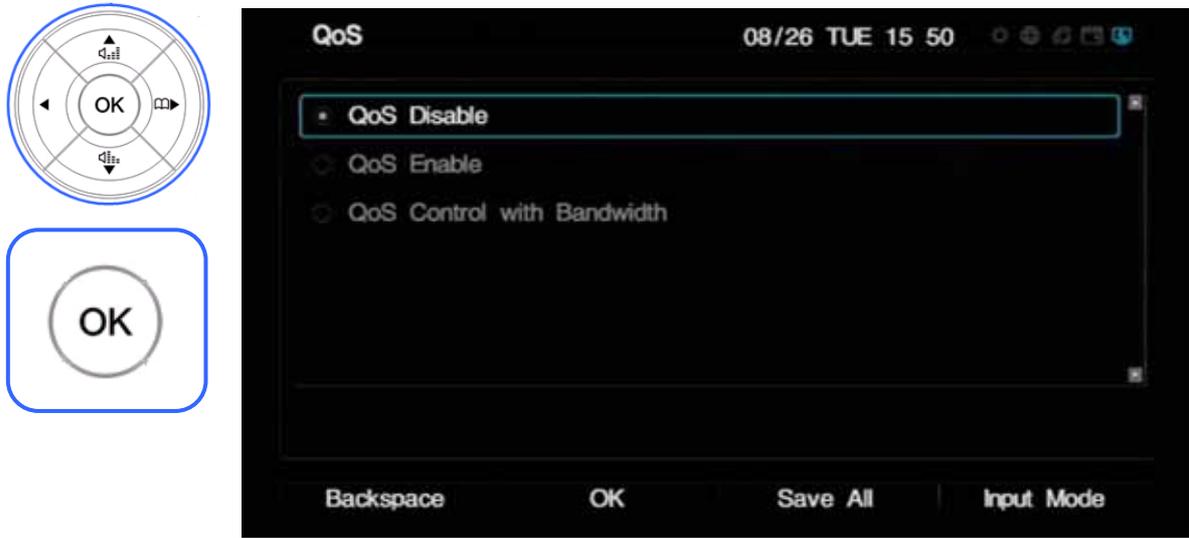
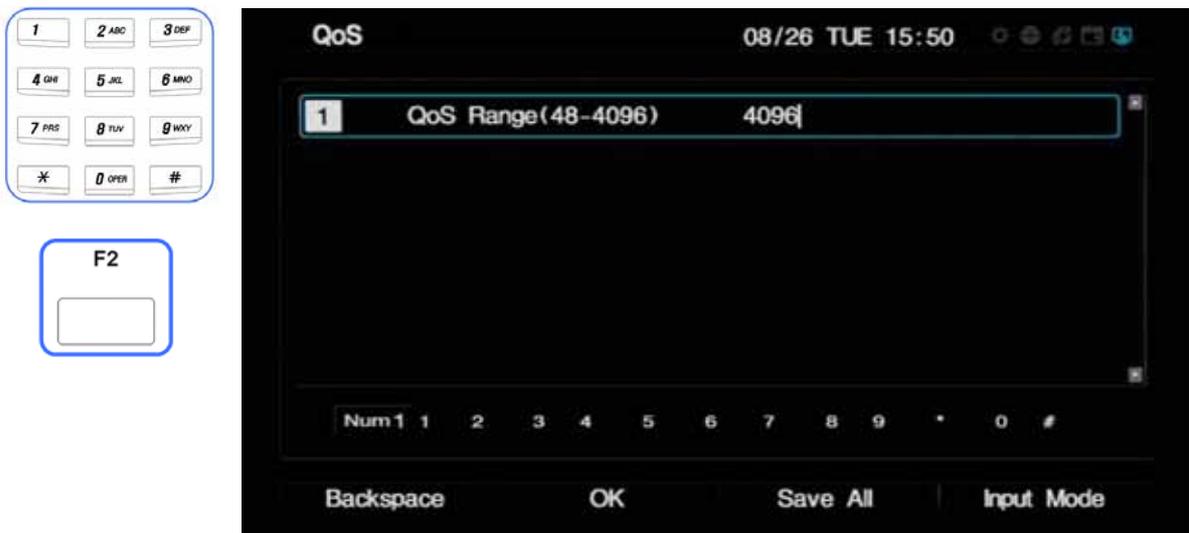


Figure 4-194 Set a QoS bandwidth



- SIP Options

This SIP Options correspond to the numerous supplementary features and options for SIP and H.323 protocols. These options are continually updated through APOS upgrade.

Figure 4-195 SIP Options Layout



Table 4-28 Description of SIP Options

Option	Description
1 Call transfer mode	Choose an option to determine the call-transfer-mode. The available options basic and attend.
2 Confer. Service Tag	Enter a VoIP tag for a conference
3 Confer. Service Name	Specify a name for conference service
4 Enable ping	For using the AP-VP500 in the NAT/Firewall configuration, enter a Firewall address to verify the actual public IP
5 Media Channel	Transmit a RTP Session to listen to the inband ringbacktone of PSTN in NAT/Firewall network configuration
6 Min se	Specify a setting for session timer
7 Retry Count	Assigns SIP UA retry count to the transmission count of SIP INVITE If the trying message for the INVITE does not come in a specified time due to a

		network failure, the AP-VP500 sends the next INVITE message. 10 is set at default and the general setting is 3.
8	The Other Party ID	When the user-name is not numeric, but textual, it is applied within the message.
9	Secondary Path	This is applied when the inbound call number is not numeric but textual.
1 0	Domain Setup	Transmit From/To field to SIP message to a specified domain instead of an IP address.
1 1	Signaling Port	5060 is set at default and this option is used to make a change
1 2	SIP Server	Choose an option to set SIP Server

- PSTN Prefix

This option specifies a set of numbers for accessing FXO (a call try through PSTN) and not used for a call accessing VoIP network. This option is useful for transferring a call to PSTN when VoIP communication in abnormal state caused by some exceptional cases, such as a network failure, the call can not be delivered.

Figure 4-196 Specifying PSTN Prefix

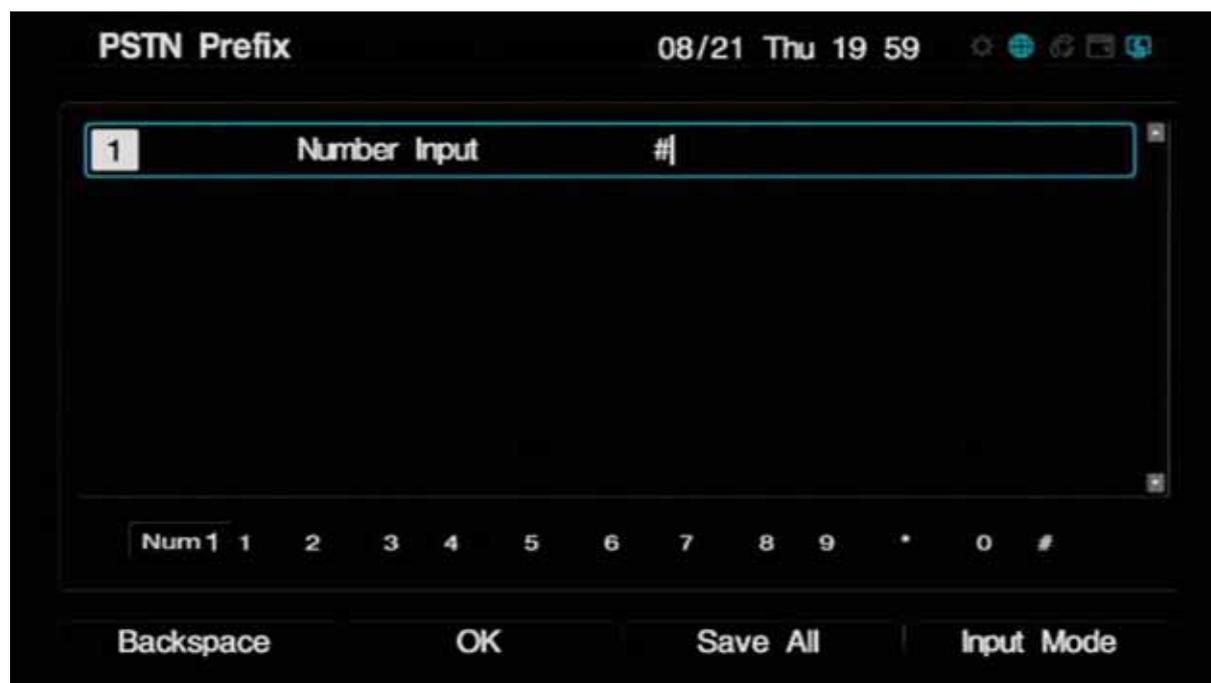


Table 4-29 AP-VP500 IP Phone PSTN Prefix Setting Item

Item	Description
Number Input	Specify a set of number for FXO access. In off-hook condition, the setting occupies FXO.

Additional Service

Additional Service menu includes the configuration settings of Call Forward, DoNotDisturb, Call Wait Setup, Auto Response, H323 Conference Option and Call Option.

Figure 4-197 Additional Service Menu Layout

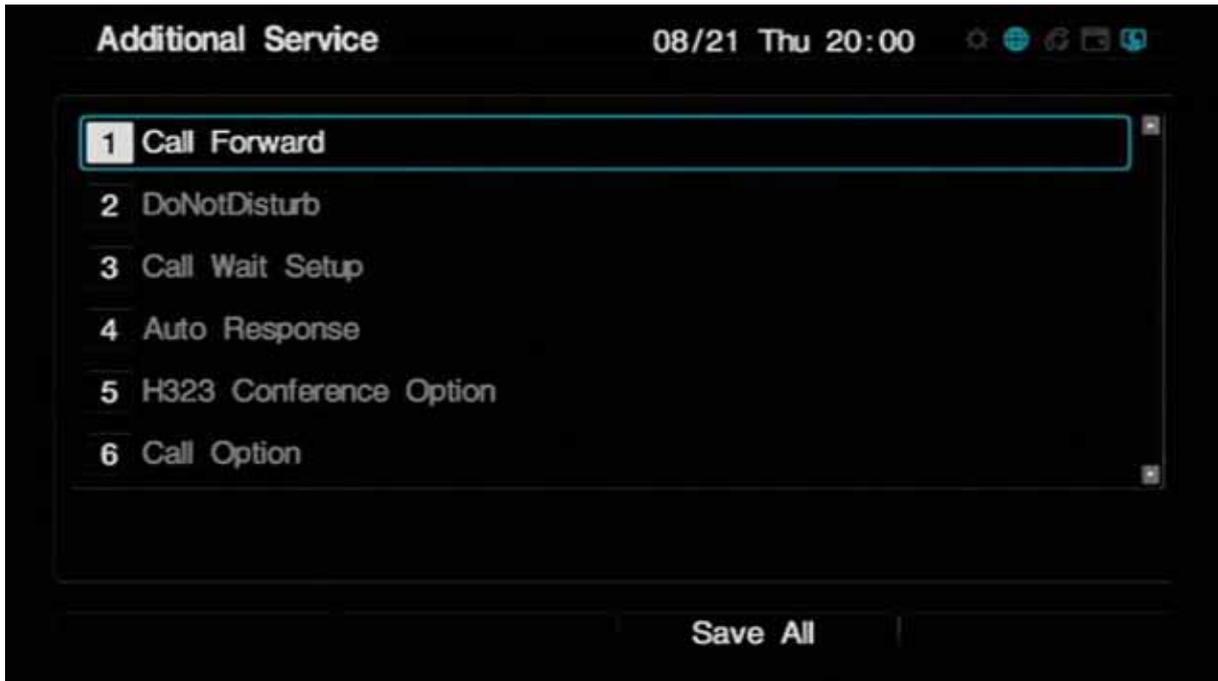


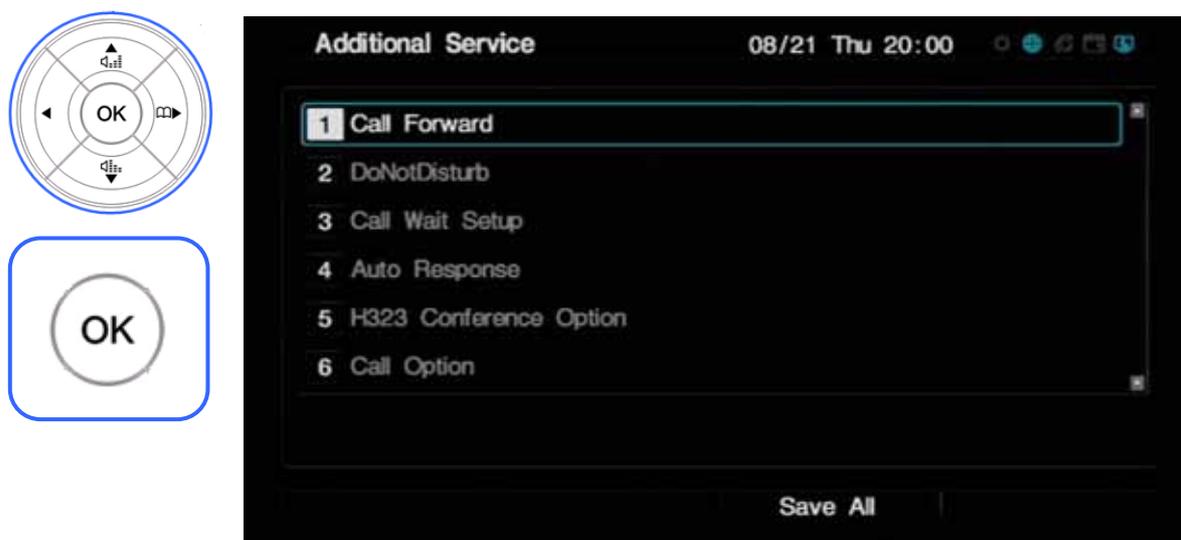
Figure 4-198 Menu >> Network & Call



Figure 4-199 Network & Call >> Add. Service



Figure 4-200 Additional Service Menu



- Call Forward

Call Forward menu configures the settings for forwarding an inbound call to the other number or voice mail when the phone user is busy on the line or not able to answer a call or need to forward a call unconditionally. The Call Forward has the 2 setting options for forwarding a call to a specific number or voice message. In case the Call Forward is set to the both, the call is forwarded to voice message.

