

KE2100 INSTALL GUIDE

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1 Check Items in Box

- KE2100
- Handset
- Rj11 handset line
- User manual
- One power adapter
- Ethernet (RJ45) cable(Pass through cable)

2 Before Installation

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

- An AC power socket
- Broadband internet access that can reach the VoIP service provider's platform
- PC with network card (not required)
- Network connection to the VoIP service provider's platform must have:

Network delay less than 400ms

Network Jitter less than 100ms

Packet loss less than 10%

Bandwidth: more than 30Kbps

3 Picture and connection



POWER:

Connect to power adapter

LAN:

Connect to local network e.g. PC. Default work type: Router.





WAN:

Connect to Internet, may need special RJ45 cable; please ask your network administrator or ISP.

4 Installation

- Connect KE2100 and handset with Rj11 handset line
- Power off your network device e.g. ADSL Modem, Cable Modem and PC
- Connect cables as shown in chapter 3, suggestion: do not use KE2100 as your main router of your network
- Power on your KE2100, then power on your network device and PC
- Change your PC's IP to DHCP (server assigned). (Please ask your network administrator how to set your PC)

5 Buttons and input

- SET/OK: Get into control menu, confirm
-  / : Select
-  / : Volume increase/ decrease; while in input mode: delete/ blank
- ESC: Exit, cancel
- M1 ~ M8: Speed dial key
- XFER: Call transfer function key
- MUTE: Mute function key
- REDIAL: Redial key
- CONF: 3-way calling function key
- CALLIST: Call list function key
- PHONEBOOK: Phone book function key
- CALL: Call out

- HOLD: Hold function key, VoIP do not disturb function key

- SPEAKER: Hands free key

Use Keypad to set this device:

Key	Input Character
1	1 - , ! ?
2	2 a b c A B C
3	3 d e f D E F
4	4 g h I G H I
5	5 j k l J K L
6	6 m n o M N O
7	7 p q r s P Q R S
8	8 t u v T U V
9	9 w x y z W X Y Z
0	0 'BLANK'
*	* . : @
#	

6 Authentication

For admin user:

Account: root

Password: test

For normal user: (With this account you can not set some parameters, e.g. SIP setting)

Account: user

Password: test

Attention: if your password be changed when you get your device, please contact with the distributor of this device.

7 Use phone to set net work parameters

Please check chapter 12 to know how to use the LCD and keypad for programming.

At first, please ask for your network administrator or ISP to know your IP type. The default network setting of this device is DHCP IP type, if your network can not accept DHCP access, please set it as follows:

- LCD programming: Network → WAN Setup → IP type to select your IP type.
- If your device should use static IP, please use LCD

programming: Network → WAN Setup → Fixed IP setting to set IP address, subnet mask and default gateway. After then get into LCD programming: DNS → Primary DNS and Secondary DNS to set DNS server

If your device should use PPPoE, e.g. ADSL, please use LCD programming: Network → WAN Setup → PPPoE setting to set the PPPoE account and Password.

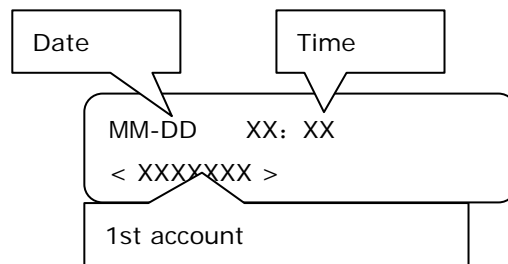
- Press ESC repeatedly till it show 'Please Reboot', then power off the device and power on it.

8 Automatically get configuration

If your VoIP service provider has pre-set your device, it should automatically get configuration from the Internet after it is powered on. And then it will reboot automatically and ready for use.

9 Ready for use

Your device should be ready for use now, it will show these information on LCD.



If your device isn't the ready to use status, it means you should set it your self. Please see chapter10 and 11 if you should set if yourself.

10 Use phone LCD programming to set

Refer to chapter 12 to learn how to set LCD programming: SIP Settings and NAT transversal, then ask your VoIP service provider how to set/select these parameters. Keep the default parameters if you haven't got the answer for how to set/select some of these parameters.

- LCD programming: Administrator → System Authent, input the password of root account. (See chapter 6)
- LCD programming: SIP Setting and set all parameters here.
- LCD programming: NAT transversal → STUN setting and set all parameters here.
- LCD programming: Phone setting → Date/Time set set all parameters here.
- Press ESC repeatedly till it show 'Please Reboot', then

power off the device and power on it.

11 Set though the web based programming page

After your PC getting correct IP, open an Internet Explorer browser on a PC that is connected to

http://192.168.123.1 You will see the login screen.

Please see chapter 6 for account and password.

11.1 Network Settings

Click and into the menu **Network→ WAN Settings** and **Network→ LAN Settings** to set the network parameters. Please ask your ISP or network administrator about it.

