LTE Voice Gateway Adapter
(MS130v4)

User's Manual

Contents

1. General Description

MS130v4 is an LTE to analog converter (single port, insert 1 sim card only). The device can produce a FXS line to allow a regular phone to be connected and used just like a local landline (PSTN) except your calls will go out on the LTE network. This device can both receive and make calls.

The main application is: Connecting the RJ-11 FXS line to an ordinary telephone set for voice call, to connect PBX for call extensions, to connect billing systems for public use, to connect VoIP gateway to realize VoIP call termination, to connect alarm systems for security purposes, etc. It is not a VoIP gateway nor a LTE+VoIP gateway. It is a LTE fixed wireless terminal that produces an Analog FXS phone line.

Appearance and Structure

Item	LTE MS130v4	Remark
Appearance		White/Black
Material	ABS (Acrylonitrile Butadiene Styrene)	
Dimension	170mmx118mmx30mm	Excluding Antenna
Weight	400g	Weight of main unit
Power Switch	Rocker switch	
Power Socket	12V DC input	
Phone Interface	RJ11	2 RJ-11 ports
Antenna Interface	SMA-female	
Led Display	No. 1: Power, No.2 in use, No.3 in talk, No.4 Battery, No.5-7 Signal Strength	From left to right (front side view)
Front side	LEDs display for signal strength, power, working status, talking and battery indicator	
Rear side	1pcs SMA antenna connectors, 2 RJ-11 output, power port and switch	
Bottom side	1pcs SIM card holder slots.	

2. Features

1. It is a 1 channel LTE Gateway with 2 RJ-11 outputs for extensions
2. Connects with an ordinary telephone set, PBX, VoIP gateway, billing meter etc.
3. Dialing tone frequency: 450Hz
4. Employ industrial module to make
5. Can adjust dial interval from .5 sec to 9 sec by setting up from telephone set
6. Can adjust voice volume by setting up from telephone set
7. SIM card supported (1.8V, 3V)
8. Caller ID display
9. DTMF Dialing
10. Bell signal
11. Polarity reversal
12. The RJ-11 socket which connects the phone or billing system for metering purposes
13. Antenna socket (SMA)
14. IP presetting
15. Working status and signal strength by LED indicator
16. IMEI change (optional)
17. Back up Li-ion battery (optional) 7.2V 1300mAh, standby 24hrs, talking time: 2.5hrs

3. Technical Specifications

Phone interface: supply RJ-11 phone interface
Hanging voltage: 45V
Picking off voltage: 30mA/41mA
Dialing tone frequency: 450Hz
Antenna Interface: Antenna amplifying>2.5db
Sensitivity: < -104DBM
Transmitting power: < 3W
Color: Black
AC-Adapter interface: Input: AC 110~240VAC 50~60Hz, Output: 12DC 1A
AC-Adapter type: EU, US, AU, British can be optional

4. Operation Circumstance:

Operation temperature: -10C~60C
Storage temperature: -20C~70C
Operation humidity: 45%-95%
Atmosphere pressure: 86-106Kpa
Environment noise: <60DB
Transmitting Power: 2W
Sensitivity: <-104DBM
Antenna amplifying: >2.5db
Dialing frequency: 450Hz
Hanging voltage: 45V
Picking current: 30mA/41mA

5. Packing List

Name	Quantity	Remark
MS130v4	1pcs	Quadband
AC-adapter	1pcs	AC-110-240V, DC 12V/1A
Antenna	1pcs	Magnetic Antenna with 3m cable
User's Manual	1pcs	English

G.W: 0.75kg per unit, 20pcs/CTN, 16kg/CTN, CTN Size: 55cm X 34.5cm X 32.5cm

6. Installation and Connection

The Condition for Installation

The terminal asks for 110-220V AV power supply. It must be installed in the area where the GSM network can cover. The strength of the signal can affect the quality of voice.

1.   Screw off the screws that are on the back of the terminal, insert SIM card for every SIM card holder, and then tighten the screws.

2.   Install antenna. To ensure the quality of the voice, antenna must be put beyond 1.5m from the telephone and terminal

3.   One end of the telephone line connects to the "Phone" port of the terminal, the other end connects to the telephone.

4.   "Power" port connects to power adapter that is connected to 110-220V AC power supply.

1) The Installation for Connecting to an Ordinary Telephone

In order to avoid mutual disturbance between telephone and terminal resulting in poor voice quality, maintain 1.5m between telephone and terminal.

2) The Installation for Connecting to Billing Device for Metering

If the users demand to register cost during calls, the billing device can be connected between the terminal and an ordinary telephone. The billing device registers cost according to the anti-polarity signal that is provided by the terminal.

3) The Installation for Connecting to PBX for Call Extensions

If users want to connect small PBX tot his terminal, connect terminal's "Phone port" to the PBX.

4) The Installation for Connecting VoIP Gateway for Call Termination

Suppose a VoIP call originates from the U.S., which was transferred from a U.S. server to a Chinese server on VoIP. Next the call will be terminated from internet to GSM network and be sent out to the destination answer side.