Figure 4-201 Select Call Forward for the first menu detail and then press OK

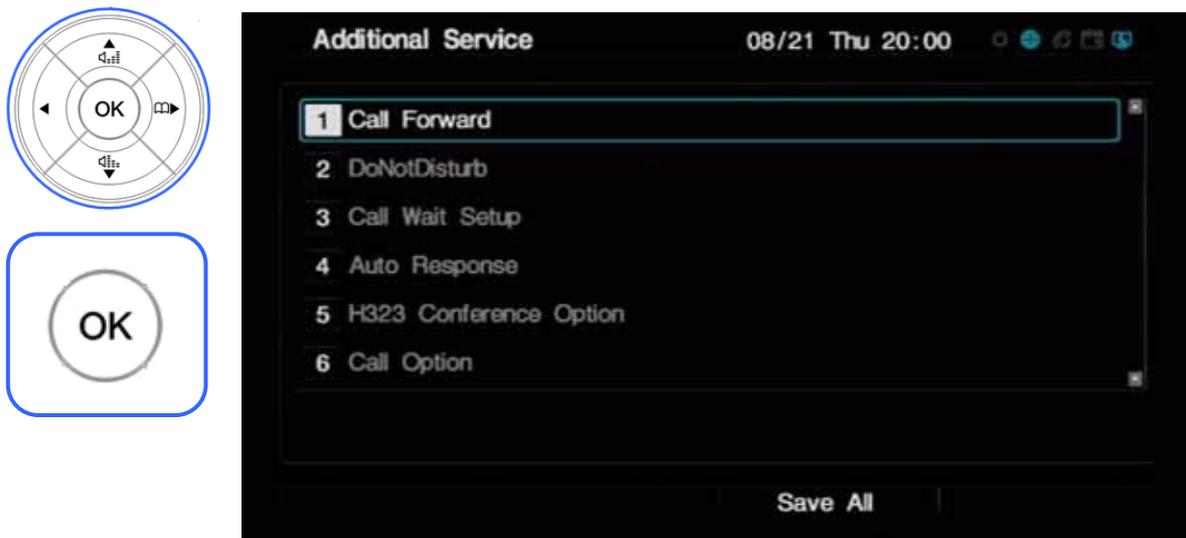


Figure 4-202 Call Forward Options Layout



Table 4-30 Description of Call Forward Menu

Menu	Description
Unconditional	Enter a phone number to which all calls to be forwarded
Unconditional Setup	Select an option for enabling or disabling unconditional call forwarding (Default: Disabled)
Unconditional voice mail	Select an option for unconditional call forwarding to voice mail (Default: Disabled)
Busy	Enter a phone number to which a call to be forwarded if busy
Busy Setup	Select an option for enabling or disabling call forwarding if busy (Default: Disable)
Busy Voice Mail	Select an option for enabling/ disabling call forwarding if busy (Default : Disable)
No Answer	Enter a phone number to which a call to be forwarded if not answered
No Answer Setup	Select an option for enabling or disabling call forwarding if not answered (Default: Disable)
No Answer Voice Mail	Select an option for enabling or disabling call forward if not answered (Default : Disable)

-DoNotDisturb (DND)

This feature prevents calls from ringing on an extension (Ring Silence) or activates Call Reject (rejects an incoming call which is placed on Ring Silence) which can be enabled if Absence button pressed for more than 2 seconds DoNotDisturb (DND) is enabled (if it is already enabled, it becomes disabled afterwards). Call Reject is activated only by Smart Service Control Protocol (SSCP) interoperating with the AddPac Next PBX.

Figure 4-203 Additional Service Menu Layout

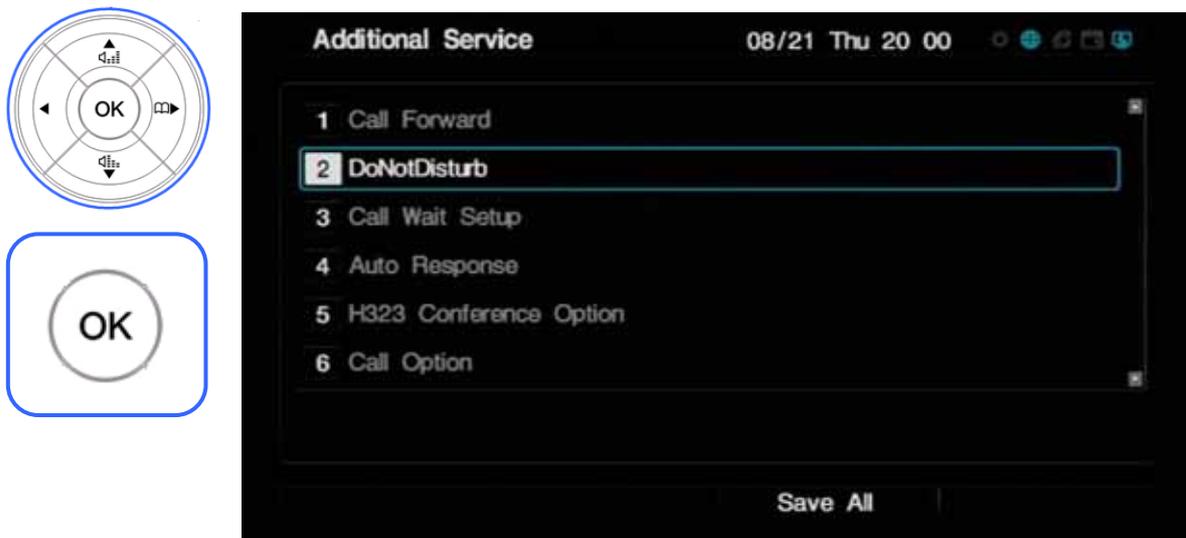


Figure 4-204 DoNotDisturb Options

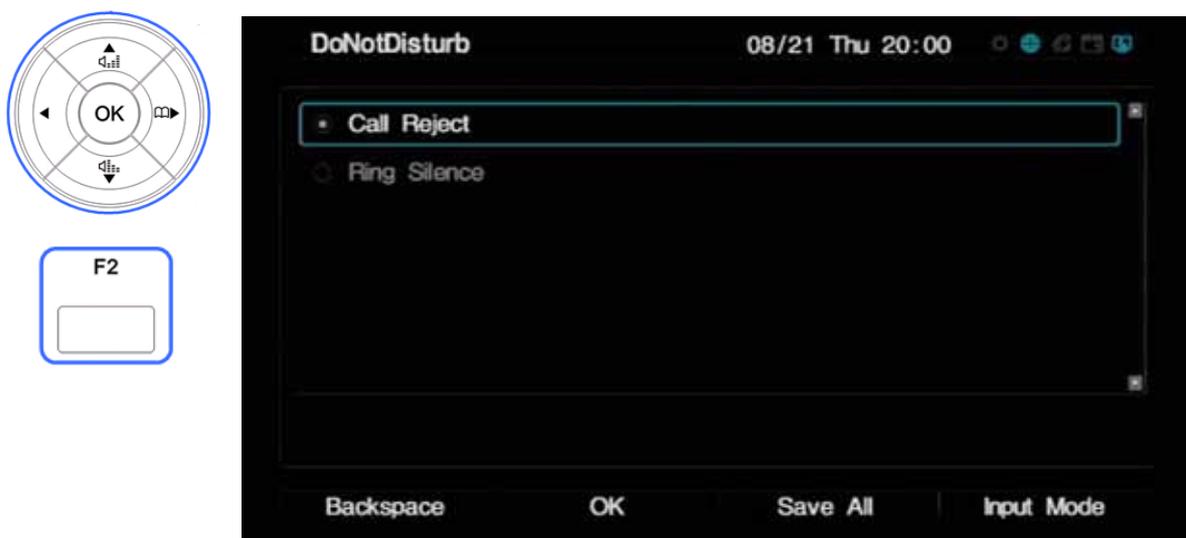


Table 4-31 Description of DND Options

Option	Description
Call Reject	Rejects the calls sent from a calling party
Ring Silence	Prevents the calls from ringing which is sent from a calling party

- Call Wait Setup

This feature alerts the phone user to incoming call while the phone user is on another call. Call Waiting provides an audio alert and displays incoming information (visual alert) on the phone screen. While the phone user is busy on the line, any incoming call can be placed on hold. When the user ends the call, the call being placed on hold can be answered. The following figure shows the Call Waiting options (supported by SSCP) for the busy line.

Figure 4-205 Selecting Call Wait Setup in Additional Service Menu

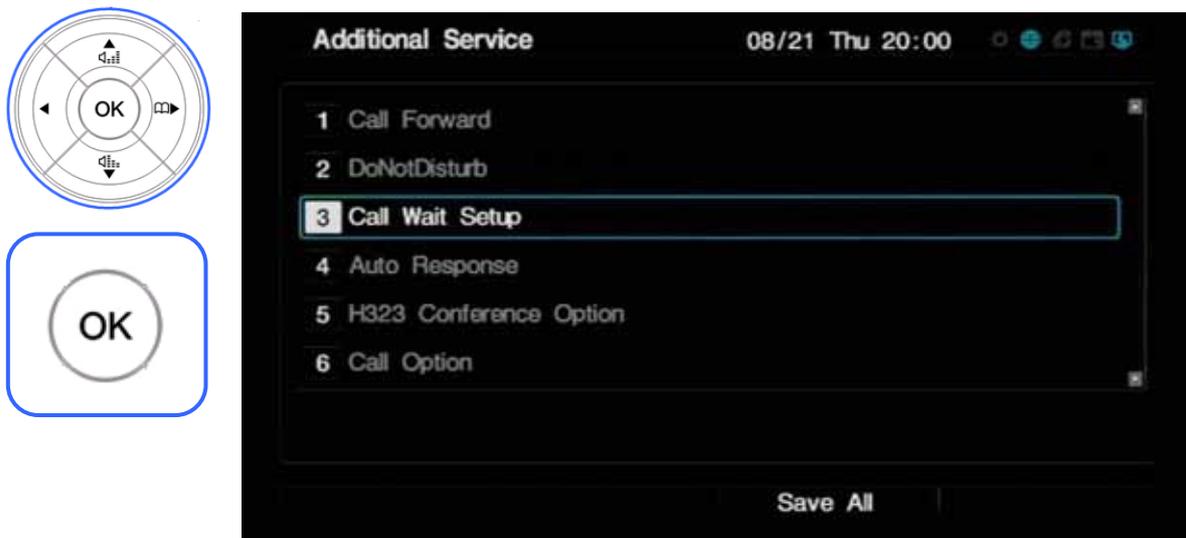


Figure 4-206 Call Wait Setup Options

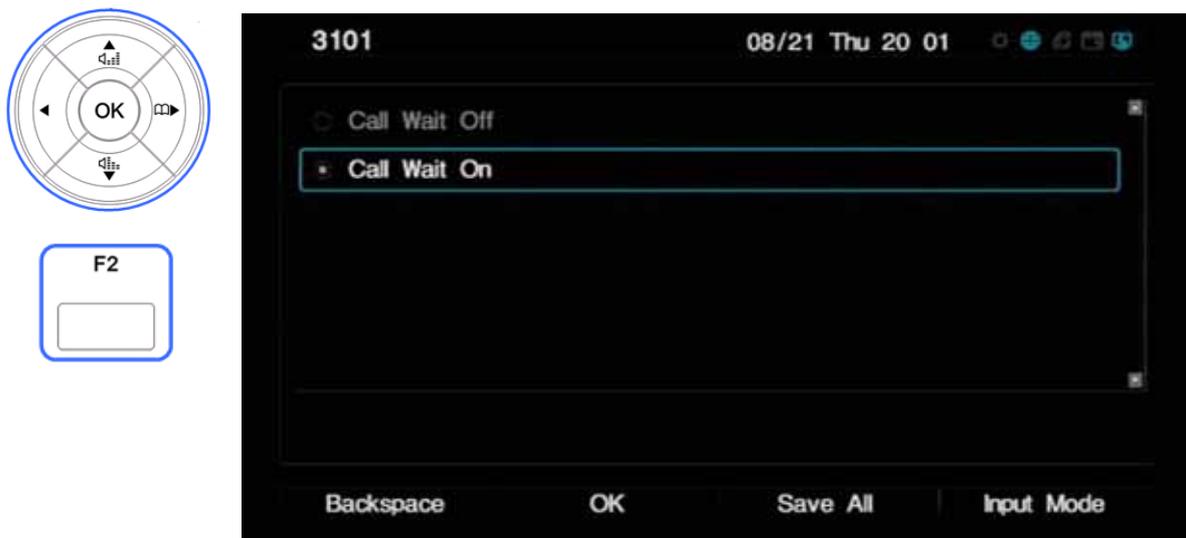


Table 4-32 Description of Call Wait Setup

Option	Description
Call Wait Off	Disables Call Waiting
Call Wait On	Enables Call Waiting

- Auto Response

Automatic Response menu answers an incoming call automatically, so the phone user does not have to take the call directly. The user may set the time interval to answer the call automatically by 3 seconds, 5 seconds, 10 seconds and 15 seconds.

Figure 4-207 Selecting Auto Response in Additional Service Menu

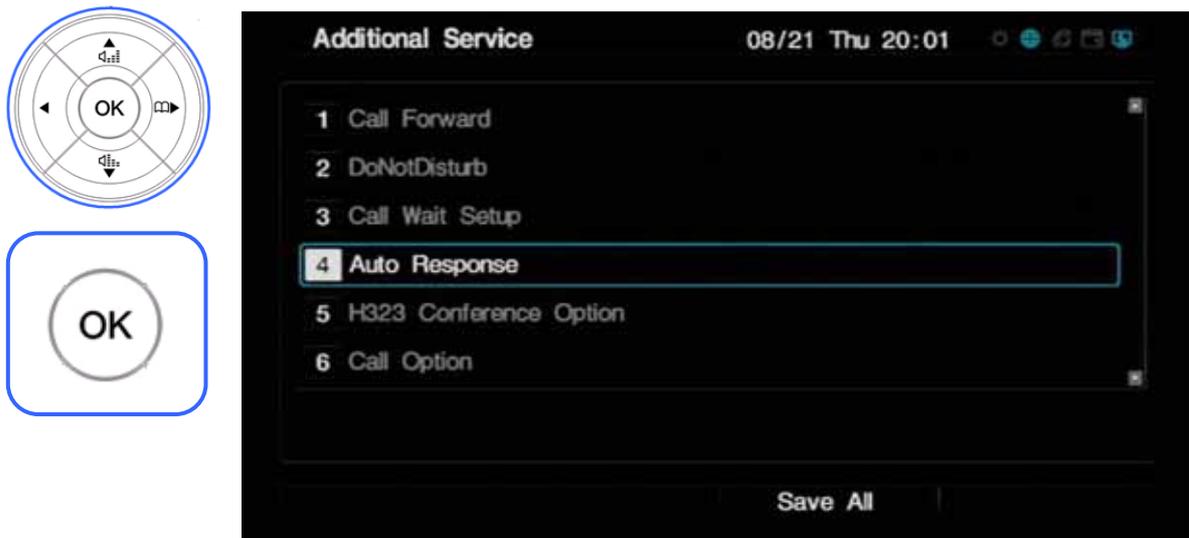


Figure 4-208 Configuring Auto Response Settings



Table 4-33 Description of Auto Response Configuration Settings

Settings	Description
Direct Response	Connects incoming calls automatically after one ring
After 3 sec.	Connects incoming calls automatically after 3 seconds
After 5 sec.	Connects incoming calls automatically after 5 seconds
After 10 sec	Connects incoming calls automatically after 10 seconds
After 15 sec	Connects incoming calls automatically after 15 seconds
No Auto Response	Disables Auto Response

- H323 Conference Option

This menu configures the settings for H.323 conference options. The name or indicator mode of H.323 conference to be displayed on the phone screen can be configured.

