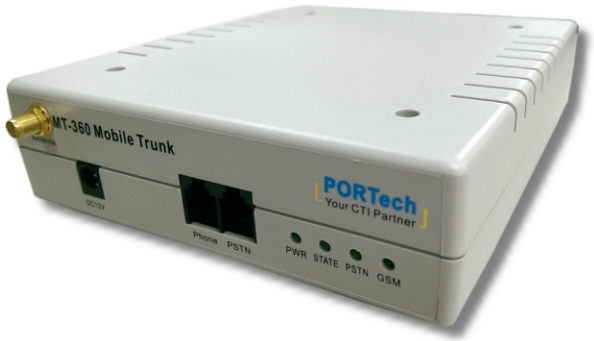
MT-360
GSM Fixed Wireless Terminal

Operation Manual



PORTech Communications Inc.

§ INDEX §

1. Preface

MT-360 is a GSM Fixed Wireless Terminals that has FXS,GSM interface. It can connect with PBX or Phone or VoIP Gateway . MT-360 provides a flexible connection between analogue and GSM networks. Fixed to mobile calls turn into mobile to mobile calls. So using MT-360,users can save costs.

2. Function Interpretation

(1) Conversion of wire & wireless communication

We can use MT-360 to apply conventional telephone set replacing cell phone to perform sending and receiving phone calls.

(2) Through the connection towards local PSTN line, the phone calls will proceed with code-transfer dialing process. For example, when you dial “002”, will transfer it to “006” and transmit the calls through the other fixed communication network systems.

(3) Voice volume modulating system

In order to cooperate with different application environment, the Wizard is capable to modulate the voice volume of phone.

(4)MVPN Function

Provide MVPN routing according to the prefix of MVPN number for GSM carrier.

3. Parts Of Equipment

After opening the package, please check whether all parts attached to Wizard are provided in the package. If there is any missing, please query the sales agent promptly to supplement for the insufficient parts. The parts on the list are specified below:

(1) The Main Device

(2) Transformer AC-DC (110V AC – 12V DC) or (220V AC – 12V DC)

(3) Phone connecting Line

(4) Antenna

(5) This Operation Manual

(1)

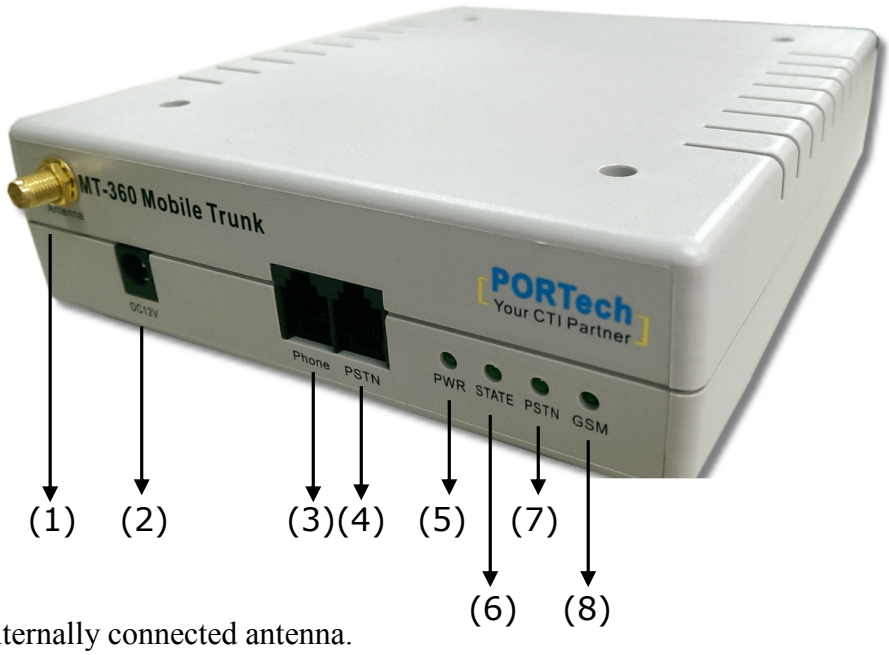
(3)

(2)

(4)

4. Dimension: 14cm x 17cm x 4cn

5. Demonstration of Equipment



(1) Socket of externally connected antenna.