DHCP is default network type; your terminal will get the required network parameters such as IP, subnet mask automatically. If your network uses static IP, you should set local IP, subnet mask, gateway IP, DNS and DNS2 first. If your network uses PPPoE, you should set PPP ID, PPP password first

12 LCD menu

11.2 Set time and SNTP server

Click and into the menu **Phone Setting→ SNTP Settings** to set your NTP server and time zone.

Important: If your service provider has pre-programmed some settings such as User Name, Register Name, Register Password, Domain Server, Proxy Server and so on, you will not need to program these items.

11.3 SIP Settings

After you have the IP setting completed as above, you should set these parameters which are required to login SIP server: User Name, Register Name, Register Password, Domain Server, Proxy Server, SIP Port, RTP Port, DTMF setting.

11.4 Save Settings and Reboot

Simply click the **Save** button in **Save Changes** and exit the browser after the Configure OK screen appears, and then click **Reboot** button in **Reboot**.

1 st layer	2 nd layer	3 rd layer	4 th layer	Usage	
Phone book	Search				
	Add entry				
	Speed dial			Set M1 –M8 speed dial number	
	Erase all			1. Yes 2. No	
Call history	Dialed numbers				
	Answered calls				
	Missed calls				
	Erase record	All			
		Dialed			
Answered					
Missed					
Phone setting	Call forward	All forward	Activation	1. Enabled 2. Disable	
			Number		
		Busy forward	Activation	1. Enabled 2. Disable	
			Number		
	No answer fwd	Activation	1. Enabled 2. Disable		
		Number			
	Do Not disturb	Always		1. Enabled 2. Disable	
		By Period		1. Enabled 2. Disable	
Period Time		If the end time is earlier than the begin time, it means the DO NOT			

				DISTURB duration will from beginning time to next day's end time.	
	Alarm setting	Activation		1. Enabled 2. Disable	
		Alarm time			
	Date/Time set	Date & Time		If SNTP disabled then can set local date and time	
		SNTP setting	SNTP	1. Enabled 2. Disable	
			Primary SNTP	Primary SNTP server	
			Secondary SNTP	Secondary SNTP server	
			Time zone		
			Adjustment Tim	Time display model 12 hour or 24 hour	
	Volume & Gain	Handset volume			
		Speaker volume			
		Handset gain			
		Speakser gain			
	Ringer	Ringer volume			
		Ringer type			
	Auto dial			After this time, the dialed number will be automatically send out	
	Show Balance			1. Enabled, only support VoIP provider who use INFINET platform 2. Disable	
Network	WAN Setup	IP Type		1.Fixed IP client 2.DHCP client 3.PPPoE client	
		Fixed IP setting	IP Address		
			Subnet mask		
			Default Gateway		
		PPPoE setting	User name		
			Password		
	LAN Setup			1. Bridge, work as a bridge 2. NAT, work as a router	
	DNS	Primary DNS		Primary DNS server	
		Secondary DNS		Secondary DNS server	
	VLAN	Activation		1. Enabled 2. Disable	
		VID			
		Priority			
		CFI			
	Status			Router mode: 1 st line shows LAN IP, 2 nd line shows WAN IP, press Δ/∇ to show MAC address Bridge mode: 1 st line shows WAN IP, 2 nd line shows MAC address	
	SIP Setting	Service domain	First realm	Activation	1. Enabled

				2. Disable
			User name	Number
			Display name	
			Register name	User name
			Register passw	Password
			Proxy server	SIP server address
			Domain server	SIP realm
			Outbound proxy	Outbound proxy server
		Second realm	...	
		Third realm	...	
	Codec	Codec type		Select codec
		VAD		1. Enabled 2. Disable
	RTP setting	RTP	Outband DTMF	1. Enabled, use RFC2833 as DTMF type 2. Disable use inband as DTMF typr
	RPort			1. Enabled, use RTP port setting 2. Disable, use random RTP port
	Hold by RFC			1. Enabled 2. Disable
	Status			Check accounts register status
NAT transversal	STUN setting	STUN		1. Enabled 2. Disable
		STUN server		
Administrator	Auto config			1. Disable 2. TFTP, use TFTP mode 3. FTP, use FTP mode 4. HTTP, use HTTP mode
	Upgrade system	Upgrade Now		1. Yes 2. No
		Upgrade via		1. Disable 2. TFTP, use TFTP mode 3. FTP, use FTP mode 4. HTTP, use HTTP mode
		Status		Version status
		Reset Time		
	Default setting			1. Load default, Attention: the device will lose account and server setting 2. Abort
	System Authent			Input root account's password, see chapter 6
	Version			Version status
	Watch dog			1. Enabled, device will auto reset if it there is a software problem 2. Disable
	Restart			