Figure 4-209 Step 1: Use the Navigation Key to scroll down through the menu and select H323 Conference Option and press OK

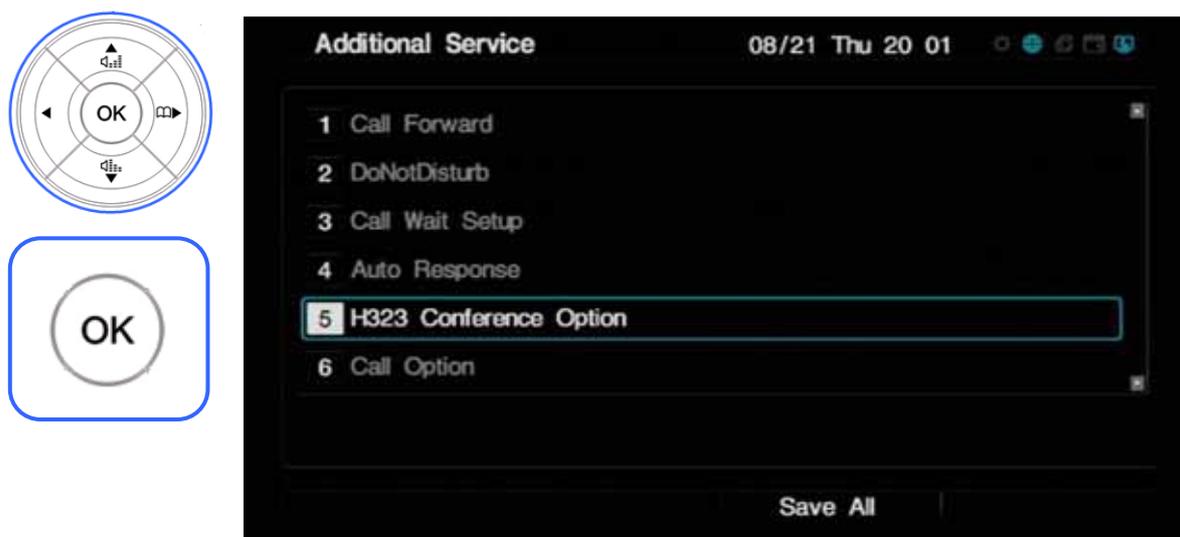


Figure 4-210 Step2: Select H.323 Confer. Name and then press OK

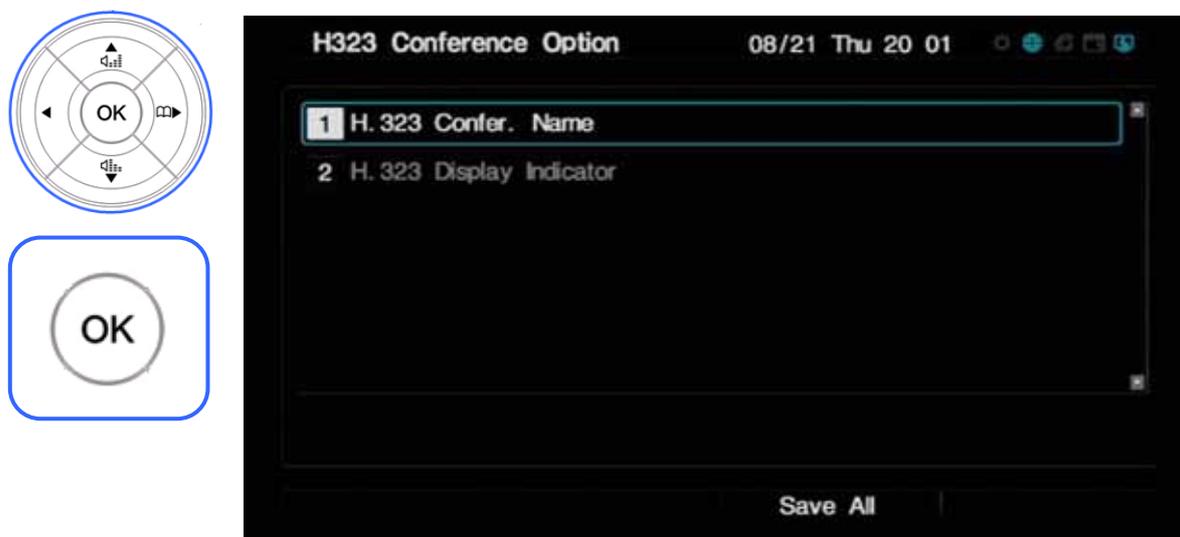


Figure 4-211 Step3: Specify H.323 Confer. Name and then press F2 to save

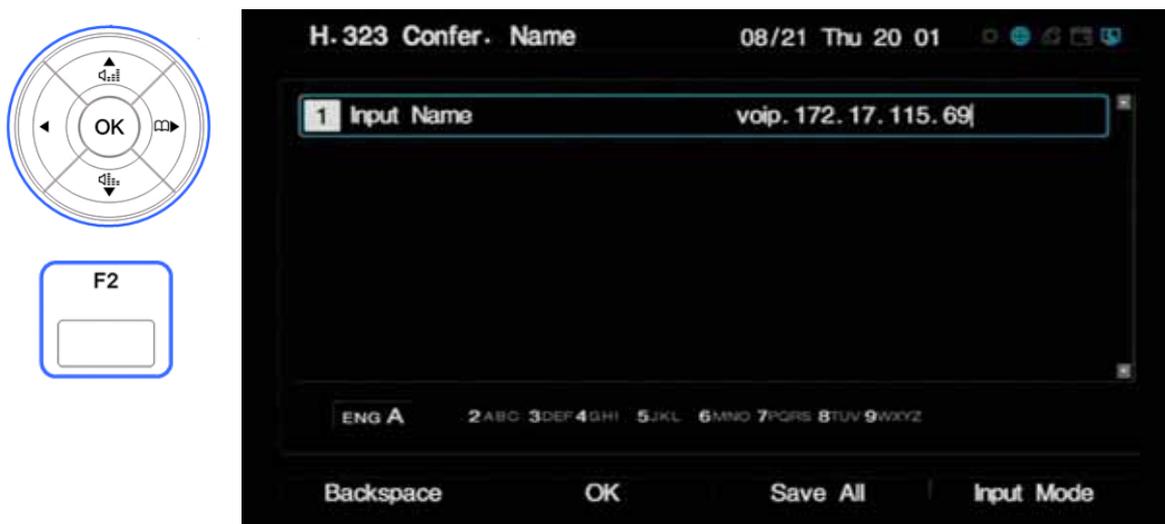


Figure 4-212 Step4: Select H.323 Indicator and then press OK



Figure 4-213 Select the option for enabling the indicator mode and then press OK**Table 4-34** Description of H.323 Display Indicator Options

Option	Description
Indicator Off	Disables the indicator mode on the screen during conference
Indicator On	Enables the indicator mode on the screen during conference
Sync with Infobar	Synchronize the indicators to be displayed with Infobar: The indicator details are displayed only when Iforbar is displayed. If infobar is not displayed, neither the indicator details

Multi Phone Number

If your phone is assigned with more than one number, this menu determines which number is to be assigned to outbound calls. The Phone can take inbound calls with many different numbers, but outbound calls can take only the selected number at default.

Figure 4-214 Multi Phone Number Menu Layout



Table 4-35 Description of Multi Phone Number Setting

Multi Number	Description
	This example shows the phone number of 3009 which has been already assigned and selected at default

Figure 4-215 Press Menu and use the Navigation Key and scroll down Network & Call >> Multi Number and then press OK



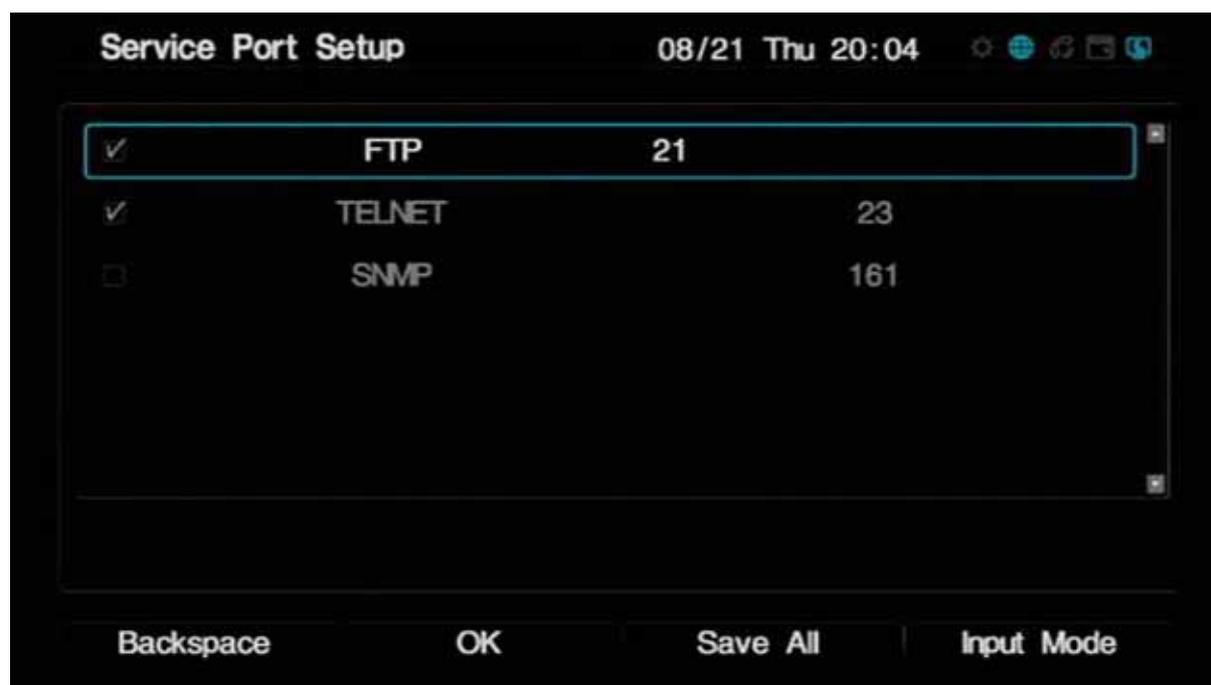
Figure 4-216 Select the assigned number for outbound calls



Service Port Setup

This menu enables or disables FTP, TELNET, SNMP services and changes the TCP/UDP Port number of the relevant service.

Figure 4-217 Service Port Setup Menu Details



These settings show a remote device which can access and control AP-VP500 through FTP which is set to the port number of 21, HTTP which is set to the port number of 80 and TFTP which is set to the port number of 69 at default.

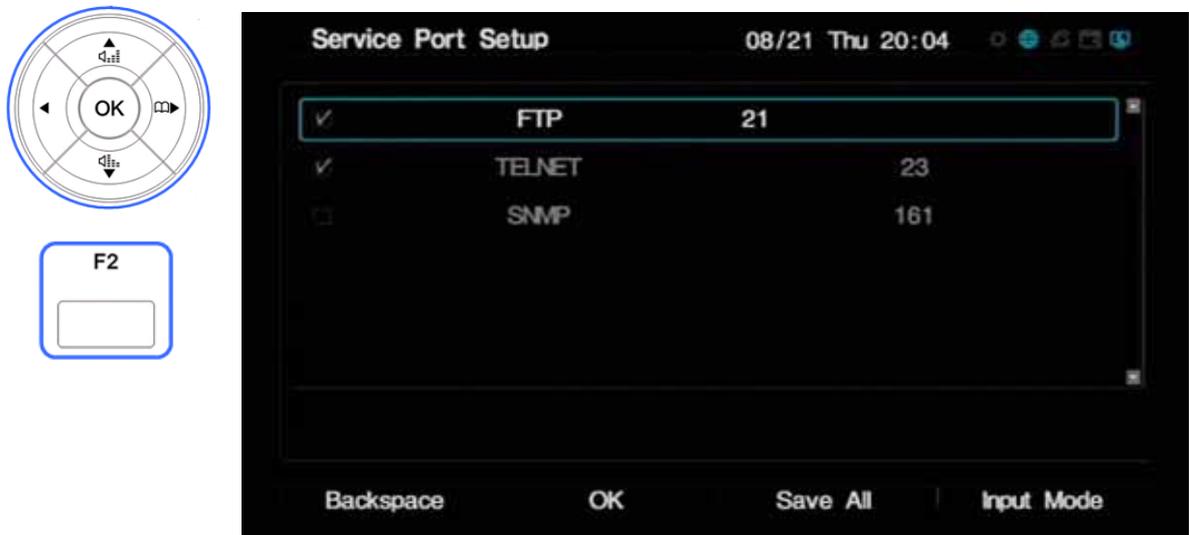
The AP-VP500 can perform the role of SNMP Agent. By using SNMP of the remote device, you can access the AP-VP500 and use its SNMP (default: 161).

GUI EZ-Setup Program can be configured by using the console. Also remote configuration is possible by using TCP/IP. If you want to use GUI EZ-Setup Program to configure the video phone from a remote location, check this service option (default: 514).

Figure 4-218 Menu >> Network & Call >> Service



Figure 4-219 Service Port Setup Options



Auto Upgrade

If a new feature of the AP-VP500 is added, then the software (firmware) needs to be upgraded. One way of upgrading the software is using FTP manually. Another way is to configure the settings of the AP-VP500, so it can access a specific server automatically on periodic basis and compares its existing and configuration version, then upgrade the firmware automatically if the version is different.

Figure 4-220 Auto-Upgrade Menu Details

자동 업그레이드 08/26 화 19:27

- 1 URL 주소
- 2 로그인 이름
- 3 로그인 암호
- 4 성공시 재시도 간격(일)
- 5 실패시 재시도 간격(분)
- 6 서버 포트

eng a 2 abc 3 def 4 ghi 5 jkl 6 mno 7 pqr 8 tuv 9 wxyz

지우기 완료 저장 문자입력모드

Table 4-37 Description of Configuration Settings for Auto Upgrade Menu

Settings	Description
URL	Enter the URL of Auto Upgrade Server Example: down.addpac.com/apos/VP500/packing.lst
Login Name	Enter the authentication ID for accessing Auto Upgrade Server Example: addpac
Login Password	Enter the authentication password for accessing Auto Upgrade Server Example: addpac
Interval Success (Day)	Set the time interval for retry in case of auto-upgrade success. 30-day is set at default
Interval Retry (Min)	Set the time interval for retry in case of auto-upgrade failure. 30-day is set at default
Server Port	Enter the port number of Auto Upgrade Server. 80 is set at default
Reboot after upgrade	Select the option for rebooting after auto-upgrade Example: On/Off (Press the keypad to change the setting from On to Off or Off to On)

Figure 4-221 Menu >> Network & Call >> Auto Upgrade



Figure 4-222 Auto Upgrade Menu



SSCP Setup

Smart Service Control Protocol (SSCP) is the AddPac proprietary protocol operates between the IP Next PBX and IP terminals. SSCP enables the AddPac IP terminal to take the soft key for each of its status from the IPNext PBX and receive a wide range of services from the IPNext PBX. The call features supported by SSCP are Redial, GroupPark, GroupPickup, NewCall, CCBS, Park, Pickup, Transfer, Hold, Add-Party, Conference and more.