(2) DC 12V: power input.

(3) PHONE: Telephone/PBX connector; with standard RJ-11 USA type plug, connected to the phone set or PBX.

(4) PSTN phone jack : Central office line interface, standard RJ11 phone jack.

(5) PWR LED (Power Indicator)

(6) STATE LED :

Slow flashing :during the initialization stage.

Light up: when the phone set is picked up.

Fast flashing: during the GSM line in use.

Flash timing indicates the RSSI(received signal strength indicator), 5 times per second for the strongest receiving, 1 time per second for the poorest receiving.

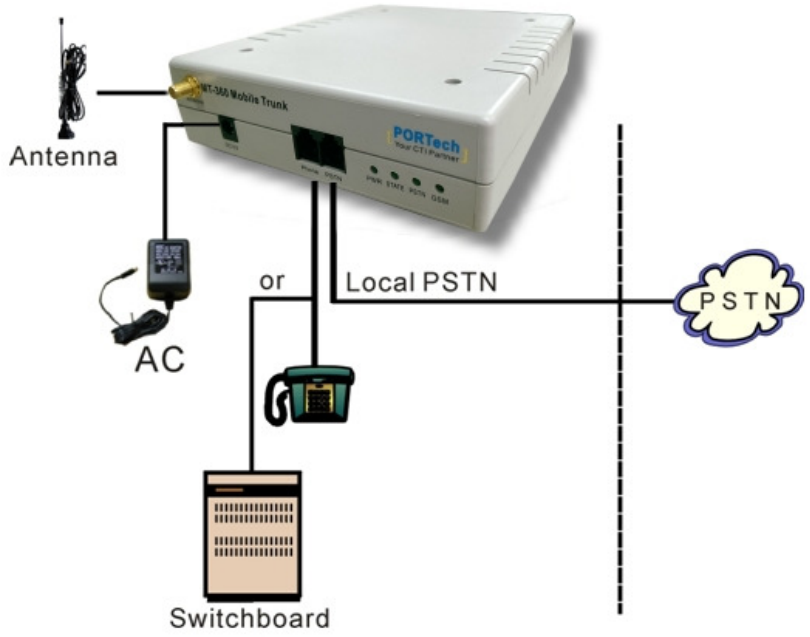
(7) PSTN LED : Flashing during the PSTN line in use.

(8) GSM LED : Fast flashing when the GSM channel is available, otherwise, slow flashing.

** Insert the SIM card from the back (take off the slide first)

Important:You must off your PIN Code of your SIM Card by your cellular phone

6. Install Line Connections



Wiring Diagram

(1) Take apart your local PSTN connecting line from the phone or PBX, and connect it to the LINE connecting slut of .

(MT-360 connect with local PSTN : If MT-360 no electric power or GSM is not ready ,the call will dial out from PSTN. Normal, the call dial out from GSM)

(2)Connect PHONE connecting slut to the inlet side of phoneset or PBX.

(3)Put in transformer power. The DC end connects to DC 12V of , and then the PW lamp on the front side of should light up.

(4) will proceed with system detection after booting. Please connect the Line and Phone correctly before energizing it. If problem is found during the system operation, please take power source off first and process wiring task next.

7. Set the Allow-to-Dial Code

(1)Hold the phone and dial numbers following the order illustrated below:

***#nnnn#: n means the code that allows sending calls out from GSM. Hang up the phone and the setting is thus completed. When the coding number is altered, follow the above steps to set up again.

※ when nnnn is set to ＊＊, it will close the calls-sending function from GSM.

Format: ***# [waiting for confirming tone] (turn setting function on)

nnnn# [waiting for echo tone in responding]

Where nnnn means the allow-to-dial prefix code, which as ***#0937, #0948# are on behave of 0937- and 0948-; the prefix code is dialed out from GSM.

Default setting =0, all call number starting with code "0" means allow-to-dial code.