5) The Installation for Connecting to Alarm System for Security

The MS130v4 can substitute the PSTN for connecting to the alarm system for security purposes when PSTN failure or not available

7. Function Settings
Before you do the following function settings, lift handset or press hands free key of telephone set, then press the buttons according to the following instructions to change the settings. You will hear 2 beeps when you finish confirming a successful setting change.
1) Restore to Factory Default Settings
*#99#99# to restore factory default settings.
2) Adjust Dial Interval
*#01#30# , 01—command, 30—time, Max 9.9 seconds, Min 0.5 seconds, default setting is 3 seconds.
*If you use LTE MS130v4 for connecting to VoIP gateway, you can set dial interval as 0.5 seconds, it can make PDD<5 sec (Method: *#01#05#);
*If you use MS130v4 for connecting telephone, PBX, billing device, you can set dial interval as 3 seconds or 5 seconds as you like (Method: *#01#30#, set the dial interval as 3 seconds).
3) Adjust Earphone Volume
*#02#15#
02—command, 15—volume, Max 16, Min 1, default setting is 15.
4) Adjust Mic. Volume (sensitivity)

*#03#10#

03—command, 10—amount, Max 16, Min 1, default setting is 10.

5) Setting Local Area Code

*#04#*0755#

10—command, *0755—area code, Max 5 numbers, use "*" instead if area code is less than 5 digits.

6) Setting IP numbers

*#05#17911#

05—command, 17911—IP numbers, Max 5 numbers, use "*" instead if IP number is less than 5 digits.

7) Hide Caller ID (being sent out) Setting

*#13#01#

13—command, 01—value, Max-02, Min-00, Default setting is 00

· 00 - presentation indicator is used according to the subscription of the CLIR service.

· 01 - CLIR allowed

· 02 – CLIR prohibited

Notice: This setting needs carrier support.

8) Bar Incoming Call Setting

*#14#00#

14—command, 00—value, 00—no barring, 01—set barring, 00—default setting

9) FSK setting (optional) (should confirm before order)

*#17#00# setting caller ID

17-order, 00-value, 00-DTMF, 01-FSK, default setting is 00

This setting needs terminal has FSK chip set support

10) Billing Mode Setting

*#15#00#

15—command, 00—value, 01—reversal polarity, 02-12 KHz, 03-16 KHz, 00—default setting

11) IMEI Change Setting (for Quad Band M10 Module only)

1. Write IMEI to RAM

*#18#IMEI no.#, 18—command, IMEI No. –15-digit IMEI no.

2. Check IMEI, if it is right then write it to module

*#19#IMEI no.#, 19—command, IMEI No. –15-digits IMEI No.

Notice: Step 1 and Step 2, IMEI no. must be the same

12) Pin Lock and Network Lock Setting (optional)(Should confirm before order)

PIN LOCK

1. Set to open PIN code check and automatic PIN lock function

*#07#*1234#   07-command, 1234- The current SIM card PIN code

If set successfully, the device will open PIN code check, and automatically change the current SIM card into "PIN on" from "PIN off"

2. Set to Close PIN code check and automatic PIN lock function

*#08#*1234#   08-command, 1234- the current SIM card PIN code

If set successfully, the device will open PIN code check, and automatically change the current SIM card into "PIN on" from "PIN off"

3. Set to change PIN code, open automatic PIN lock function

*#09#1234*56785678#　09-command, 1234- the current SIM card PIN code, 5678-new PIN code. (5678 can be an other 4 digit number, suppose you use 2009).

If set successfully, the device will change the current SIM card PIN code as you want (5678) or any other 4 digit PIN codes and opens the automatic PIN lock function.

NETWORK LOCK

1. Set to open Network lock function

*#10#01234# 10-command, 01234-password

2. Set to close Network lock function

*#11#01234# 11-command, 01234-password

3. Set the Network codes

*#12#1*46003*46003# 12-command, 1-No. of IMSI, 46003-the IMSI code

*#12#2*46000*46000# 12-command, 2-No. of IMSI, 46000-the IMSI code

8. Making Calls and Answering Incoming Calls

Making Calls

1.　　Lift the handset or press "hands-free" key, wait for dialing tone, then dial the telephone number you want to call,

2.　　Dialing: dial the telephone number you want to call

3.　　Upon completion of dialed number, you can press "#" to transmit the called telephone numbers. If you don't dial any key for continual 3 seconds during the dialing, terminal transmits called telephone numbers automatically.

4.　　During Calls, if the telephone numbers are not free, the terminal sends out an anti-polarity signal.

5.　　If the calling party of called party hangs up, the terminal stops sending out anti-polarity signal.

Answering Incoming Calls

When calls are coming in, if the connected telephone has the function of displaying incoming calls, the telephone rings and displays the incoming telephone numbers. Now users can lift the handset or press "hands-free" to answer it.