Figure 4-223 Menu >> Network & Call >> SSCP Setup

- Step1: Press the Menu button
- Step2: Use the Navigation key and scroll through the menu
- Step3: Use the left/right direction button on the Navigation key
- Step4: Make your selection of SSCP Setup
- Step5: Press the OK button

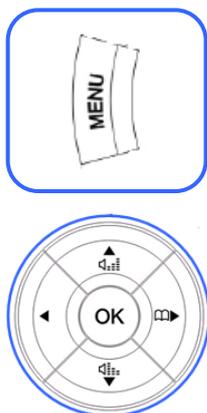


Figure 4-224 SSCP Setup Menu Options



Table 4-1 Description of SSCP Setup Menu Options

Option	Description
SSCP Setup	Select the option for enabling or disabling SSCP mode
Call-manager 1 ~ 5	Call Manager Server Configuration List: Up to 5 servers can be set. In case of redundancy configuration, Call-Manager 1, 2 are configured

Applications Menu

Applications menu is composed of VoD Browser, File Browser, Short Message Service (SMS), Conferencing, Digital Video Recorder (DVR), Voice Mail and Remote Broadcasting Communication. More diversified features of this menu can be supported through the software updates.

Figure 4-225 Applications Menu Category



Table 4-38 Description of Applications Menu

Menu	Description
	Enters the relevant VoD server address in the related menu settings to find the VoD details
	Provides the file details after connecting a USB memory stick to the port on the back of the AP-VP500
	Configures the settings of VoD Browser, DVR, Document Sharing, Remote Broadcasting Communication and other application programs.
	Sends, receives and manages a short text form of messages
	Shows a list of the conference calls which are available for connection at the present. Press the Call button to participate in the conference.
	Enters the relevant DVR server address in the related menu option to find see the video image of the camera connected to the network on real time-basis.
	Plays the recorded and saved video image in the DVR server which has been configured.
	Enables the terminals to perform the remote broadcasting through the server connected to the network
	Connects and manages Voice Mail when you are busy on line or away from the phone

VoD Browser

VoD Browser can be used only if the phone interworks with the AddPac VoD Server (such as AP-VD1000). You can check the information of video supported by the VoD server.

Figure 4-226 Menu >> Applications >> VoD Browser

- Step1: Press the Menu button
- Step2: Use the Navigation key and scroll through the menu
- Step3: Make your selection of Applications
- Step4: Use the left/right direction button on the Navigation key
- Step5: Select the VoD Browser menu
- Step6: Press the OK button



Figure 4-227 Displaying the Message of Connecting VoD Server



Figure 4-228 Displaying Category Browser after Connection

Step1: The category of VoD Browser are displayed after connection is made

Step2: Use the Navigation key to scroll down through the category and then make your selection in the category

Step3: Press the OK button



Figure 4-229 Making Selection of Category

Press the OK button.



Figure 4-230 Screen Layout for the Video Content being Loaded



File Browser

This menu displays the file information in the USB device which is connected to the USB connector of the AP-VP500.

Figure 4-231 Menu >> Applications >> File Browser

- Step1: Press the Menu button
- Step2: Use the Navigation key and scroll through the menu
- Step3: Make your selection of Applications
- Step4: Use the left/right direction button on the Navigation key
- Step5: Select the File Browser menu
- Step6: Press the OK button



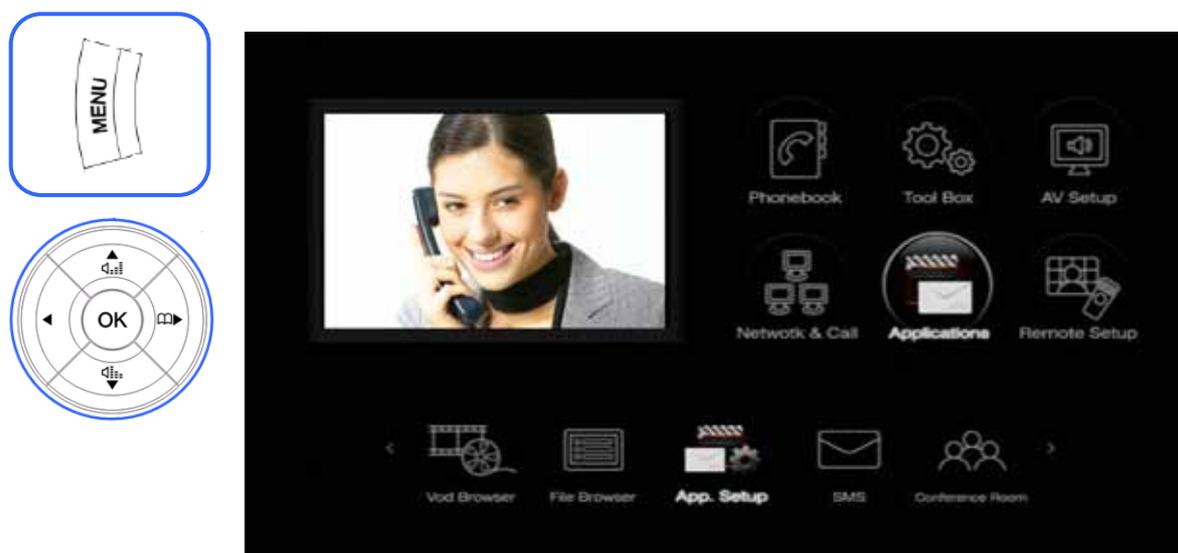
Figure 4-232 Screen Layout of the Accessed File Browser



Application Setup

This menu configures the settings for the VoD Browser server address, Document Share port, Window Size, DVR Setup, Remote Broadcast and Chime Setup.

Figure 4-233 Menu >> Applications>> App. Setup



Step1: Press the Menu button

Step2: Use the up/down direction button of the Navigation key and scroll through the menu

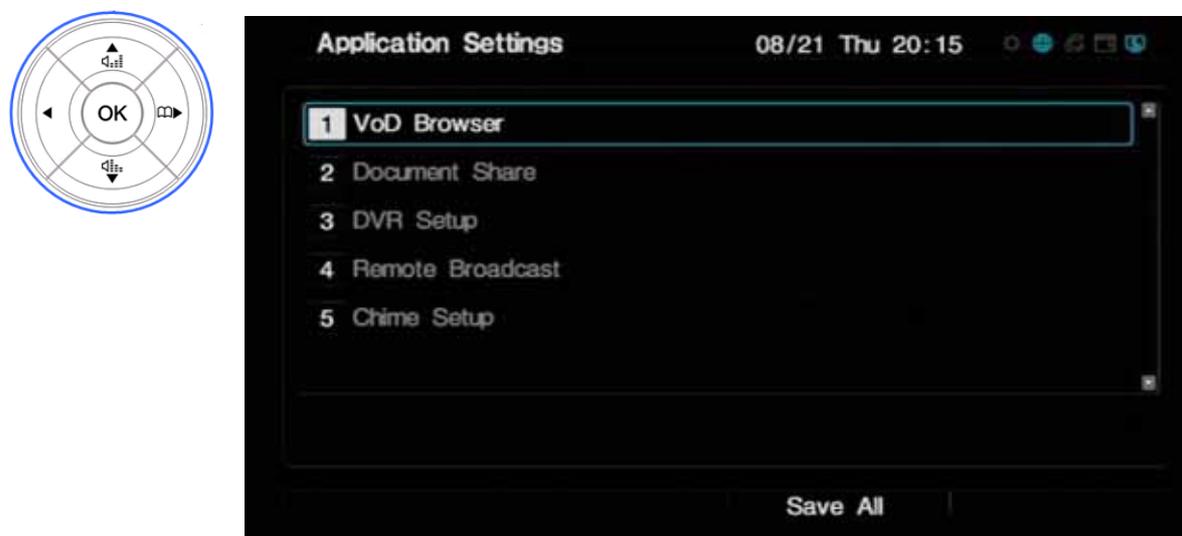
Step3: Make your selection of Applications

Step4: Use the left/right direction button on the Navigation key and then scroll through the menu

Step5: Select the App. Setup menu

Step6: Press the OK button

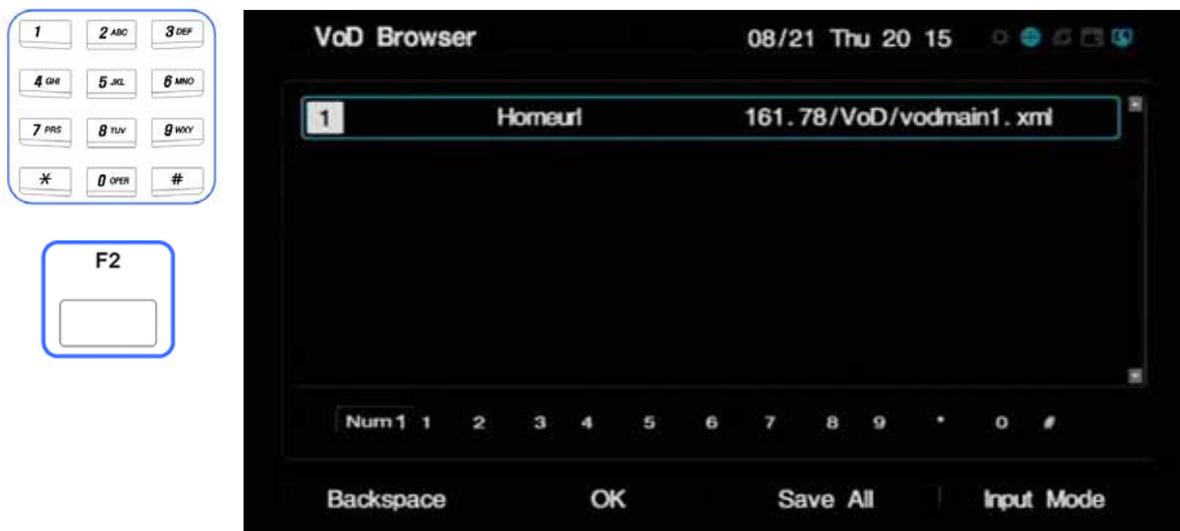
Figure 4-234 Applications Settings Menu



- VoD Browser

This menu detail specifies the address of VoD sever.

Figure 4-235 Specifying the server address in the VoD Browser menu



- Document Share

Sets the port for Document Share and Window Size

Figure 4-236 Menu >> Applications >> Application Settings >> Document Share

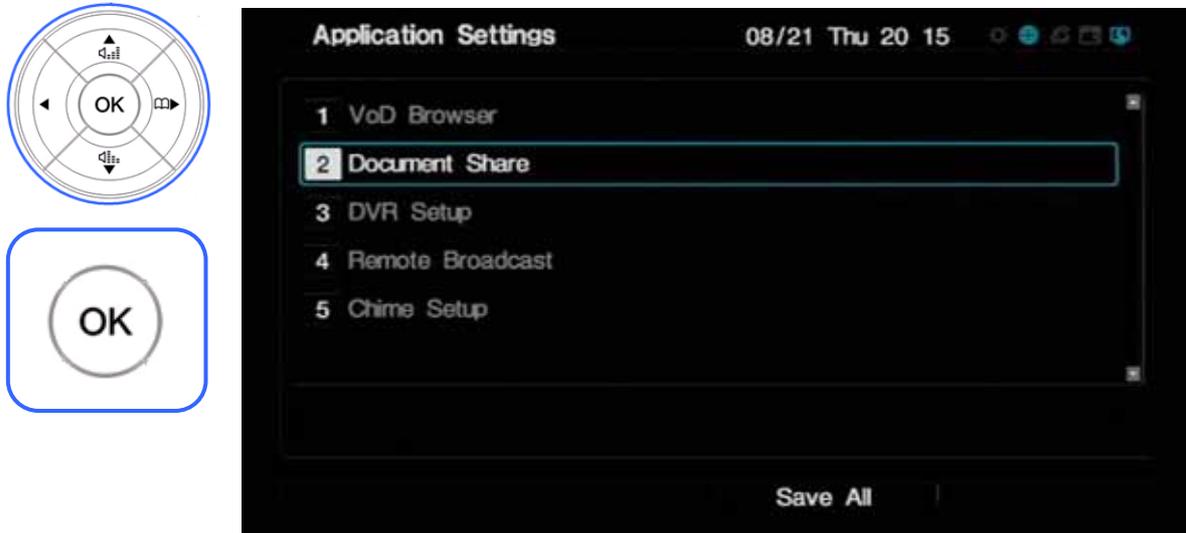
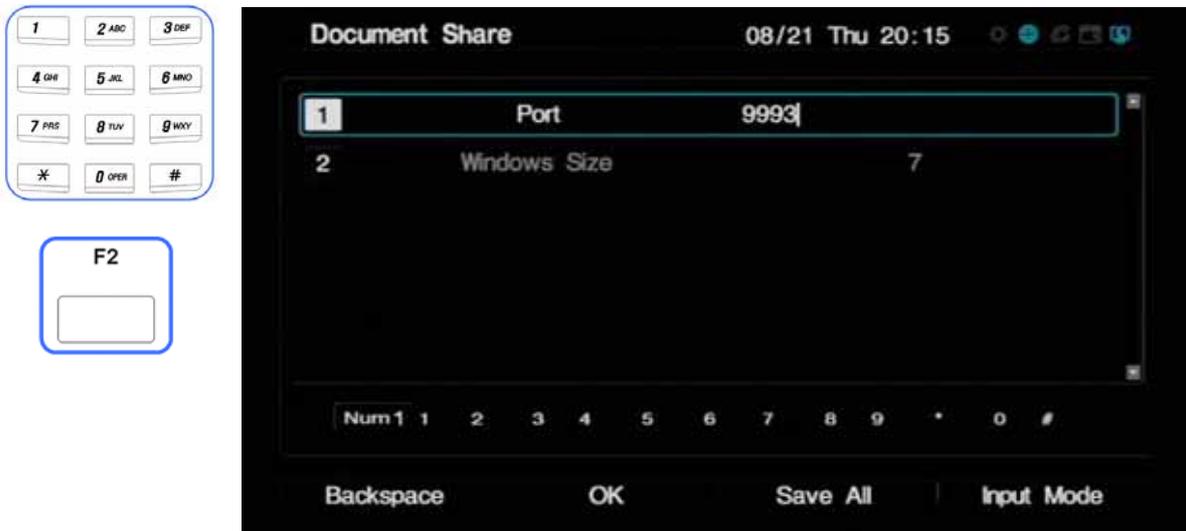


Figure 4-237 Document Share Menu Options



- DVR Setup

Configures the settings for the DVR server address, port, ID and password.

Figure 4-238 Menu >> Applications >> App. Setup >> DVR Setup



Figure 4-239 DVR Setup Options



- Remote Broadcast

Configures the settings of the server Address, Port, ID and Password for remote broadcast.

