

GSM Fixed Wireless

Terminal (II)

User Manual

V1. 2

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Welcome to use the GSM Fixed Wireless Terminal. Please read this simple guidance. Further detailed information is given in this manual.

1. Summary

GSM Fixed Wireless Terminal is a mobile terminal for telecommunication operators to develop fixed telephone services. It takes the advantages of the wide coverage of mobile communication network and convenient installation to meet the fast increasing requirement of users.

The product is particularly suitable for telecommunication operators to entry the common fixed telephone market. With easy installation and high efficiency, it can be widely applied in

1. Various enterprises
2. Institutes
3. Movable carriers
4. Places of interest/ scenic spots
5. Large exhibitions
6. Consulting meetings
7. Others

It is used where telephone lines are unavailable or very limited. The installation is easy and rapid and can be put into use as soon as within mobile network, while can solve problems of line deficiency and temporary telecommunication. It can be connected to common phones via GSM network, providing a service compared favorably to fixed phones, and producing a communication effect similar to that of fixed phones.

This Wireless Terminal is mainly applied within the coverage of GSM cellular network.

2. Main function

- ◆ GSM cellular network outgoing.
- ◆ GSM cellular network incoming.
- ◆ DTMF Caller ID, FSK Caller ID (Optional).
- ◆ Support secondary dial.
- ◆ Send polarity reversal signal for billing meter while connection.
- ◆ Sending 12/16KHz pulse for billing meter while connection is also compatible.
- ◆ Rechargeable battery, keep conversation for at least **1.5** hour when out of mains supply. (Optional)

3. Interference

All wireless devices may get interference which could affect performance.

Please make sure that your device is in service, and pay attention to conditions as follows.

Topic	Description
Hospital	Follow any regulations or rules. Switch the device off near medical equipment.
Aircraft	Wireless devices can cause interference. Using them on aircraft is illegal.
Fuel	Don't use the device at a refueling point. Don't use near fuel or chemicals
Blasting	Don't use the device where blasting is in progress. Observe restrictions, and follow any regulations or rules.
Children	Keep your device in a safe place and keep it in out of small children's reach. Children could hurt themselves or others and they may damage the device.

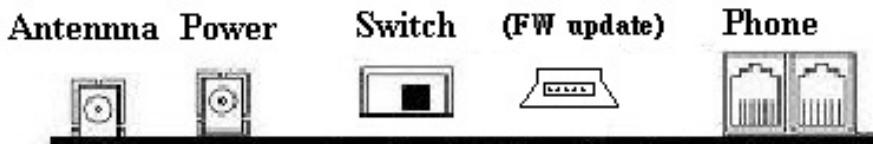
4. Notice List

	Description
1	Don't attempt to repair the device by yourself. Only qualified service personnel could install or repair the device.
2	Do not tie the antenna with the telephone line during use. Otherwise it could cause interference and affect connection quality.
3	Please install the antenna 1 meter faraway from the device or other sensitive electron device. If the antenna is damaged, do not use it any more. You can contact the franchiser to repair it.
4	Do not use unqualified antenna or try to modify any part of the device.
5	To avoid noise interference, use an anti-EMI phone if possible.
6	If the device installed rechargeable battery, please recharge for at least 24 hours before the first use. If the device is in "Turn Off" state, it do not recharge to the battery.
7	Please use the device stand to the manual.

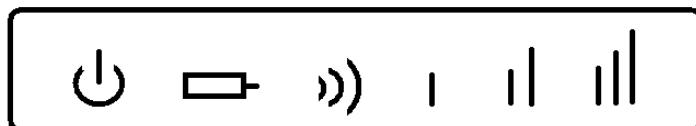
5. Installation

5.1. Interface

The back of the device as below:



5.2. Indicator lights



There are 6 indicator lights in the terminal device. From left to right in turn, it is:

1. Power indicator lights (Adapters)
2. Power indicator lights (Battery)
3. Status indicator lights
4. Signal Strength 1
5. Signal Strength 2
6. Signal Strength 3