8. Code Conversion Setting

Format: ###* [Waiting for confirming tone] (turn setting function on)

aaaa# [Waiting for echo tone in responding]

bbbb# [Waiting for echo tone in responding]

Where aaaa means original code, bbbb means converted code; the ###*002#006# means converting prefix codes 002- to 006- automatically.

We have defined this code dialing mechanism outputting through Telephone Office line system of PSTN. If we want to output through GSM, we can set the first code to "*", such as ###*002#*006#, which means that will auto-convert prefix codes 002- to 006- and dial out through GSM.

9. Cancel Code-Conversion

Format: ###* [Waiting for confirming tone] (turn setting function on)

**# [Waiting for echo tone in responding]

is to cancel code conversion function.

10. Set Parameter

(1)Set GSM dial-out code amount

Format: *#** [Waiting for confirming tone]

71aabb#

aa means dial-out number of call digits, bb have to be inputted in exactly identical to aa.

Example: *#**711010#, which means setting dial-out number of call digits = 10. If correct, will beep up once in response. If not correct, will beep up four times consecutively instead.

Default setting =10

(2)Phone line Polarity reversing function

Format: *#** [Waiting for confirming tone]

510101# is to turn the reversing function off,

510202# is to turn it on (default).

Default setting = 02

(3)Definition of DTMF reversing signal

Format: *#** [Waiting for confirming tone]

52aabb#

In some regions or systems, DTMF reversing signals vary and can be defined by this function:

aa= 11 (* TONE), 12(# TONE), 13(A TONE), 14(B TONE), 15(C TONE),
00(D TONE)

bb needs conforming to aa.

Default setting = 15 (C TONE)

(4)Limit of communicating time

Format: *#** [Waiting for confirming tone]

61aabb#

aa means the communicating time in the unit of min. (00-99), and will show alerting sound 30 sec ahead of disconnect. bb should be identical to aa by input. If setting to “00”, it then means unrestricted.

Example: *#**610505#, which means that system will send out alert sound at the communicating time of 4:30, and hang up it at about 4:55. If correct, the will beep up once in response. If not correct, the then will beep up four times consecutively instead.

Default setting = 00

(5)GSM function of dialing out the prompt tone, means this call is through GSM.

Format: *#** [Waiting for confirming tone]

530101# turn off prompt tone.

530202# turn on prompt tone (default).

Default setting = 02, turn on this function.

(6)Set up GSM extra dialing local code

When both GSM and PSTN dial local code, the difference between them is that GSM has to extra dial up local code whereas PSTN needs not. This function applies to the condition that when PSTN has been cut and user dials local phone No., system thus will add in local code automatically and dial out from GSM.

Format: *#** [Waiting for confirming tone]

63aabb#

aa means code limit. There are still certain restrictions when auto-adding local code, such as that the service or emergent phone calls need not to add extra code dialing action. This setting is that when the total phone number length inputted is shorter to the setting value, then won't extra dial local code. bb means local code (2~8 digitals), it isn't contained in the original code while dialing out through GSM, and will auto-add it in advance.

Example: *#**630604#, if the prefix code isn't "0" (04), and total code number isn't less than 6, then when dialing out form GSM it will dial "04" ahead of the other code numbers. If correct, the will beep up once in response. If not, the then will beep up four times consecutively instead.

Default setting =00, to turn off this function.

Note: If it isn't connecting to PSTN, then the phone won't dial out through GSM, in case not setting up this function and not passing through the checking number of allow-to-dial code.

(7)Voive volume modulation

Format: *#** [Waiting for confirming tone]

21 aabb#

aa means voice volume, which varies from 00-99, 00 is the bottom value and 99 is the peak one.

bb should be externally inputted identical to aa.

Example: *#**219999#, it means that the voice volume is set to the maximum value. If correct, the will beep up once in response. And if not, the then will beep up four times consecutively instead.

Default setting =60

(8)Restore default setting

Format: *#** [Waiting for confirming tone]

990909#,

the only act needed to follow is to reboot machine.

(9)GSM isn't ready, call will be forced to dial out from PSTN

Format: *#** [Waiting for confirming tone]

59aabb

While GSM isn't ready, the function will let the phone forcedly dial out from PSTN.