Figure 4-240 Menu >> Applications >> App. Setup >> Remote Broadcast

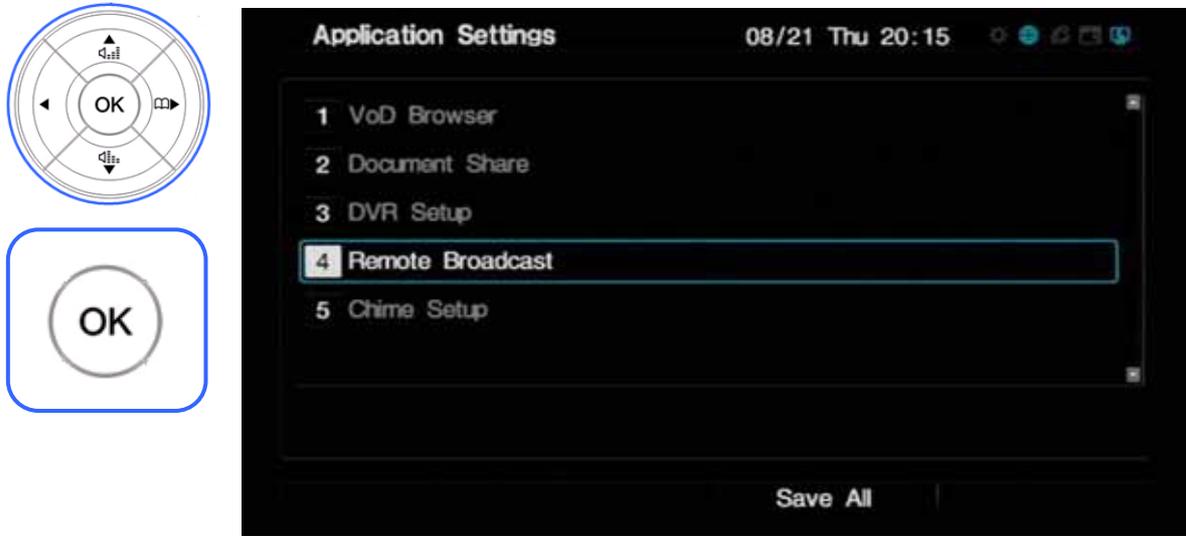
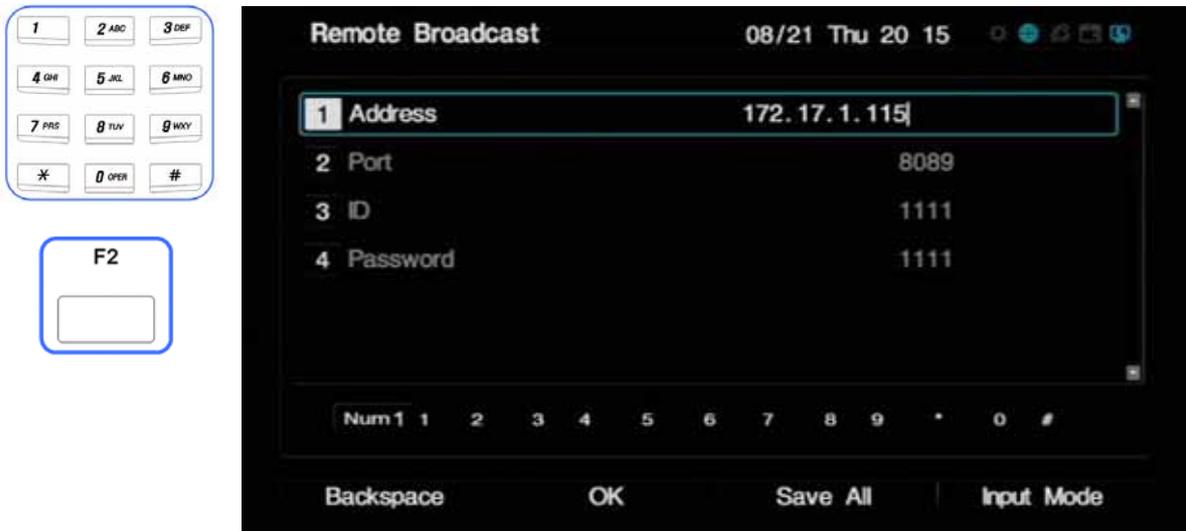


Figure 4-241 Remote Broadcast Menu Options



- Chime Bell Setup

Sets the option for enabling or disabling the chime bell used for the remote broadcast.

Figure 4-242 Menu >> Applications >> App. Setup >> Chime Setup

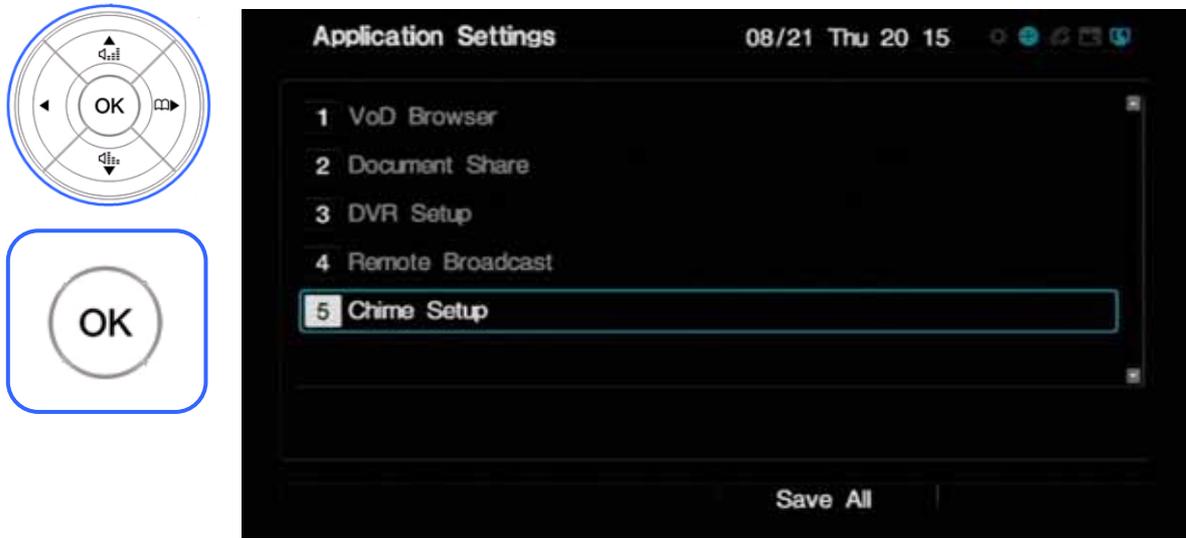


Figure 2-243 Chime Setup Menu Options



Message

You can use this feature only if the AP-VP500 interworks with the AddPac IPNext PBX through Smart Service Control Protocol (SSCP). You can send and check a short form of text message between the AddPac IP terminals using SSCP. You can send a message up to 9 receivers simultaneously and when you receive a message on the phone and you can be notified by a displayed note window.

Figure 4-244 Menu >> Applications>> SMS



Figure 4-245 SMS Options

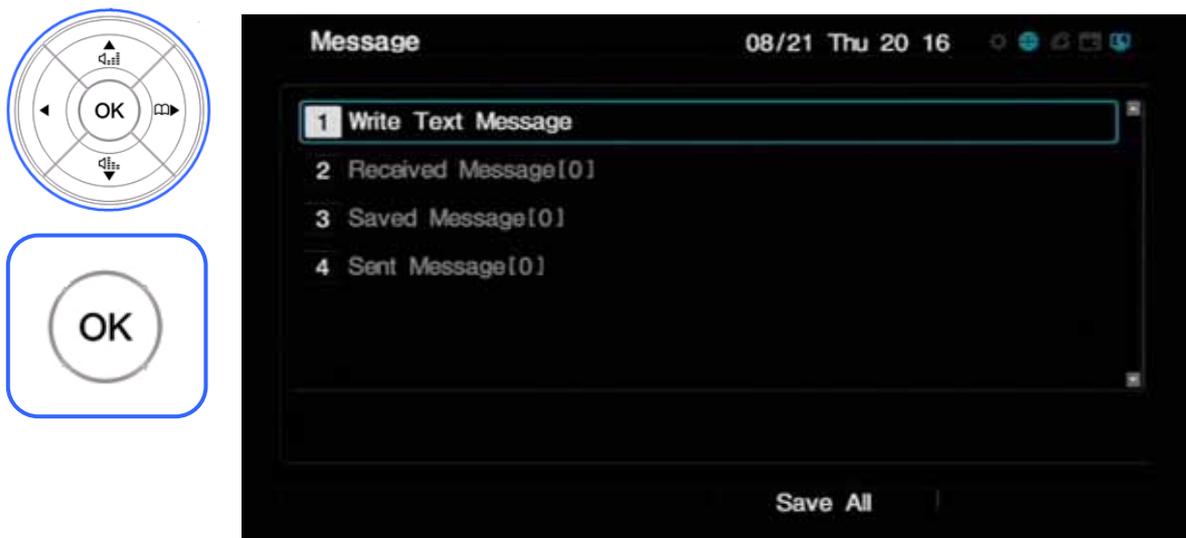


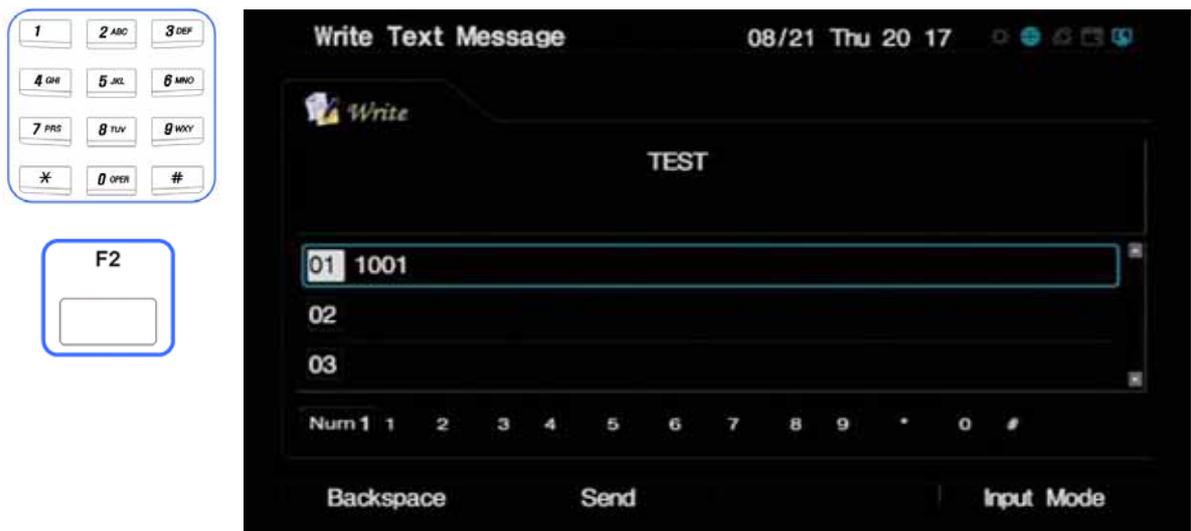
Table 4-39 Description of Message Options

Option	Description
Write Text Message	Writes and sends a message
Received Message	The message box for the message that have been received
Saved Message	The message box for the messages that have been saved
Sent Message	The message box for the messages that have been sent

Figure 4-246 Write Text Message



Figure 4-247 Send the message



Conference Room

This menu displays a list of conference rooms which is available at the present and you may press the Call button to participate in one of the available conference rooms.

The available methods of conference are Ad Hoc, Dial-Out, Ad Hoc Dial-Out and Meet-Me and the user rank can be categorized as Ad Hoc, Dial-Out, Ad Hoc Dial-Out and Meet-Me.

Figure 4-248 Conference Room Menu Layout



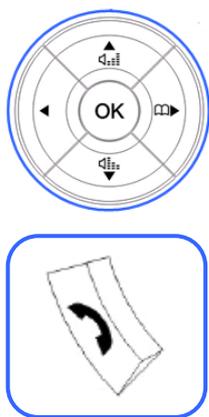
Figure 4-249 Menu >> Applications >> Conference Room



Figure 4-250 List of Available Conference Rooms for Placing a Conference Call



Figure 4-251 Making a Conference Call



DVR Live

DVR Live menu can be used only if the AP-VP500 interworks with the AddPac DVR Server (such as AP-VD1000), you can see all the video and voice information details of the camera in remote location, which are gathered by the DVR server in real time basis. In addition to the camera information details, you can configure the settings for Pan/Tilt/Zoom.

Figure 4-252 Menu >> Applications>> DVR Live



Figure 4-253 DVR Live Menu Layout



Figure 4-254 Example for Displaying the Video Image Sent from a DVR Camer in Remote Location



Table 4-40 Description of Softkey Features for Operating the DVR Camera

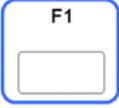
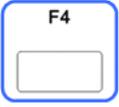
Softkey	Description
 	<p>Verifies the media information details of the video image transmitted from the camera at the present</p> <p>In the media information details, you can check video codec, audio codec, image size, frame rate and bit rate</p>
 	<p>Enables or disables the audio output which takes the input of the DVR camera.</p>
 	<p>Verifies the video lists which have been recorded and saved from the camera</p>
 	<p>Controls Pan/Tilt/Zoom of the camera</p>

Figure 4-255 Media Information Details of the DVR Camera Producing the Video Images

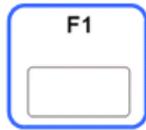


Figure 4-256 Audio Output Options of the DVR Camera Producing the Video Images

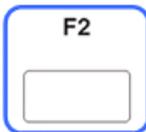


Figure 4-257 Camera Control



DVR Archive

DVR Archive menu can be used only if the AP-VP500 interworks with the AddPac DVR Server. The menu verifies the video and voice information details of the camera which have been collected and saved in the DVR Server.

Figure 4-258 Menu >> Applications>> DVR Archive



Figure 4-259 DVR Archive Browser Menu Details

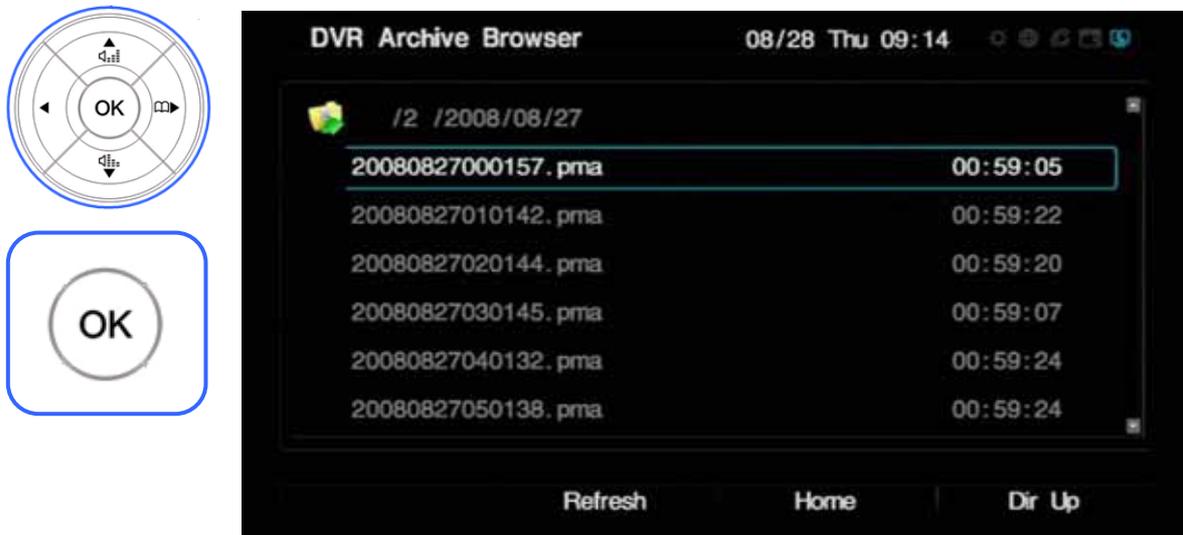
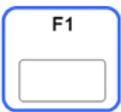


Figure 4-260 DVR Archive Menu Options



Table 4-41 Softkey Options for Media Player of DVR Archive

Option	Description
 	Plays the video saved in the DVR server
 	Pauses playing the video
 	Moves the video being played backward by 10 seconds
 	Moves the video being played forward by 10 seconds

RBC

You can use this Remote Broadcasting Controller (RBC) only if your AP-VP500 interworks with the AddPac Broadcasting Server. This menu allows the AP-VP500 to provide remote broadcasting to other AddPac IP terminals which are registered to the broadcasting server. These terminals can be formed as a group and the VP500 takes the input of voice/ video and broadcasts to the group.