5.3. Signification of Indicator lights

	Indicator Light	Description
1	Signal Strength 1 flash one times Signal Strength 2 flash one times Signal Strength 3 flash one times	Startup
2	Power Light constantly on	Power normal
3	Power Light constantly off	Power un-normal
4	Power indicator lights (Adapters) Off Power indicator lights (Battery) On	Power supply by battery
5	When not in conversation: Signal Strength 1 flash Signal Strength 2 flash Signal Strength 3 flash	No SIM card or SIM card installed incorrectly
6	When not in conversation: Signal Strength 1 flash slowly Signal Strength 2 flash slowly Signal Strength 3 flash slowly	Need input PUK code of the SIM card.

7	Signal Strength 1 flash	Searching for network
8	Status indicator light On	1. Off-Hook (Not connection) 2. Talking
9	Status light constantly off	Telephone On-Hook
10	Status light flash slowly	Incoming
11	Signal Strength 1 constantly on Signal Strength 2 constantly off Signal Strength 3 constantly off	Signal Strength very lower
12	Signal Strength 1 constantly on Signal Strength 2 constantly on Signal Strength 3 constantly off	Signal Strength Medium
13	Signal Strength 1 constantly on Signal Strength 2 constantly on Signal Strength 3 constantly on	Signal Strength High
14	Signal Strength 2 flash Signal Strength 3 flash	SIM card locked. Please input PIN code.
15	Signal Strength 3 flash	This SIM card is not the locked network SIM card.
16	Signal Strength 1 flash Signal Strength 2 flash	When you lock the SIM card, if the PIN code of the card is not "1234", it can not lock this SIM card, and Signal Strength 1, 2 flash.
17	Signal Strength 1 flash Signal Strength 3 flash	After locked SIM card (it locked the card with a default PIN code), if you insert another SIM card (it's PIN code is not the default PIN code), the Signal Strength 1, 3 flash.
18	Signal Strength 2 flash	This SIM card is not the locked card

5.4. Installation

A. Set the device in a place with well ventilation, dryness, few dust, no electromagnetic interference. And make sure that your device is in GSM network's service area.

B. Install GSM SIM card

Loosen the nut in the rear of the equipment, remove the cover from behind and insert the SIM card in the module inside.

To use your device, you must insert a valid card. Normally it is supplied by your service -provider. Keep the SIM card well. Any scratches or bending could damage its contacts. Before installing the SIM card, always make sure that the device is switched off.

Open the cardholder in the way as the "Open" arrow shows, and slide the micro-SIM card in. Make sure that the golden interface is facing downwards with the cut corner of the card in a correct way.

Close the cardholder and lock it in the way as the "lock" arrow shows.

Close the cover, and tighten the screws.

C. Install antenna

Screw the head from the antenna on the device (antenna connector). Do not put the two too close.

- D. Connect the telephone and the device (any one phone jack). Place the phone set away from the antenna to avoid interference.
- E. If you want to use a billing meter, connect it with the telephone and the device. For connection to a user PBX, connect it with the device by trunks.
- F. Attach the lead from the adapter carefully to any one of the power-socket on the back of the device. Connect the power adapter to an AC Power outlet.
- G. Switching on, and then the device startup, it will enter into work state after searching for network.
- H. Make sure that the device is currently in service. If the signal strength is very lower, maybe the network is currently not available. You may be in a bad reception area. If possible, move the machine to a different location.

6. How to use

6.1. Making Calls

1. Take up the handset and a dialing tone will be heard. Dial phone number.
2. In order to shorten the network access time, you can dial the [#] key as a speed dial key. If no more number is dialed within **6** seconds, the numbers just inputted will be dialed out automatically.
3. Talk after connected. (If the billing meter is connected, it will display the phone number you have dialed, and start to bill once the number is connected.)
4. On-Hook, after finished the conversation.