13 WEB menu

1 st layer	2 nd layer	Description
Phonebook	Phone Book	Add, edit, delete phone book
	Speed Dial Settings	Set M1 ~M8 speed dial number, suggestion: do not change the settings of 0 and 9
Phone Setting	Call Forward	Set all forward, busy forward and no answer forward here. No answer forward is based on the ring time. You can set duration of a ring tone in: Others → Tones Setting
	Volume Settings	Handset, speaker and ringer volume setting
	Melody Settings	Select the melody of the ringer
	DND Settings	VoIP do not disturb setting, if the end time is earlier than the begin time, it means the DO NOT DISTURB duration will from beginning time to next day's end time
	Dial Plan Settings	See reference guide for detail information
	Call Waiting Settings	Attention: Call waiting function can not work when you use busy forward function
	Hotline Settings	
	Alarm Settings	
Network	Status	Check the status of your network connection
	WAN Settings	Select router/ bridge mode and set WAN network parameters
	LAN Settings	Set LAN network parameters if use router mode
	DDNS Settings	Set a DDNS server parameter, please ask your network administrator or your VoIP service provider
	VLAN Settings	Please let your network administrator set it
	DMZ Setting	
	Virtual Server	When use as a port mapping virtual server, set parameter here
	PPTP Setting	When use VPN, set parameter here
	SNTP Settings	Set time server or set a local time here
SIP Settings	Service Domain	Set VoIP service account information and server information. If it request to define a special port on the server, please set it as the following example: xxx.xxxxxx.xxx(server address):xxxxx(port number)
	Port Settings	Set the local SIP port and RTP port of your device
	Codec Settings	Please ask your VoIP service provider
	Codec ID Settings	Please ask your VoIP service provider
	DTMF Settings	Please ask your VoIP service provider Attention: If the setting is not correct, you may not dial a extension number
	Other Settings	Set Call Hold type, SIP and RTP Qos parameters and SIP expire time and encryption parameters(work with the server)
NAT	STUN Settings	Please ask your VoIP service provider
Others	Auto Config	Set auto config server and mode
	Tones Settings	
	Advanced Settings	Set ICMP feed back signal on/off, Private call on/off, Flash signal on/off and log parameter
System Auth.		
Save Change		
Update	New Firmware	

	Auto Update	Set auto new version check and upgrade parameters
	Default Settings	Attention: You will lose all the settings in the device especially including account and server information
Reboot		

14 FAQ

Problem	Possible Cause	Solution
Unacceptable voice quality under VoIP	Your internet connection bandwidth is less than 30Kbps	Please use your phone in a good quality network.
	Unstable network connection: Network delay > 400ms or network trembling > 100ms or network packet loss > 10%	
Show 'No Service' on the LCD	The network is blocked	Please contact network service provider or network administrator to ensure the network and ports are available, and the data is not modified or filtered. If there are problems left, please contact your service provider for technical support.
	You haven't set any account/ service information	
	The connection to the server's SIP port is modified or filtered	
	Your network has a proxy server which is blocking the terminal's connection to the internet.	
	The data to the terminal's SIP port is modified or filtered	Please correctly enter account and password. If there are problems left, please contact your service provider for technical support.
	Your terminal is configured with incorrect account information.	
Your terminal is configured with an incorrect server address.	Please contact your service provider for technical support	

15 Performance and Features

15.1 The Electronic Specifications

- Voltage: 5V DC, 1A
- 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 10/100 Base-T
- EMC: FCC Part15 CLASS B /CE

15.2 Operating/storing Environment

- Operating temperature: 0 to 50° C
- Storing temperature: -10° to 65° C
- Humidity: 10% to 90% non-condensing

15.3 Dimensions

- 208 × 197 × 68mm (L × W × H)

15.4 Features

- Basic Port—two RJ45 ports compatible with IEEE 802.3 10/100 Base-T, can be use as ROUTER/BRIDGE.
- Power adapter— AC input 100~120V (USA, Japan etc.) or 220~240V (China, Europe etc.) or 100~240V, 47-63Hz
- Log-in to specific soft-switch platform
- Automatic searching for soft-switch platform
- Supports DHCP: Automatically obtain local IP, subnet mask, gateway IP
- Supports PPPoE
- Automatic Gain Control
- Voice Active Detection
- Comfortable Noise Generation
- Echo Cancellation

- Half duplex speaker
- Dynamic Buffer Management—minimize effect to voice quality caused by audio delay jitter
- Support NAT Traversal
- Supports SIP
- Supports Remote Upgrade
- Lightning proof
- Support Tos

15.5 Standards and Agreements

- IEEE 802.3 10/100 Base-T
- G.711A, G.711 μ , G.723.1 5.3K/6.3 Kbps, G.726 and G.729
- Impedance: Can be Selected
- SIP
- TCP/IP: Internet Transport and Control Protocol

- RTP: Real-time Transport Protocol
- RTCP: Real-time Control Protocol
- AGC: Automatic Gain Control
- VAD/CNG Voice active detection/comfortable noise generation
- G.165 Echo cancellation
- DTMF Tone Generate and Detection: Inbound
- DHCP: Dynamic Host Configuration Protocol
- PPPoE: Point to Point Protocol of Ethernet
- DNS: Domain Name Server
- FTP: File Transfer protocol
- HTTP: Hyper Text Transfer protocol
- TFTP
- DDNS
- PPTP