Figure 4-261 Menu >> Applications >> RBC



Figure 4-262 Menu Layout



Figure 4-263 *Selecting a group for RBC*

Touch
Screen



Voice Mail

This menu displays received and saved voice messages and plays the messages to be listened. Use the user password registered to the AddPac IPNext PBX to listen to the messages.

Figure 4-264 Menu >> Applications>> Voice Mail



Figure 4-265 Voice Mail Menu Options



Table 4-42 Description of Voice Mail Menu Options

Option	Description
Voice Msg. Inbox	The box for storing the received messages
Saved Voice Msg.	The box for storing the saved messages which have been received

Remote Setup Menu

Remote Setup menu adjusts the settings for the other party’s Bandwidth, Frame Rate and Reject Remote. This menu can be used only between the AddPac IP terminals.

Figure 4-266 Remote Setup



Table 4-43 Remote Setup Menu Options

Option	Description
 <p>Bandwidth</p>	<p>Sets the bandwidth of the other party’s AddPac IP terminal remotely, ranging from 128Kbps to 4160Kbps.</p>
 <p>Video Codec</p>	<p>Sets the resolutions and frame rate of the other party’s Addpac IP terminal remotely.</p>
 <p>Reject Remote</p>	<p>Not allowing the other party to change the settings, by using one’s AddPac IP terminal, for the bandwidth and screen size of my AP-VP500 remotely.</p>

Bandwidth Remote

The following figure shows an example for setting the bandwidth for video of the other party's AddPac video phone remotely:

Figure 4-267 Menu >> Remote Setup >>Bandwidth

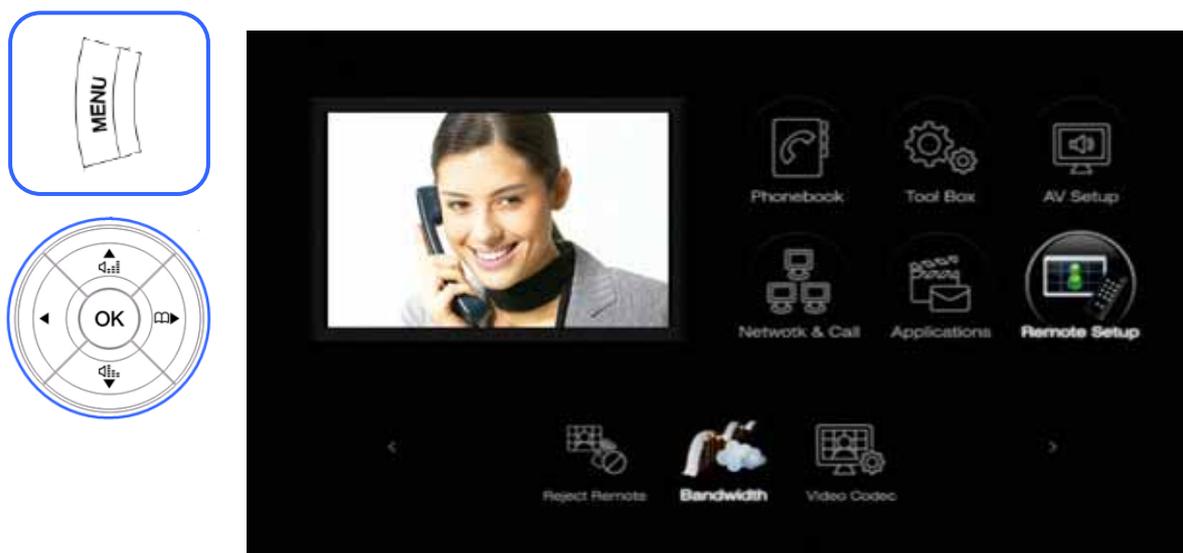
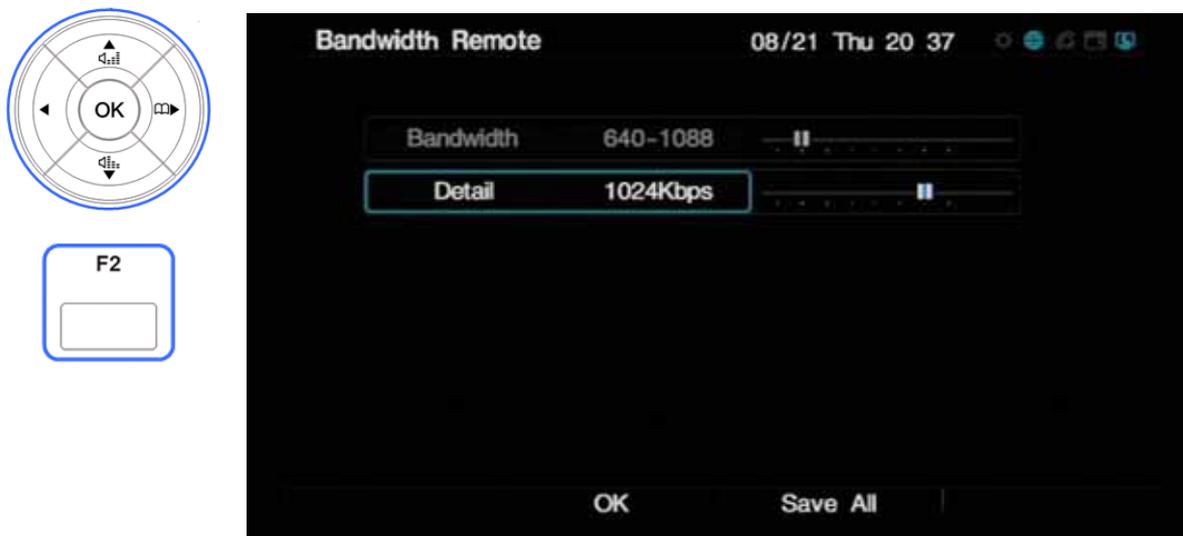


Figure 4-268 Setting a Bandwidth Range



Figure 4-269 Setting a Specific Bandwidth



Video Codec Remote

This menu determines the Image Size and Frame Rate to be used by the other party's AddPac Video IP Phone. QVGA, HalfVGA and VGA are the available Image Size for MPEG-4 and QCIF, QVGA, CIF, HVGA, VGA are available for H.263. H.264 supports the Image Size of QVGA. You can select the Image Size (resolution) and Frame Rate on OSD.

Figure 4-270 Video Codec Remote Setting Options

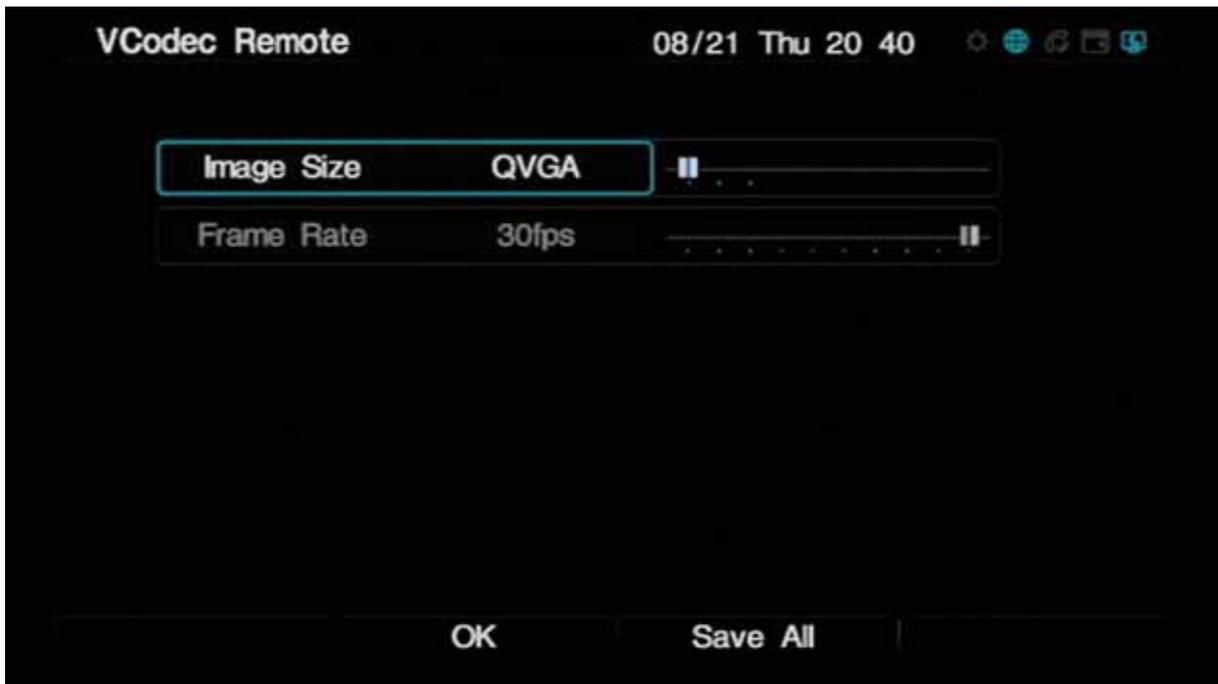


Figure 4-271 Menu >> Remote Setup >> Video Codec



Figure 4-272 Selecting the Image Size

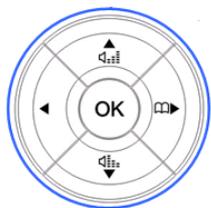


Figure 4-273 Specifying the Frame Rate



Permit/ Reject Remote Control

This menu allows you to permit or reject the other party to access your VP500 remotely and adjust the image size, frame rate and bandwidth. Remote Controls Permit is set at default.

Figure 4-274 Menu >> Remote Setup >> Reject Remote



Figure 4-275 Permit/Reject Remote Control



CHAPTER 5

Using Console Commands

Basic Commands for Configuring Network Settings

* **Commands for Verifying the Configured Settings**

```
VideoPhone# show running-config
VideoPhone# show run
Building configuration...

Current configuration:
!
version 8.43.048
!
hostname VideoPhone
!
username root password router administrator
!
!
interface Loopback0
 ip address 127.0.0.1 255.0.0.0
!
interface FastEthernet0/0
 ip address 172.17.115.69 255.255.0.0
 ipv6 address 2001:e78:b01:17:115::69/64
 ip nat outside
 speed auto
 qos-control 4096
!
interface FastEthernet0/1
 ip address 192.168.10.1 255.255.255.0
```

```
ip nat inside
speed auto
no qos-control
!
ip route 0.0.0.0 0.0.0.0 172.17.1.1
ipv6 route ::/0 2001:e78:b01:17:1::1
!
access-list 100 permit ip 192.168.10.0 0.0.0.255 any
!
!
ip nat inside source list 100 interface FastEthernet0/0 overload
!
!
!
ftp server
http server
!
!
osd
volume 9 8 1 5 1 0
powersave 0
homeurl http://
fbandwidth 384
display camin 50 25 50 50 19 30
--More--
```

* Configuring IP and Default Route

```
VP500# configure terminal
    Enter configuration commands, one per line. End with CNTL/Z
VP500(config)# interface fastethernet 0/0    Fast Ethernet Interface Port 0
VP500(config-if)# ip address 172.20.103.1 255.255.0.0    → IP Address Setting
VOIP_INTERFACE_DOWN
VOIP_INTERFACE_UP : (172.20.103.1)
VP500(config-if)# exit
VP500(config)# ip route 0.0.0.0 0.0.0.0 172.20.1.1    → Default Route Setting
VP500(config)# end    → Go to General Mode
VP500#
VP500# write    → Save Settings
Proceed with write? [confirm]    OK
Building configuration...
[OK] Configuration saved to flash:/apos.cfg
```

* Performing Ping Test to the Default Router

```
VideoPhone# ping 172.17.201.232
PING 172.17.201.232 (172.17.201.232: 56 data bytes
64 bytes from 172.17.201.232: icmp_seq=0 ttl=64 time=5 ms
64 bytes from 172.17.201.232: icmp_seq=1 ttl=64 time=5 ms
64 bytes from 172.17.201.232: icmp_seq=2 ttl=64 time=5 ms
64 bytes from 172.17.201.232: icmp_seq=3 ttl=64 time=5 ms
64 bytes from 172.17.201.232: icmp_seq=4 ttl=64 time=5 ms
64 bytes from 172.17.201.232: icmp_seq=5 ttl=64 time=5 ms
64 bytes from 172.17.201.232: icmp_seq=6 ttl=64 time=5 ms

--- 172.17.201.232 ping statistics ---
7 packets transmitted, 7 packets received, 0% packet loss'
round-trip min/avg/max = 5/5/5 ms
VideoPhone#
```

If the result of the ping test is good, the command entry for console to make a video call is completed.

Video Mode Commands List

The basic video/audio configuration settings of your AP-VP500 can be changed by using the menu options of OSD. You can also change the setting by using Telnet depending on circumstance.