6.2. Answering a call

When there is an incoming call, the phone set will ring. Take up the handset to speak.

7. Command Table

All commands are listed as below. Connect a telephone set to the device. Take up the handset and dial the command number, will hear a beep tone, then, hang up to finish the operation. After finished setting a command, hang up, and then Pickup the handset to set another command.

For this version, it add an administrator command “##0309*”. It need

input command “##0309*” before set any command. For example, if you want to set “Set polarity reversal” command, you should pick up the handle set of the telephone and input command “##0309*”, then hang up, then pick up the handle set of the telephone again and set command “**0804*”. Then, before you set the next command, you should set the administrator command “##0309*” again. The period of validity of the administrator command “##0309*” is only one minute.

The administrator command “##0309*” is for all the base command in the user manual and following command.

NO.	Command	Function	Description
1、	#0123456789*	Testing DTMF receive or send	If it receives DTMF successfully, the telephone displays “*#0123456789”
2、	**0802*	Check version number	The telephone will display version number, such as 30011115 or 30011116 or other.
3、	**0803*	Check value of CSQ	The telephone will display the value of CSQ.
4、	##0801*MMMM*	Unlock, if locked.	On Startup, input PIN code of the SIM card, MMMM is PIN code.
5、	##0802*MMMM*	Enable the function of “Lock SIM Card”	MMMM is PIN code. If setting success, the telephone displays “111111”.
6、	##0208*MMMM*	Disable the function of “Lock SIM Card”	MMMM is PIN code. If setting success, the telephone displays “222222”.
7、	##0108*MMMM*NNNN*NNNN*	Change PIN code of the SIM card	MMMM is old PIN code. NNNN is new PIN code. If setting success, the telephone displays “333333”. Notice: This command is valid only after enabling the function of “Lock SIM Card”.
8、	**0800*N*	Adjust volume	“N” is the level of volume, the value range is 1~8. Factory setting: 6
9、	**0804*	Set polarity reversal	Send polarity reversal signal for billing meter while connection.
10、	**0805*	Cancel polarity reversal	
11、	**0806*	Set 12KHz Pulse	Send 12KHZ Pulse signal for billing meter while connection. Factory setting: Enable
12、	**0807*	Cancel 12KHz Pulse	
13、	**0808*	Set 16KHz Pulse	Send 16KHZ Pulse signal for billing meter while connection.
14、	**0809*	Cancel 16KHz Pulse	

15、	**0900*	Polarity reversal or 12/16KHz Pulse is valid for incoming call	
16、	**0901*	Polarity reversal or 12/16KHz Pulse is invalid for incoming call	
17、	##09*N**	Lock/Unlock Card	N=0: Unlock SIM card N=1: Lock SIM card
18、	##08*N**	Lock/Unlock Device	N=0: Unlock Device N=1: Lock Device
19、	##10*N**	Lock/Unlock Network	N=0: Unlock Network N=1: Lock Network
20、	##0757**	Unlock Card/ Device/ Network	Equal to making three commands: ##09*0** ##08*0** ##10*0**
21、	**66*N*	Hide caller ID	N=0: Disable N=1: Enable Factory setting: Disable
22、	**0700*XX*	Adjust microphone volume	XX = 00-15 Factory setting: 06
23、	**70*NN*	Call delay	**70*NN* NN is delay time, unit second. For example, NN=05, after you dialed a phone number, it delay 5 seconds, then send out. You can use command **71*5*2 to query call delay time (refer to the section “ Other Inquiry Command ”). Factory setting: 06

Advanced function setting (Optional)

1	Caller ID Mode FSK/DTMF	**72*N* N=1 means FSK, N=0 means DTMF; the default N=0 . You can use command **71*5*5 to query “ Caller ID Mode ” (refer to the section “ Other Inquiry Command ”).
2	Forbid call out command	**77*MM*N* MM is index (00~20), N is prefix number. The max length of prefix number is 11. Specially, if MM=00: Clear all Forbidden call number (If MM=00, the command is **77*00**). For example, **77*01*99*, it will forbid to call the phone number that begin with “99”. It can set max 20 group forbidden phone number.
3	Inquiry Forbidden call number	**71*2*SS SS is index (01-20). For example, pickup handle, dial **71*2*01, then hang up, phone display XXNNN. XX is the index. NNN is Forbidden prefix number.