If aa is set to "01", it means that the call is not to dial out through PSTN and presented by the tone signal of busy line.

If aa is set to "02", it means that the phone call is forced to dial out through PSTN.

bb needs to be inputted identical to aa.

Notice: that this echo function will be halt if there is actual echo sound, reply or voicel response occurred therein.

Default setting = 02 (forced to dial out through PSTN).

(10)Caller ID Display FSK/DTMF Switch

Format: *#** [Waiting for confirming tone]

650101# switch to FSK mode (default).

650202# switch to DTMF mode

(11)Caller ID Hide/Show

Format: *#** [Waiting for confirming tone]

670101# Show Caller ID (default)

670202# Hide Caller ID

(12) Limit all phone Callin

Format: *#** [Waiting for confirming tone]

640101# Accept all phone Callin (default)

640202# Limit all phone Callin

Remarks

Interpretation of echo-sound

[Command confirmed]: two beeps

[Setting is correct]: single beep

[Setting is error]: four consecutive beeps.

11. Q&A

Q1: "PWR" lamp doesn't light up after power on ?

A : No power transmitted to power plug, or the transformer is mal-functioned.

Q2: No further vocal sound heard after picking up the phone ?

A : Phone line is disconnected or wrong wire connected.

Q3: Why the "Busy Tone" is heard directly wile picking up phone ? (Not linked to PSTN)

A : GSM isn't ready yet, it might occur from the reasons of disconnecting antenna, not able to receive signals or equipment mal-functioned.

Q4: How to set up allow-to-dial number ?

A : Step I: connect a call receiver at phone.

Step II: lift up phone.

Step III: dial ＊＊＊＃, and set up all-to-dial code after hearing “beep” sound, then press ＃ again to confirm.

If we need to set up more than one allow-to-dial codes, use ＃ to separate them off.

Ex: ＊＊＊＃0910＃ beep 0920＃ beep

It means that the allow-to-dial number is set to 0910 and 0920.

Step IV: hang up phone speaker and the setting process is over.

Q5: How to clear up the former setting of allow-to-dial ?

A : Each new setting will auto-cover over the former two settings.

Q6: How to quick-sending out codes ?

A : Press ＃ after dialing out phone call, it will be sent out immediately.

Q7: how many allow-to-dial codes can this machine memorize ?

A : 50 sets.

Q8: Can we use to fax or make data preparation ?

A : Negative, only can perform tone function exclusively.

Q9: If the has no power on it, and its line connects to PSTN, can it dial out?

A : Yes, it could, yet is confined to dial out by PSTN only.

Q10: Can the phone make inspection on the echo signal of polarity reversal?

A : Yes, it could. When call is dialed out through GSM, the phone will make linear polarity reversal when it’s called for echo response.

Q11: Does the machine deserve CLID function?

A : Yes, it does. When GSM sends in call signal, it will send the CLID out from phone by DTMF/FSK signal.

Q12: How to compulsorily dial out any number through GSM (VPN)?

A : We can press '*' before dialing out, and dial phone number next to it. Finally, press '#' to finish this task.

12 Specification

(1) Phone impedance: under DC 1kΩ, AC 600Ω (exclude wire impedance).

(2) Phone signal receiving level: -3dbm～-24dbm.

(3) Phone signal time: 50～100ms.

(4) Phone frequency error: ±1%.

(5) Feed voltage: 48V.

(6) Power converter: Input:230/110 VAC 50/60 Hz 200mA，Output:12VDC,1000mA

(7) GSM specification:

(7.1)GSM Frequency bands: Quad Band 850/900/1800/1900MHz

(7.2)GSM class: Small MS

(7.3)Transmit power:

Class 4(2W) for EGSM 900

Class 1(1W) for GSM 1800

(7.4)SIM card reader: External – connected via interface connector

(7.5)Antenna: 50Ω antenna coaxial connector

(7.6)Temperature range:

Normal operation: -20℃ to +55℃

Restricted operation:-25℃ to -20℃ and +55℃ to 70℃

Storage:-40℃ to +85℃