

KE1020A INSTALL GUIDE

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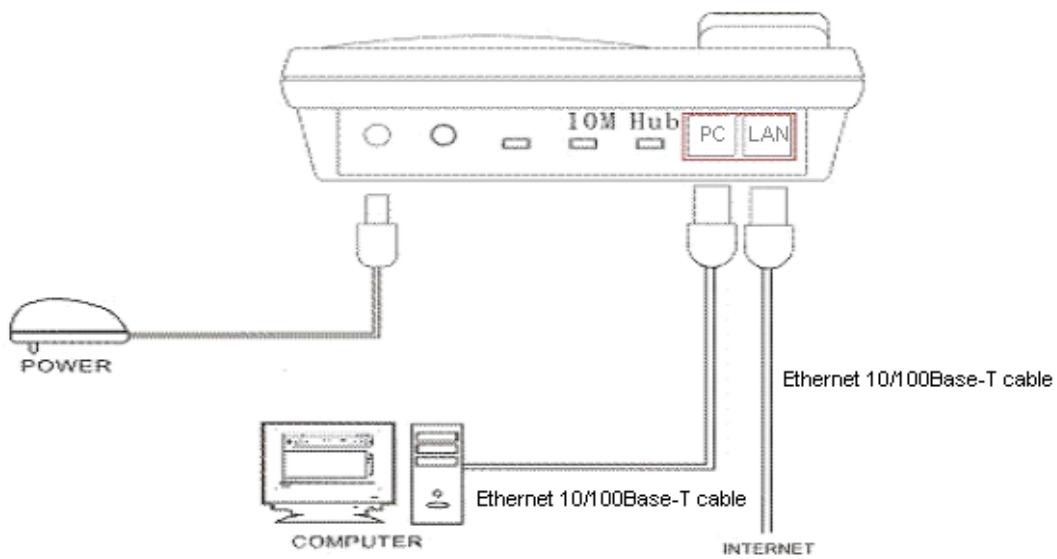
1 Check for Required Items

Please check to be sure that you have all of the following components:

- Broad internet access
- One phone cord
- One power adapter
- One VoIP phone
- One handset
- One Ethernet (RJ45) cable