4	Forbid international call out command	**76*N* N=1 enable, N=0 disable, (The international call is that the phone number begin with “00”) You can use command **71*5*3 to query “ Forbid international call ” state (refer to the section “ Other Inquiry Command ”).
5	Forbid incoming call command	**75*N* N=1 : Forbid all incoming call, N=0 : Not Forbid incoming call; You can use command **71*5*4 to query “ Forbid incoming call ” state (refer to the section “ Other Inquiry Command ”).
6	Forbid special incoming call comand	**74*MM*N* MM is index (00~20), N is prefix number, the max length of prefix number is 11, MM=00: Clear all Forbidden incoming call number (If MM=00, the command is **74*00**).
7	Inquiry Forbiden special incoming number	**71*3*SS SS is index (01-20). For example, pickup handle, dial **71* 3 *01, then hang up, phone display XXNNN. XX is the index. NNN is the Forbidden incoming call prefix number.
8	Other Inquiry Command	**71*5*N N=1~5. It is inquiry type. N=2: Inquiry Call Delay time. It returns 2XX. XX is the Call Delay time. N=3: Inquiry “ Forbid international call ” state. It returns 30X. X=0, disabled; X=1, enabled. N=4: Inquiry “ Forbid incoming call ” state. It returns 40X. X=0, disabled; X=1, enabled. N=5: Inquiry “ Caller ID Mode ”. It returns 50X. X=1, FSK; X=0, DTMF.
9	Hook on detect time	**0608* and **0609*. When the phone Hook on more than this time will be cut off the call. **0608*: 710ms **0609*: 120ms Factory setting: 120ms
10	Three beeps dial tone after dialing.	**0602* and **0603*. **0602*: Enable. **0603*: Disable Factory setting: Disable
11	Send out no delay	**63*NN*MMM...# NN is the length; MMM is prefix number. The max length of the “MMM... ” is 9. For example, **63*07*05#, it means that if you dial a phone number which begin with 05, and after you dialed 7 digital, it will send out the phone number immediately, not any delay. You can set 20 groups this command. **63*00*# Command “**63*00*#”, clear all the setting that had been set by command **63*NN*MMM..#

		<p>**64*NN*</p> <p>This command is for setting all other prefix number except the prefix number that had been set by command **63*NN*MMM...#. For example, **64*10*, it means that all other prefix number will be send out immediately after you dial 10 digits.</p> <p>Specially, **64*00*, it means that all other prefix number do not be sent out immediately, need delay.</p> <p>Factory setting: 00, No limit.</p>
12	Billing interval	<p>**78*TTT*</p> <p>Charging every few seconds to send signals.</p> <p>For 12/16KHZ only.</p> <p>TTT: Unit second.</p> <p>When the TTT is 000, do not send pulses</p> <p>When the TTT is 999, When connected only to send a pulse.</p> <p>This command is for setting all other prefix number except the prefix number that had been set by command **65*XXX*YYY*NNN...#.</p> <p>Factory setting: 15 seconds.</p>
13	Special Offer Setting	<ol style="list-style-type: none"> 1. Special offer time setting Command: **67*HHMM*HHMM# For example, **67*2030*0800#, it means that the Special offer time is from 20:30 to 8:00. Factory setting: 20:00~08:00 2. The interval of sending 12/16KHz pulse signal Command: **65*XXX*YYY*NNN...# XXX is the interval of sending 12/16KHz pulse signal when it is not in Special offer time. The value of XXX is from 000 to 999 seconds. It must be 3 digits. If XXX=000, it means that it does not send out 12/16KHz pulse signal. YYY is the interval of sending 12/16KHz pulse signal when it is in Special offer time. The value of XXX is from 000 to 999 seconds. It must be 3 digits. If XXX=000, it means that it does not send out 12/16KHz pulse signal. “NNN...” is the prefix number. It can be set 20 groups this command. For example, if you set command: **67*2030*0800# **65*015*030*05# It means that if you dial a phone number begin with 05 at time 10:00, it will send 12/16KHz pulse signal per 15 seconds, and if at time 21:00, it will send 12/16KHz pulse signal per 30 seconds. 3. Reset Command: **65*# This command clear all the settings that set by command “**65*XXX*YYY*NNN...#”.