* Enter Video Mode

```
VP500#
VP500# configure terminal
VP500#(config)# video 0/0
VP500#(config-video0/0)#
VP500#(config-video0/0)#
```

Table 5-1 Video Mode Command List

Command	Description	Default
audio-in	Audio input select	mic
audio-in-gain	Audio line input gain adjust	23
audio-mic-boost	Audio microphone boost 20dB	on
audio-out	Audio output select	Head
audio-out-gain	Audio headphone output gain adjust	121
video-in-bright	Video input brightness adjust	128
video-in-contrast	Video input contrast adjust	64
video-in-saturation	Video input saturation adjust	68
video-in-h-offset	Video input horizontal offset adjust	8
video-in-v-offset	Video input vertical offset adjust	19
video-out-bright	Video output brightness adjust	31
video-out-blue-gain	Video output blue gain adjust	128
video-out-red-gain	Video output red gain adjust	128
no	Set to default mode	

Selecting External Audio Input Port Mode

This command allows you to select line input or microphone input as mode of the external audio input port (Default: Microphone).

```
VP500(config-video0/0)# audio-in ?    => Enter ? to display a list of commands.
  line      Line input                    => Line Input
  mic       Microphone input              => Microphone Input
VP500(config-video0/0)# audio-in line
VP500(config-video0/0)#
VP500(config-video0/0)# audio-in mic
VP500(config-video0/0)#
```

Adjusting Gain Value of External Audio Input Port

This command allows you to adjust the gain value of the external audio input port (Default: 23).

```
VP500(config-video0/0)#
VP500(config-video0/0)# audio-in-gain ?
  Gain      [0 - 31]                      => Setting Range
VP500(config-video0/0)# audio-in-gain 23
VP500(config-video0/0)#
```

Adjusting Gain Value of External Audio Input Port

This command allows you to adjust the gain value of the external audio input port (Default: 23).

```
VP500(config-video0/0)#
VP500(config-video0/0)# audio-in-gain ?
  Gain      [0 - 31]                      => Setting Range
VP500(config-video0/0)# audio-in-gain 23
VP500(config-video0/0)#
```

Amplifying Microphone of External Audio Input Port

This command allows you to amplify the microphone of the external audio input port in microphone mode (Default: off).

```
VP500(config-video0/0)#
VP500(config-video0/0)# audio-mic-boost ?
  on          Enable
  off         Disable
VP500(config-video0/0)# audio-mic-boost off
VP500(config-video0/0)#
```

Selecting External Audio Output Port Mode

This command allows you to change mode of the external audio output port on CLI (Default: headphone).

```
VP500(config-video0/0)#
VP500(config-video0/0)# audio-out ?
  line       Line output
  head       Headphone output
VP500(config-video0/0)# audio-out head
VP500(config-video0/0)#
```

Adjusting Gain Value of External Audio Output Port

This command allows you to adjust the gain value of the external audio output port (Default: 121).

```
VP500(config-video0/0)#
VP500(config-video0/0)# audio-out-gain ?
  Gain       [0 - 127]
VP500(config-video0/0)# audio-out-gain 121
VP500(config-video0/0)#
```

Adjusting Video Input Brightness

This command allows you to adjust the brightness of the internal camera and composite input port (Default: 128).

```
VP500(config-video0/0)#
VP500(config-video0/0)# video-in-bright ?
  Brightness [0 - 255]
```

```
VP500(config-video0/0)# video-in-bright 128
VP500(config-video0/0)#
```

Adjusting Video Input Sharpness

This command allows you to adjust the sharpness of the internal camera and composite input port
(Default: 64).

```
VP500(config-video0/0)#
VP500(config-video0/0)# video-in-contrast ?
Contrast          [0 - 127]
VP500(config-video0/0)# video-in-contrast 64
VP500(config-video0/0)#
```

Adjusting Video Input Saturation

This command allows you to adjust the saturation of the internal camera and composite input port
(Default: 68).

```
VP500(config-video0/0)#
VP500(config-video0/0)# video-in-saturation ?
Saturation        [0 - 127]
VP500(config-video0/0)# video-in-saturation 68
VP500(config-video0/0)#
```

Adjusting Horizontal Video Input Offset

This command allows you to adjust the horizontal offset of the internal camera and composite input port. This command is used to connect the external video devices of the DVD player, if required (Default: 8).

```
VP500(config-video0/0)#
VP500(config-video0/0)# video-in-h-offset ?
H-offset          [2 - 254]
VP500(config-video0/0)# video-in-h-offset 8
VP500(config-video0/0)#
```

Adjusting Vertical Video Input Offset Value

This command allows you to adjust the vertical offset of the internal camera and composite input port. This command is used to connect the external video devices of the DVD player, if required

(Default: 19).

```
VP500(config-video0/0)#
VP500(config-video0/0)# video-in-v-offset ?
V-offset          [1 - 255]
VP500(config-video0/0)# video-in-v-offset 19
VP500(config-video0/0)#
```

Adjusting the Brightness of External Video Output Port

This command allows you to adjust the brightness of the internal LCD display and composite/S-VIDEO output port **(Default: 31)**.

```
VP500(config-video0/0)#
VP500(config-video0/0)# video-out-bright ?
Brightness        [0 - 31]
VP500(config-video0/0)# video-out-bright 31
VP500(config-video0/0)#
```

Adjusting Color of External Video Output Port (Blue / Red)

This command allows you to adjust the color of the internal LCD display and composite/S-VIDEO output port. The colors are blue and red **(Default: 128)**.

```
VP500(config-video0/0)#
VP500(config-video0/0)# video-out-blue ?
Gain              [0 - 255]
VP500(config-video0/0)# video-out-blue 128
VP500(config-video0/0)#
VP500(config-video0/0)# video-out-red ?
Gain              [0 - 255]
VP500(config-video0/0)# video-out-red 128
VP500(config-video0/0)#
```

CHAPTER 6

Appendix

This Appendix describes the pin specification of the cables used for AP-VP500.

- Console port signal and pin-out (RJ-45 to DB9)
- Pin-out of the UTP cable (RJ-45 to RJ-45)

Console Port Signal and Pin-Out

The built-in RJ-45 to DB9 (female DTE connector) cable is used to connect the console port of this product to the PC where the terminal emulator software operates.

Table 6-1 Console Port Pin-Out

Console Port (DTE)	RJ-45	DB-9	Console Device (PC)
Signal	RJ-45 Pin	DB-9 Pin	Signal
RTS	1	8	CTS
DTR	2	6	DSR
TxD	3	2	RxD
GND	4	5	GND
GND	5	5	GND
RxD	6	3	TxD
DSR	7	4	DTR
CTS	8	7	RTS

Pin-Out of UTP Cable (RJ-45 to RJ-45)

The RJ-45 to RJ-45 Ethernet cable is used to connect AP-VP300 to another device (typically hub). The pin sequence of the RJ-45 connector is shown in Figure 7-1. For the signals and specification, refer to Table 7-2, “Signals and Pin-Out of Serial Ethernet Cable”.

Figure 6-1 100Base-TX RJ-45 Connector

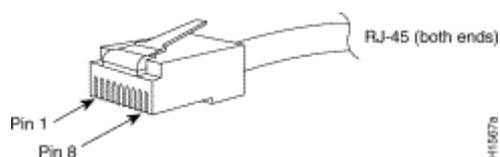


Table 6-2 Signals and Pin-Out of Serial Ethernet Cable

RJ-45	Signal	Direction	RJ-45 Pin
1	Tx +	→	1
2	Tx -	→	2
3	Rx +	←	3
4	-	-	4
5	-	-	5
6	Rx -	←	6
7	-	-	7
8	-	-	8

- This specification is about the serial cable that connects AP-VP300 to the hub.
- Use a cross cable to connect AP-VP300 to either another AP-VP300 or a PC.

Abbreviation and Glossary

Glossary and Abbreviation	Definition
ADSL	Stands for Asymmetric Digital Subscriber Line. If you use ADSL, the central office will be connected to each home directly in a 1:1 method. In a down-link where data is transferred downward from the central office to the users, high-speed data communications of at least 1.5 Mb can be made. On the contrary, in an up-link from the users to the central office, communications are made very slowly. Thus, this service is called an asymmetrical service not a symmetrical service.
AP-VPMS	Stands for VoIP Plug & Play Management Software. This integrated management software developed by AddPac Technology enables VoIP products to be installed in a GUI environment, be monitored in real-time, or to be upgraded. This software also enables network administration.
API	Stands for Application Programming Interface. API is a function call legend standard that defines service interfaces.
APOS	Stands for AddPac Internetworking Operation System. This is an operating system that supports the network products developed by AddPac Technology.
ATM	Stands for Asynchronous Transfer Mode. This is an international cell relay standard for providing a variety of services such as voice, video, and data in the form of a cell of a fixed length (53 bytes). If you use a fixed-length cell, cell processing will be performed in the hardware; thus, transmission delay can be reduced. ATM is designed to make use of high-speed transmission media such as E3, SONET, and T3.
ATM High-Speed National Network	This network has been commercialized by the Korean government since 1993. The high-speed national network designed for governmental offices provides data services (transport network services) and Internet services. Data services are categorized into ATM, dedicated lines, packet exchange, and frame relay services. Internet services are categorized into Internet multi-services provided through ATM connection circuits and simple Internet services.
ATM Forum	This is an international organization founded by Cisco Systems, NET/ADAPTIVE, Northern Telecom, and Sprint in 1991 to reach the agreement of a standard for ATM technologies. ATM Forum expands the formal standards developed by ANSI and ITU-T and the agreements on the implementation of technologies.
Authentication	Operation of verifying the identification of a person or a process. This is a security feature.
BNC Connector	This is a standard connector used to connect IEEE 802.3 10Base-2 coaxial cables to

	Media Access Unit (MAU).
Boot Loader	This is a chip installed into a printed circuit board used to send executable boot commands to a network device.
Bps	Stands Bits per second. Typically called bps. Reference: Bit Rate.
Cable Modem	This device converts analog signals to digital signals in order to enable the Internet through a cable network. Since telephone networks are made of copper wires and cable networks are made of coaxial and optical cables, the bandwidth of cable networks are much wider than that of telephone networks. However, the modulation/demodulation technology, which converts digital to analog and vice versa, is required for cable networks when data is transferred.
Call Center	Call Center is a central place where calls from customers and other people are processed systematically. Computer automation is implemented in Call Center to some degree. Typically, Call Center processes many calls simultaneously, categorizes calls, connects the calls to personnel, and records calling logs automatically. Call Center is typically used for mail order catalog firms, telemarketing firms, customer centers for PC products, and large enterprises that sell products or provide services.
Caller ID	Caller ID is a call service that enables the phone number of the caller to be sent to the recipient. To see the phone number, a digital reader should be installed into the phone.
Category 5 cabling	One of the five-level UTP cable connection methods specified by the EIA/TIA-586 standard. Category 5 cabling enables data to be transferred at a rate of up to 100Mbps.
CBR	Stands for Constant Bit Rate. The ATM network QoS class CBR defined by ATM Forum is used for a connection device that is based on a precise clock processing method to ensure untwisted data transfer.
CES	Stands for Circuit Emulation Service. This service allows you to multiplex multiple line emulation streams for voice and video with packet data through a single high-speed ATM link without using a separate ATM access multiplexer.
Checksum	This is a method for checking the integrity of transferred data. Checksum is an integer calculated from the octet sequence obtained by a series of operations. This value is calculated by the recipient again for verification.
Coaxial cable	This coaxial cable is made of an external cylinder-type conductor that wraps an internal wire conductor. Examples of the coaxial cables used for LAN include 50 Ω cables used for digital signal processing and 75 Ω cables used for high-speed digital signal processing.
CODEC	Stands for COder-DECoder. CODEC is: 1. A built-in circuit device that converts analog signals to digital bit streams and vice versa based on a pulse code modulation method; 2.

	A DSP software algorithm that compresses or decompresses voice or audio signals over Voice over IP, Voice over Frame Relay, or Voice over ATM.
Console	A DTE interface through which a command enters a host
	Stands for Class of Service. CoS refers to the standard method that enables a higher-level protocol to make a lower-level protocol process messages. For the SNA lower-level area routing, CoS is used to determine the optional path for lower-level area nodes to set a given session. CoS consists of a virtual path number and a transmission priority field. Also called ToS
CoS	
	Decryption means restoring data to the original non-encrypted state by applying the encryption algorithm to the encrypted data in reverse.
Decryption	
	Stands for Dynamic Host Configuration Protocol. DHCP has a mechanism that reassigns an IP address dynamically in order for the host to recycle unnecessary IP addresses.
DHCP	
	Stands for Domain Name Server. This is a server system used for the Internet to convert the name of a network node name to an address.
DNS	
	Stands for Digital Signal level 3. This is a frame processing standard used to transmit digital signals at a rate of T3 (44.736Mbps).
DS-3	
	Stands for Digital Signal Processor. This is a dedicated processor that processes only digital signals. DSP is used as a sub-processor for voice processing in NEXT.
DSP	
	Stands for Dual Tone MultiFrequency. Two voice-band tones are simultaneously used for dialing (just like touch tones).
DTMF	
	Stands for either receive and transmit or Ear and Mouth. Typically, this is a trunking device used for switch-to-switch or switch-to-network two-way communications. The analog E&M interface of Cisco is a RJ-48 connector for PBX trunk lines. E&M is available for E1/T1 digital interfaces.
E&M	
	This is a wide area digital transmission technique used mainly in Europe. E1 enables data transfer at a rate of 2,048Mbps. E1 can be lent by regular service providers for a private use.
E1	
	Encryption means that a specific algorithm is applied to data in order to convert data to a form that unauthorized users cannot identify.
Encryption	
	Baseband LAN standard initiated by Xerox Corporation and co-developed by Xerox, Intel, and DEC. CSMA/CD is used for Ethernet networks, which operate through a variety of cables at a rate of 10Mbps. Ethernet is similar to the IEEE 802.3 standard. Reference: 10Base-2, 10Base5, 10Base-F, 10Base-T, 10Broad-36, Fast Ethernet, and IEEE 802.3.
Ethernet	
	Abbreviation of Facsimile. FAX refers to the transmission of scanned texts or images to
FAX	

a printer or an output device connected to another phone number by using a telephone line. Once the original document is read by a facsimile, the facsimile treats the document as a fixed graphic image, and converts it to bitmap. In this digital form, data is transferred in the form of an electrical signal through a phone system. The receiving facsimile restores the data to a encoded image, and prints it on a sheet of paper.

Frame

Logical group of data transferred to a data link layer unit through a transmission medium. From frames, the header and trailer that include user data are important. Headers and trailers are used for synchronization and error control. Cells, datagrams, messages, packets, and segments are used to describe logical data groups in various layers of OSI or based on various technologies.

Frame-Relay

This is an industry-standard switching-type data link layer protocol that processes multiple virtual lines in inter-connected devices by using the HDLC encapsulation. Frame-Relay is more efficient than X.25.

FTP

Stands for File Transfer Protocol. FTP, which is an application protocol, is part of the TCP/IP protocol stack used for file transfer between network nodes. FTP is defined in RFC 959.

FXO

Stands for Foreign Exchange Office. The FXO interface is connected to the switching center of Public Switched Telephone Network (PSTN), and is provided by a regular phone. The FXO interface of Cisco is a station interface of the switching center or PBX on PSTN, and is a RJ-11 connector for analog connection devices.

FXS

Stands for Foreign Exchange Station. The FXS interface is directly connected to a standard phone, and provides a ring-back tone, voltage, and a dial tone. The FXS interface of Cisco is a RJ-11 connector for basic telephone service devices, keyset, and PBX.

G.711

This specifies the PCM voice coding technique of 64Kbps. Voice is encoded under G.711 in an appropriate format that enables digital voice transmission over either PSTN or PBX. G.711 is specified under the ITU-T standard of G-series recommendation.

G.723.1

This is one of the H.324 standards, and specifies a compression technique that enables voice or audio signal elements to be compressed at a very low bit transmission rate. This CODEC is related to the bit transmission rates of 5.3Kbps and 6.3Kbps. The high bit transmission rate is based on the MLMLQ technology, and provides high quality sounds. The low bit transmission rate is based on CELP, and ensures high flexibility for system designers. This standard is specified under the G-series ITU-T standard.