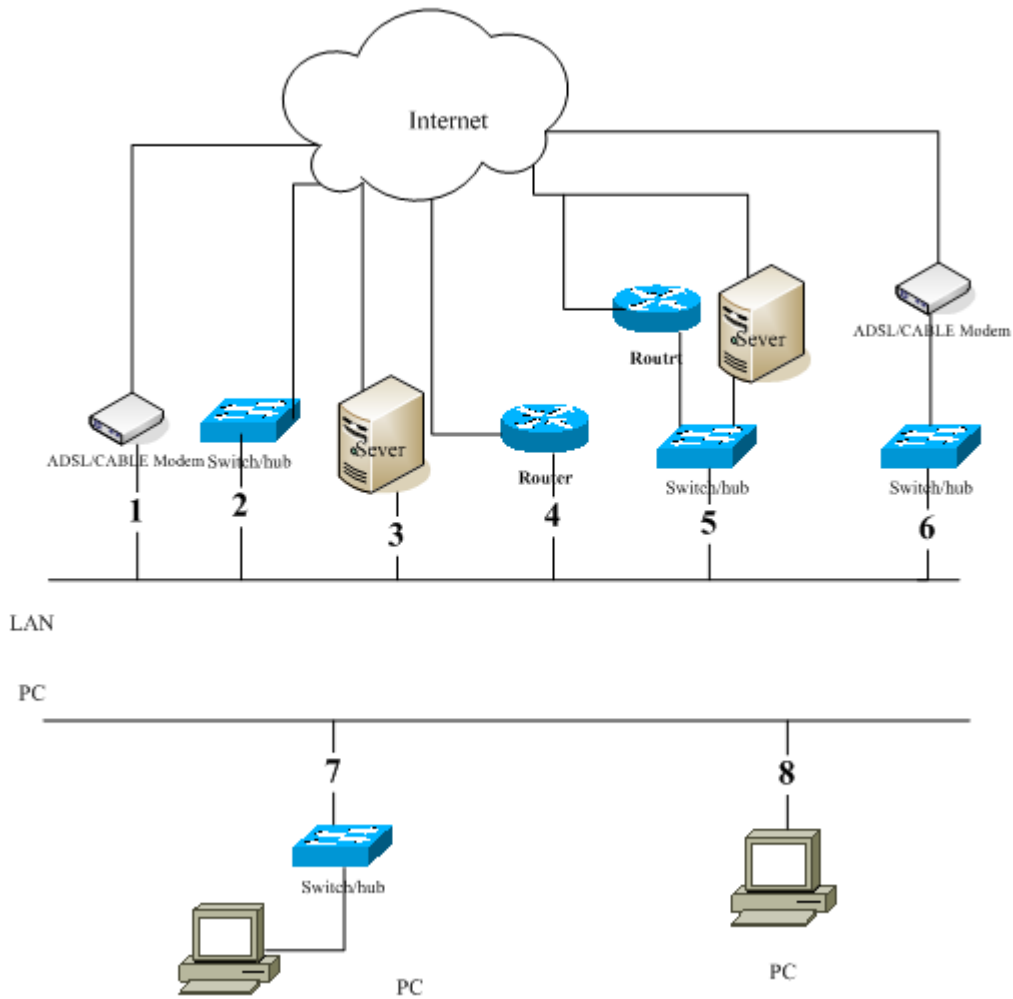
2 Installation Steps

2.1 Installation View



Please install your KE1020A as the connection chart above.

2.2 Connection Chart to Determine Cable Types



To determine the type of cable that you will need to connect to your terminal, look at the above diagram and determine the number of your configuration. The lines marked 2, 4, 5,6,7,8 are Straight-through Ethernet cable, the line marked 3 is Crossover Ethernet cable. If the ADSL/CABLE Modem has the auto-reversal function (it usually has the function), the line marked 1 is Straight-through Ethernet cable, and otherwise it is Crossover Ethernet cable.

Note: when the port LAN connects with line1,2,6,the equipments connected with port PC will not get IP address(i.e., they can't connect with Internet)

3 Ready to Use

First of all, you should obtain the IP address of the phone. Please press **ESC** key to view the IP address, if the IP address is **0.0.0.0** or **255.255.255.255**, you should contact the network administrator or your service provider.

After getting the correct IP address, if your VoIP phone can not log into the server and go on displaying **Wait Logon**, you may need to make network settings changes on the phone.

3.1 Changing the Setting via Your Phone

3.1.1 KE1020A Input Keys

Key	Characters
1	. , \ ' ? ! \ " - 1 \ / : [] ; 1
2	a b c 2 A B C 2
3	d e f 3 D E F 3
4	g h i 4 G H I 4
5	j k l 5 J K L 5
6	m n o 6 M N O 6
7	p q r s 7 P Q R S 7
8	t u v 8 T U V 8
9	w x y z 9 W X Y Z 9
0	space () @ _ * & 0 % # ^ = + < > 0
*	*

! Note:

1. The asterisk (*) can be used as a radix point (period) only when inputting numbers.
2. If you need to enter the same character consecutively, press the pound key (#) to confirm the last entry, and then press the number key again to enter the next character

For example, if you are entering "Cab":

- ★ Press the 2 key 7 times, then press # key.
- ★ Press the 2 key once, then press # key.
- ★ Press the 2 key twice.

3.1.2 Network Settings

Press the **SET/OK** button twice to display **Select IpType 1[dhcp]**, DHCP is default status. In DHCP status, your LAN automatically assigns all the required network parameters to the phone. But if your network use static IP or PPPoE, you will need to do the following operations.

- **Static IP Settings**

If your network uses static addressing, then at the **Select IpType 1[dhcp]** screen, press SET/OK>0 key >SET/OK. The display should now show **Select IpType 0[static]**. Press the UP button until the display shows **Local IP X.X.X.X**, press the SET/OK button and input the IP address that will be assigned to the phone (using the * button in place of the period). Press the SET/OK button to display the new IP address. Use same method to set **Subnet Mask, Gateway IP,DNS**.