14	Set and Inquiry date time	<p>1.set the world time $**88*0505*YYMMDDHHMM*$ YY: AD last two. MMDD: Month, day. HHMM: hour, minute.</p> <p>2. Inquiry date $**05*1$, for example, pickup handset, dial $**05*1$, then hang up, phone display yyyyymmdd</p> <p>5. Inquiry time $**05*2$, for example, pickup handset, dial $**05*2$, then hang up, phone display HHMM (Hour and minute)</p>
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Note: 1. ****63** set, when the set code number is repeated, the code length in accordance with the pre-set based, Therefore, it is best to remove all the original setting (**63*00*#), then re-set.**

8. Technical Specifications

No	Item	Value	Remarks
1	Work frequency	GSM 850/900/1800/1900MHZ GSM 900/1800MHZ (Optional) or 850/1900MHZ (Optional)	International Standardization of GSM Digital Mobile Network
2	Power	≤ 2 W	
3	Sensitivity	-104dB	
4	Power Consumption	Static ≤ 25 mA, Transmit ≤ 600 mA	
5	Ambient noise	≤ 60 dB	
6	Antenna gain	3dB (omni antenna)	
7	Interface standard	RJ11phone jack; SMA antenna interface.	
8	SLIC parameter	Return loss: >24 dB Weighted Noise: Representative value -75dB	
9	Ringing current voltage	Representative value 90VP-P	
10	Feed Current	23mA-35mA	
11	On-hook voltage	48V	
12	Max Loop resistance	1000Ω	
13	Dial tone frequency	350+440Hz continuous	
14	Busy tone frequency	425Hz 0.2s/0.2s	

15	Power Supply	DC 9V/800mA (adapter AC 120 input) DC 12V 1A (adapter AC 110~240 input)	On actual shipment delivery.
16	DTMF Receive	> -23dB insure receiving	
17	DTMF Receive sensitivity	>99.99%	
18	Insertion loss	≤0.5dB	
19	Rechargeable battery	Li-ion Battery 3.7V 1200mAH	
		3 pins	

9. Environment standard

Environment: Away from rain, sunshine, dirt, stronger electromagnetic.

Atmosphere: 86kPa~106kPa

Temperature: -10°C~40°C

Relative Humidity: 10%~90%

10. Problem and Solution

Problem	Possible cause and solution
Can not startup	Check Power: 1. Whether the adapter installed and connected correctly. 2. If the terminal installed battery, check whether the electrical voltage is enough.
No Dial Tone	1. It will keep for about 1 minute for startup. After searching network, it enters into work state. 2. Check whether the phone line is connected correctly. 3. Whether the SIM card is valid.
Dialed, but can not outgoing.	1. Whether the SIM card is valid. 2. If you connected a billing meter, check whether it is the billing meter forbid the outgoing.
If you cannot remove the problem by this solution, Please contact with franchiser or manufacturer.	

Fixed Wireless Terminal (II) USER MANUAL V1.2

Reproduction, transfer, distribution or storage of part or all of the contents in this manual in any form without the prior written permission of technical owner is prohibited.

This device complies with PART 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and**
- (2) This device must accept any interference received, including interference that may cause undesired operation.**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .This equipment should be installed and operated with minimum distance 100cm between the radiator& your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.