G.726

This standard specifies ADPCM coding performed at a rate of 40Kbps, 32Kbps, 24Kbps, or 16Kbps. If the PBX network is configured to support ADPCM, you can exchange

G.728	<p>ADPCM encoding voice with packet voice networks, PSTN, or PBX networks. This standard is specified under the ITU-T standard of G-series recommendation.</p> <p>This standard specifies variations that ensure low delay of CELP voice compression performed at 16Kbps. The CELP voice coding should be converted to a public telephony format for transmission over either PSTN or PSTN. This standard is specified under the ITU-T standard of G-series recommendation, and defines the CELP compression that encodes G.729 voice to a stream of 8Kbps. G.728 has two variations (G.729 and G.729 Annex A), and the variations are different in terms of calculation complexity. The two variations have voice quality similar to ADPCM of 32Kbps. G.728 is specified under the ITU-T standard of G-series recommendation.</p>
Gatekeeper	<p>This is the component of the H.323 video conference system that analyzes a caller ID, controls access authorization, and manages the subnet bandwidth. A gatekeeper is H.323 entity that provides the features that enable address conversion and LAN access control to the H.323 terminal and gateway on LAN. Gatekeepers can provide other services such as bandwidth control and search for a gateway to the H.323 terminal and gateway. This device manages a device registry on a multimedia network. The devices are registered with the gatekeeper, and they request the gatekeeper to authorize a call.</p>
H.225	<p>This ITU standard is applied to the session setting and packetization of H.225.0. H.225.0 specifies a variety of protocols such as RAS, Q.931, and RTP.</p>
H.245	<p>This ITU standard is applied to H.245 endpoints control.</p>
H.323	<p>This standard is an extension of the ITU-T standard H.320 that enables voice conferences over LAN or another packet switching network as well as video transmission over the Internet.</p>
HBD3	<p>This is a type of line codes used for E1.</p>
HDLC	<p>Stands for High-Level Data Link Control. HDLC is a transmission protocol used in the data link layer, which is the second layer of the 7-layer OSI model. HDLC is used in the X.25 packet switching network. Data consists of frames in HDLC, and frames are transmitted through a network. The destination verifies if the frames have been successfully transmitted. The HDLC protocol includes data for controlling data flow and troubleshooting errors in a data frame.</p>
Hookflash	<p>This is a short on-hook duration of a device such as phones during a call. Hookflash means that a phone attempts to make a dial tone recall through PBX. This is usually used to perform call transfer.</p>
HTTP	<p>Stands for Hypertext Transfer Protocol. This protocol enables a Web browser or a Web server to transfer files such as text files and graphic files.</p>

IPSec

Stands for Internet Protocol Security protocol. IPSec is a still developing standard for the security of networks or the packet processing layer of network communications. In the previous security techniques, security has been included in the application layers of a communication model. IPSec is particularly useful for the implementation of remote user access through dial-up access to Virtual Private Networks (VPN) and regular private networks. The main advantage of IPSec is that security can be ensured without replacing an individual user PC with a new one. Cisco takes the initiative of suggesting IPSec as the standard, and has embedded support to this feature into its network router.

IPv6

IPv6 is the latest IP, and has been embedded into part of IP support into many products including the operating systems of PC. IPv6 is called IP Next Generation (IPng), that is the next-generation IP. IPv6 is the formal IETF standard. IPv6 is designed as an evolutionary version of the currently used IP version 4. Network hosts or intermediate nodes that adopt either IPv4 or IPv6 can process any packets formulated by either IPv4 or IPv6; thus, the users and service providers can upgrade their IP to IPv6 individually without collaboration.

ISP

Stands for Internet Service Provider. ISP refers to service providers that provide Internet access services, Web site construction and Web hosting services to individuals or enterprises. ISP has devices and communication lines required for Internet access, and large ISPs have their own high-speed dedicated lines in order to provide services that have better quality and are less dependent on telephone network service providers to their customers. The large nationwide ISPs of the U.S. are AT&T WorldNet, IBM Global Network, MCI, Netcom, UUNet, and PSINet. Those of Korea are INet, Channeli, Netsgo, and Netian. The users access the Internet through online service providers. The main online service providers of the U.S. are America Online and Compuserve, and those of Korea are Chollian, Unitel, and Hitel.

ITU-T

Stands for International Telecommunication Union Telecommunication Standardization Sector. This is an international organization that develops global standards on communication technologies. ITU-T performs the previous tasks of CCITT.

IVR

Stands for Interactive Voice Response. IVR refers to a system that provides data in the form of recorded messages through phone lines as a response to user input in the form of human voice or mainly DTMF signal processing. Examples are banks that allow you to check balance by using a phone or automated stock quotations system.

LAN

Stands for Local Area Network. This is a low-error, high-speed data network that covers relatively small geographical areas of up to several thousand meters. LAN inter-connects workstations, peripherals, terminals, and other devices in a building or a geographically

	<p>limited area. The LAN standard specifies a cable connection and signal processing method in the physical layer and data link layer of the OSI model. Reference: MAN, WAN.</p>
Link	<p>This is a network communication channel configured with lines or a transmission path between the transmitter and receiver and related devices. A link mainly refers to WAN connections, and is sometimes called a line or a transmission link.</p>
Loopback Test	<p>This test is performed as follows: Transmit a signal or return it to the transmitter at a location on the communication path. This loopback test is usually performed to test the availability of network interfaces.</p>
MAC Address	<p>Stands for Media Access Control Address. This is a standard data link layer address required for any and all ports and devices connected to LAN. Other devices on a network use this address to locate a specific port within the network and to create or update a routing table and data structure. A MAC address is 6 bytes long, and is managed by IEEE. A MAC address is called as a hardware address, a MAC-layer address, or a physical address. Compare to: Network Address</p>
MAN	<p>Stands for Metropolitan-Area Network. This network covers the entire area of a large city. The operation area of MAN is geographically larger than that of LAN; however, is smaller than that of WAN. Compare to: LAN, WAN.</p>
MGCP	<p>MGCP, which is also known as H.248 or Megaco, is a standard protocol required to operate signals required during a multimedia conference or to manage sessions. This protocol defines a method of communications between the media gateway that converts the data format required for a circuit switching network to the one required for a packet switching network and the media gateway control device. MGCP may be used to set up, manage, and complete calls among multiple endpoints. Megaco and H.248 are the improved version of MGCP.</p>
NAT	<p>Stands for Network Address Translation. NAT is a mechanism for reducing the need for globally unique IP addresses. NAT allows you to access the Internet as an organization whose address is not globally unique converts the address to an address space where the address can be globally routed. NAT is also called Network Address Translator.</p>
NTP	<p>Stands for Network Time Protocol. NTP, which is built based on TCP, sets a local time accurately based on a wireless clock and an atomic clock on the Internet. NTP can synchronize a distributed clock in the unit of milliseconds for a long time.</p>
PABX	<p>Stands for Private Automatic Branch eXchange. PABX is a switch for phones used at enterprises. PABX is used in Europe, while PBX is used in the U.S.</p>
Packet	<p>A packet is a group of logical data that contains user data and a header where control</p>

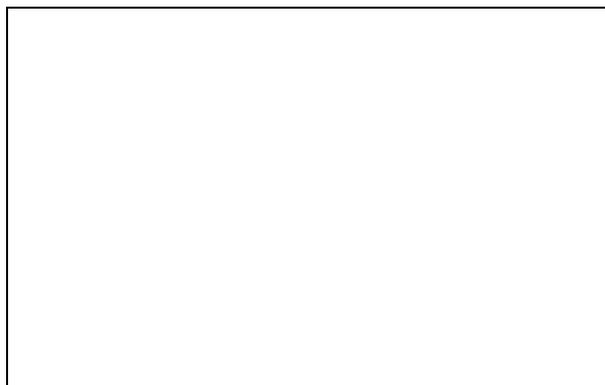
	<p>data is contained. A packet mainly refers to the unit of network layer data.</p>
PBX	<p>Stands for Private Branch eXchange. PBX, which is located in a subscriber building, is a digital or analog phone switchboard used to connect private networks to public phone networks.</p>
PING	<p>Stands for Packet INternet Groper. ICMP echo-processes a response between messages. PING is used for an IP network to test the accessibility of network devices.</p>
Point to Point Connection	<p>One of the two basic connection types. In ATM, the point to point connection may be either a one-way connection or a two-way connection between two ATM end systems.</p>
Pont to Multipoint Connection	<p>One of the two basic connection types. In ATM, the point to multipoint connection is a one-way connection method that enables a transmitting end-system (root node) to be connected to multiple receiving end-systems (riff). Compare to: Point to Point Connection</p>
POTS	<p>Stands for Plain Old Telephone Service. Reference: PSTN.</p>
PPP	<p>Stands for Point-to-Point Protocol. This protocol is the advanced version of SLIP that enables a router-to-router connection or a host-to-network connection through synchronous or asynchronous lines. SLIP is designed to be used on an IP, while PPP is used along with network layer protocols such as IP, IPX, and ARA. PPP has a bulletin board security mechanism such as CHAP and PAP. PPP has two sub-protocols, LCP and NCP. Reference: CHAP, LCP, NCP, PAP, and SLIP</p>
Protocol Stack	<p>This is a collection of communication protocols that inter-work with one another and that process communications in part or all of the seven layers of the OSI reference model. All protocol stacks are not related to each layer of the OSI model, and one protocol of a stack can process multiple layers at one time. TCP/IP is a typical protocol stack.</p>
PSTN	<p>Stands for Public Switched Telephone Network. PSTN is a general term that refers to various telephone networks and services used worldwide. PSTN is also called POTS.</p>
PVC	<p>Stands for either Permanent Virtual Circuit or Permanent Virtual Connection. PVC is a virtual circuit installed permanently. PVC allows you to reduce a bandwidth for setting up or releasing a circuit when a specific virtual circuit must always exist. As an ATM term, PVC is called Permanent Virtual Connection.</p>
Q.931 Signaling	<p>This is an ITU standard that specifies ISDN signal processing methods. The H.225.0 standard uses a variation of Q.931 to set up or disconnect the session of H.323.</p>
QoS	<p>Stands for Quality of Service. QoS is the criterion of measuring the performance (e.g. transmission quality and service availability) of a transmission system.</p>
RAM	<p>Stands for Random-Access Memory. RAM is a volatile memory that can be read or written by a microprocessor.</p>

RAS	<p>RAS refers to a protocol for registration, connect acknowledgement, and status protocol.</p> <p>RAS is used for H.323 to find or have a conversation with a gateway.</p>
RISC	<p>Stands for Reduced Instruction Set Computing.</p>
Router	<p>This is a network layer device that determines the optional route to which network traffic is delivered by using one or more metrics. A router forwards packets from a network to another network based on the network layer information. A router is sometimes called a gateway. (A gateway in this meaning is getting older.) Compare to: Gateway; Reference: Relay</p>
RS-232	<p>This is a frequently used physical layer interface, and is known as EIA/TIA-232 nowadays.</p>
RTCP	<p>Stands for RTP Control Protocol. This protocol monitors the QoS of IPv6 RTP connections, and transfers data on sessions in operation. Reference: Real-Time Transport Protocol (RTP)</p>
RTP	<ol style="list-style-type: none">1. Stands for Routing Table Protocol. This VINES routing protocol based on RIP distributes network topology data, and helps the VINES server that searches for adjoining clients, servers, and routers. A delay time is used as a routing metric. Reference: SRTP2. Stands for Rapid Transport Protocol. RTP provides facing and error recovery services to the APPN data when the data passes the APPN network. RTP allows you to check error recovery and flow control synthetically. RTP does not recover but prevents traffic congestion.3. Stands for Real-Time Transport Protocol. This is one of the IPv6 protocols. RTP is designed to enable the synthetic network transmission feature in the application that transfers real-time data such as audio, video, and simulation data through multicast or unicast network services. RTP enables the real-time application to identify a payload type, specify a sequence number, perform time-stamping, and to monitor a transmission procedure.
SIP	<p>Stands for Session Initiation Protocol. SIP is an application layer control protocol based on very simple texts, and allows more than one user to make, correct, or complete a session. Examples of sessions include remote conferences, phones, meetings, event notifications, and instant messaging on the Internet. SIP is independent to lower-level packet protocols (e.g. TCP, UDP, ATM, and X.25).</p>
SmartViewer	<p>This is software that allows you to monitor AP-GK1000, AP-GK2000, and AP-GK3000, which are the gatekeeper series of AddPac Technology, in a Graphical User Environment (GUI) environment in real-time and to search or manage statistical data.</p>

SNMP	<p>Stands for Simple Network Management Protocol. This is a network management protocol almost dedicated to TCP/IP networks. SNMP monitors and controls network devices, and manages setup, collection of statistical data, operation performance, and security features. Reference: SGMP and SNMP2</p>
T1	<p>This is the facility of a digital WAN service provider. T1 uses the AMI or B8ZS coding method to transfer DS-1 format data at a rate of 1.544Mbps over a phone switching network. Compare to: E1; Reference: AMI, B8ZS, DS-1</p>
TCP/IP	<p>Stands for Transmission Control Protocol/Internet Protocol. TCP/IP is a general name of the protocol suites developed in the seventies by DoD of the U.S. to help build a global inter-network. TCP and IP are two of the best known protocol suites. Reference: IP and TCAP</p>
Telco	<p>Stands for Telephone Company. Telco refers to a telephone service provider. Typically, Telco means individual local telephone service providers such as Bell, and sometimes includes long distance telephone service providers.</p>
Telnet	<p>This is a standard terminal emulation protocol included in the TCP/IP protocol stacks. Telnet is used to connect remote terminals. Telnet allows you to log into a remote system and to use the resources like they are connected to a local system. Telnet is defined in RFC 854.</p>
VCI	<p>Stands for Virtual Channel Identifier. VCI refers to a 16-bit field in the header of an ATM cell. VCI as well as VPI allows you to identify the next receiver of a cell while the cell is being delivered to the receiver through a series of ATM switches. The ATM switches use the VPI/VCI field to identify the next network VCI that the cell should pass to reach the receiver, which is the final destination. The features of VCI are similar to those of DLCI.</p>
VDSL	<p>Stands for Very-high-data-rate Digital Subscriber Line. VDSL is one of the four DSL technologies. VDSL provides downstream of 13 Mbps to 52 Mbps and upstream of 1.5Mbps to 2.3Mbps through a pair of twisted copper wires. The operation range of VDSL is limited to 1,000ft to 4,500ft (304.8m to 1,372m). Compare to: ADSL, HDSL, and SDSL</p>
VoATM	<p>Stands for Voice Over ATM. VoATM enables a router to deliver voice traffic (e.g. phone calling or facsimile) over an ATM network. Voice traffic is encapsulated in a specific AAL encapsulation method for multiplexed voice when voice traffic is sent in ATM.</p>
VoFR	<p>Stands for Voice Over Frame Relay. VoFR enables a router to deliver voice traffic (e.g. phone calling or facsimile) over a frame relay network. When voice traffic is sent through frame relay, the voice traffic is encapsulated after being decomposed into segments by using the FRF.12 encapsulation technique to pass the frame relay network.</p>

VoHDLC	<p>Stands for Voice over HDLC. Voice over HDLC enables a router to deliver live voice traffic (e.g. phone calling and facsimile) to another router through a serial line.</p>
VoIP	<p>Stands for Voice over IP. VoIP is a capability that enables normal telephony voice of the same features, reliability, and voice quality as POTS to deliver over the IP-based Internet. VoIP enables a router to deliver voice traffic (e.g. phone calling and facsimile) over an IP network. Over VoIP, DSP decomposes voice signals into frames, and a pair of the decomposed frames is grouped. Then, the grouped frames are saved in a voice packet. The voice packet is forwarded by using an IP under the ITU-T standard, H.323.</p>
VPN	<p>Stands for Virtual Private Network. VPN allows you to encrypt entire traffic that moves from a network to another network so that IP traffic can safely move over a public TCP/IP network. On VPN, all data is encrypted in an IP level by using the ‘tunneling’ technique.</p>
WAN	<p>Stands for Wide-Area Network. WAN is a data communication network that provides services to the users in a wide area and that uses transmission services provided by regular service providers. Examples of WAN include frame relay, SMDS, and X.25.</p> <p>Compare to: LAN and MAN</p>

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