- **PPPoE Settings**

If your network uses PPPOE, then at the **Select IpType 1[dhcp]** screen, press SET/OK>2 key >SET/OK. The display should now show **Select IpType 2[pppoe]**. Press UP button, when the LCD shows **PPP Identity**, press SET/OK, input PPPoE user ID, then press SET/OK to confirm. Use same method to set **PPP Password**.

Important: If your service provider makes presettings such as account, password, IP phone number,

server address, you do not need to do the following operations.

3.1.3 Account settings

Press SET/OK>DOWN>Account Settings>SET/OK. Then use UP/DOWN button to select the options you need to set.

At the **SIP Server** screen, presses ESC/OK>input SIP Server address>press ESC/OK.

Please use the same method to set **Domain, User ID, Password, IP phone No.**.

3.1.4 Saving Settings

After doing an operation, press the **ESC** button twice and the display should show **Save To Flash?** Press SET/OK and the phone will reboot and save the new settings.

3.2 Changing the Setting via Web Browser

Press **ESC** button to check the IP address of your phone.

Open an Internet Explorer browser on a PC that is connected to the same network as the terminal, type the IP address into the Address window and press Enter.

Password: 1234

Once in the Settings screen, you can verify or enter your network settings. After editing, simply click on **Save Settings** and exit the browser after the Update Successful screen appears.

! Note: If you make changes to your User Name and Password, those changes must also be made in the Settings screen on your terminal.

3.3 Work Normally

After the phone reboots and properly programmed, the LCD of the phone will display **Ready for Call**. In addition, when the phone is off-hook, you will now hear a dial tone and can make calls.

4 Configuration Parameters

4.1 Network configuration parameters

Parameter	Description
IP Type	The terminal can have 3 ways to get network parameters: DHCP, Static IP or PPPoE, please select one. If you do not know, please ask your network administrator or service provider.
DHCP	If your terminal is configured to use DHCP, The required network parameters such as IP, subnet mask will automatically be configured as soon as it is connected to the LAN and powered up.
Static IP	Select this item to authorize users set IP address, subnet mask and gateway IP address of the terminal manually.
PPPoE	Select this item to enable PPPoE protocol which is designed for ADSL and

Parameter	Description
	Cable Modem users. With this system, ADSL ISP automatically assigns all the required IP parameters to any device connected to it when the device log on.
PPP ID/Password	With PPPoE selected in IP Type drop down list, please enter the user name and password here.
IP Address/Subnet Mask/Router IP	With Static IP selected in IP Type drop down list, please enter IP address, subnet mask and router IP of the terminal here. Note that this address should match the IP address assigned to you by network administrator or your ISP.
DNS/DNS2	This field defines the primary DNS (Domain Name Server) or backup DNS address. With Static IP selected in IP Type drop down list, please enter DNS IP of the terminal here.
MAC	MAC address is the physical address supplied by the Ethernet NIC.

4.2 SIP Protocol Configuration Parameters

! Note: Please check with your ISP for the protocol settings. Changing the settings without proper guidance may result in the the terminal not functioning.

Parameter	Description
SIP Server Address	SIP server address, Please ask your service provider if you do not know what to fill in.
Provider Index	Display according to service provider type. Please ask your service provider if you do not know which to select.
SIP Port	SIP server port, 5060 is default value. Please ask your service provider if you do not know what to fill in.
Register Port	The local SIP port used by terminal to send register packets. The default port number is 5060 or 5063. Please ask your service provider if you do not know what to fill in.
Domain Name	It's the SIP realm. Please ask your service provider if you do not know what to fill in.
Expire Time	It used for negotiate with the softswtich for registration expire time.
NAT Traversal	nat traversal: When the IP phone with private IP address need communicate with other IP phones in a different LAN or on Internet,

Parameter	Description
	<p>please select an item from dropdown list.</p> <p>disable: Select this item when the sip proxy server and IP phone in the same LAN, or the sip proxy system supports the IP phone working behind the LAN.</p> <p>enable: When the system does not support IP phone working behind the LAN, please select this item to search public IP address of the NAT device. With this item selected, "nat addr" field will be activated. Besides, port mapping (port forwarding) needs to be properly set up on NAT device.</p> <p>stun: Select this item with Stun server used according to requirement of system. STUN presents a working solution for most NATs that are not symmetric, e.g., most of the household routers have non-symmetric NAT and in this case, it is OK to use STUN. However, STUN does NOT work with symmetric NAT and if your routers have built-in symmetric NAT, do not use STUN. If your configuration is STUN-friendly, please configure your phone to use it. With this item selected, nat addr field is activated.</p> <p>Please ask your service provider if you do not know which one to select.</p>
NAT Server Address	<p>When NAT Traversal is set to enable, please put the domain name of the servers (These web server helps to find out the public IP of the NAT device) into nat addr</p> <p>When NAT Traversal is set to Stun, please put the URI of the stun server into NAT Addr, in the format as "domain name/IP address : service port".</p>
User ID/Password	The user name or password used to login SIP server for authentication.
IP Phone Number	The number or username of this terminal, usually is allocated by system.

4.3 Phone Configuration Parameters

Parameter	Description
Use DialPlan	<p>Defines the dial plan that the IP Phone should use; there are four options available:</p> <ul style="list-style-type: none"> ▪ disable—This is the default selection. Select this option for normal dialing from the IP Phone. ▪ hotline—Select this option if you want to send all outgoing calls to a designated phone number automatically when you pick up the phone from the hook. ▪ abbrdial—Select this option if you want to use pre-defined sets of digits, such as country codes, when dialing.

Parameter	Description
	<ul style="list-style-type: none"> digitmap—Select this option, you can send the outgoing calls without pressing # key under VoIP model (reserved)
Dial Number	When the hotline feature is selected in the Use DialPlan field, this field should contain the phone number you would like to dial automatically each time when you pick up the handset.
LCD Menu Lock	This feature secures the phone settings if used in public places, such as Internet cafés. Click the checkbox to enable this feature. Once the LCD menu is locked, none of the phone settings will be accessible through the LCD menu
Handset Input Volume	Set the volume of handset input (ranges from 0 to 15), default value: 6
Handset Output Volume	Set the volume of handset output (ranges from 12 to 22), default value: 16
Speaker Output Volume	Set the volume of handset output (ranges from 12 to 22), default value: 14

4.4 Audio Configuration Parameters

Parameter	Description
Audio Codec 1,2,3,4,5	Audio Codec X set the priority of the audio compression algorithm. Cocec 1 is the preferred codec, default value Audio Codec 1=G729, others are backup codec modes, different system may choose different backup codec mode. Available codecs are G.729, G.7231, gsm, G.711u, G711a.
Ring Type	Select appropriate ring type from the drop down list. If you select "not disturb", you will not hear ring when there is an incoming call.
Jitter Size	Type appropriate jitter size. The value range is 0-33 block.
VAD	Enable/disable VAD (Voice Activation Detection)
AGC	Enable/disable AGC (Automatic Gain Control)
AEC	Enable/disable AEC (Automatic Echo Control)

4.5 Other Settings and Upgrade

Parameter	Description
Access code	The access code, which is masked on the Web page, is used to access the Web interface. The default value is 1234. It is strongly recommended that you change your access code.
SNTP Server Address	This field should contain the value for the SNTP Time Server. The default value is 216.53.3.44.
Daylight Saving Time	Check this box if you are in a Daylight Saving Time Zone.
Time Zone	Allows you to select your time zone from the list.
Update Firmware	Select the upgrade file saved in your PC, and click Update Firmware to update the program, the settings and digitmap of the phone.

4.6 Buttons

Parameter	Description
Save Settings	Click this button to save the configuration and the terminal will reboot. Once the terminal reboots successfully, the new configuration is effective.
Edit Phone Book	Allows you to add or edit Phone Book entries.
Restore Defaults	Reset all settings to factory defaults.

5 FAQ

Problem	Possible Cause	Solution
Poor Voice Quality	Your internet connection bandwidth is less than 30Kbps	Your internet connection may not be performing correctly. Please contact your Internet Service Provider or Network administrator. Or please try to change the settings from web: Voice>>Jitter Size (0~32 block).
	Unstable network connection: Network delay > 400ms or network jitter > 100ms or network packet loss > 10%	

Problem	Possible Cause	Solution
<p>Phone can't login server and continues to display 'Wait Logon'</p> <p>The LCD lights 3 sec, extinguishes 1 sec, lights 3 and extinguishes 1 sec,</p>	The network is blocked	<p>Please contact the service provider or network administrator to ensure the network and ports are available. If there are problems left, please contact your service provider or network administrator.</p>
	Your network has a proxy server which is blocking the phone's connection to the internet.	
	The connection to the server's port are screened	
	Your phone is configured with an incorrect server address.	Please contact your service provider.
	The data to port is modified or filtrated	Please contact the service provider or network administrator to ensure the data which to the ports is not modified or filtrated. If there are problems left, please contact your service provider or network administrator.
<p>The LCD lights 3 sec, extinguishes 1 sec, lights 1 and extinguishes 1 sec with the LCD shows 'Ready for call' or when you are on a call.</p>	Your reached the max concurrent call limited	<p>Please hang up and wait a moment. Or ask your service provider for help.</p>
<p>Phone can't login server and continues to display 'Wait Logon'</p> <p>The LCD lights 3 sec, extinguishes 1 sec, lights 1 and extinguishes 1 sec,</p>	Your phone is configured with incorrect account details.	Please correctly enter account and password. If there are problems left, please contact your service provider.

6 Performance and Features

6.1 Characteristics

- Program memory—1024KB Flash memory
- Ethernet interface—two RJ45 connectors compatible with IEEE 802.3 10 Base-T
- Keypad—besides the standard keys 0-9, *, #, there are another 12 function keys for

operation and setting of phone

- Status indicator—LED to indicate working status and LCD light
- Hand free function—speaker monitor, dial-tone, speaker and loudspeaker volume can be digitally adjusted independently
- Power adapter— AC input 100~120V (USA, Japan etc.) or 220~240V (China, Europe etc.) or 100~240V, 47-63Hz
- Log on Soft-switch
- Automatic find Soft-switch
- Support DHCP: Automatically obtain local IP, subnet mask, router IP
- Support PPPoE
- Voice Active Detection
- Comfortable Noise Generation
- 16ms Echo Cancellation
- Dynamic Buffer Management—minimize effect to voice quality caused by audio delay jitter

6.2 Standards and Protocols

- IEEE 802.3 10 Base-T
- G.711A, G.711 μ , G.723.1 5.3K/6.3 Kbps and G.729 audio codec
- SIP
- TCP/IP: Internet Transport and Control Protocol
- RTP: Real-time Transport Protocol
- RTCP: Real-time Control Protocol
- G.723.1, G.729 VAD/CNG Economical Bandwidth
- G.165 16ms Echo Cancellation
- DTMF: DTMF Tone Generation and Detection
- DHCP: Dynamic Host Configuration Protocol
- DNS: Domain Name System
- NTP: Network Time Protocol
- HTTP: Hyper Text Transfer protocol
- FTP: File Transfer Protocol

6.3 Specification

- 180 x 160 x 92 mm (L x W x H)

6.4 Electronic Characteristics

- Voltage: 12V DC, 500mA

- Power adapter: AC input 100~120V (USA, Japan etc.) or 220~240V (China, Europe etc.) or 100~240V,47-63Hz
- Network Interface: IEEE 802.3 10 Base-T
- EMC: FCC Part15 CLASS B /CE

6.5 Operational Environment

- Operational Temperature: 0 to 50° C (32° to 122° F)
- Storage Temperature: -30° to 65° C (-22° to 149° F)
- Humidity: 10% to 90% no dew

6.6 Recommend Network Condition

- Delay: Less than 400ms
- Jitter: Less than 100ms
- Package Loss Rate: Less than 10%
- Required Bandwidth: Minimums 30Kbps

Safety Warning: Please do not place this product under fire and high temperature. Avoid heavy impact, and do not leave the product in rainy or highly humid environments!