



GL300M Series Manage Tool User Guide

EGPRS/LTE Cat-M1/LTE Cat-NB1/GNSS Tracker

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0. Revision History

Version	Date	Author	Description of Change
1.00	2018-08-21	Jesus Shu	Initial
1.01	2019-09-26	Jesus Shu	Added Chapter 3 Device upgrade

1. GL300M Series Manage Tool Interface

GL300M Series Manage Tool is used to configure parameters for GL300M Series through USB Data Cable (Data_Cable_M). It is easy for developers to configure GL300M Series with it for the interface is simple and functional. All commands can also be sent via SMS or Network.

The administrators can also use the Manage Tool to configure GL300M Series before delivery to its customers. But it is recommended for the customers to establish a backend server and to control GL300M Series via SMS or Network. Please refer to “*GL300M Series @Track Air Interface Protocol*” for details.

Before using the Manage Tool, please find “PL2303_Prolific_DriverInstaller_v1160” in developer suite and install the driver firstly. After that a new COM port will be found in your computer, and then please follow the steps below:

- (1) Power on GL300M Series.
- (2) Connect GL300M Series to PC with USB Data Cable (DATA_CABLE_M).
- (3) Run “Queclink GL300M_Manage_Tool_Vx.xx.exe”.

1.1. System Requirements

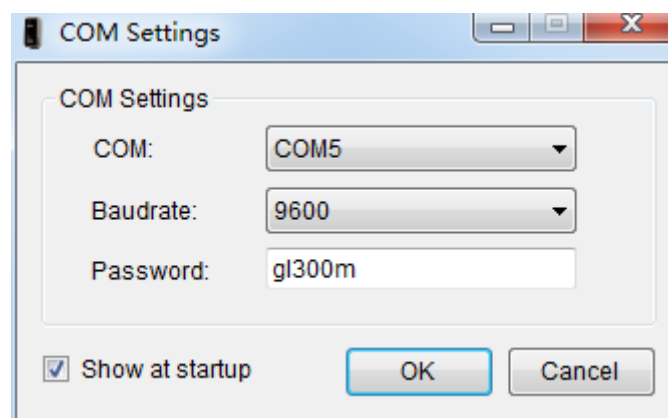
Before using the Manage Tool, please make sure the computer system meets the following configurations:

- ◆ Windows 98SE;
- ◆ Windows ME Windows 2000 SP4;
- ◆ Windows XP SP2 and above (32 & 64 bit);
- ◆ Windows Server 2003 (32 & 64 bit);
- ◆ Windows Server 2008 (32 & 64 bit);
- ◆ Windows Vista (32 & 64 bit);
- ◆ Windows 7 (32 & 64 bit);
- ◆ Windows 8 (32 & 64 bit);

Supported System Environments:

- ◆ Microsoft .NET Framework 2.0 or higher

1.2. COM Settings



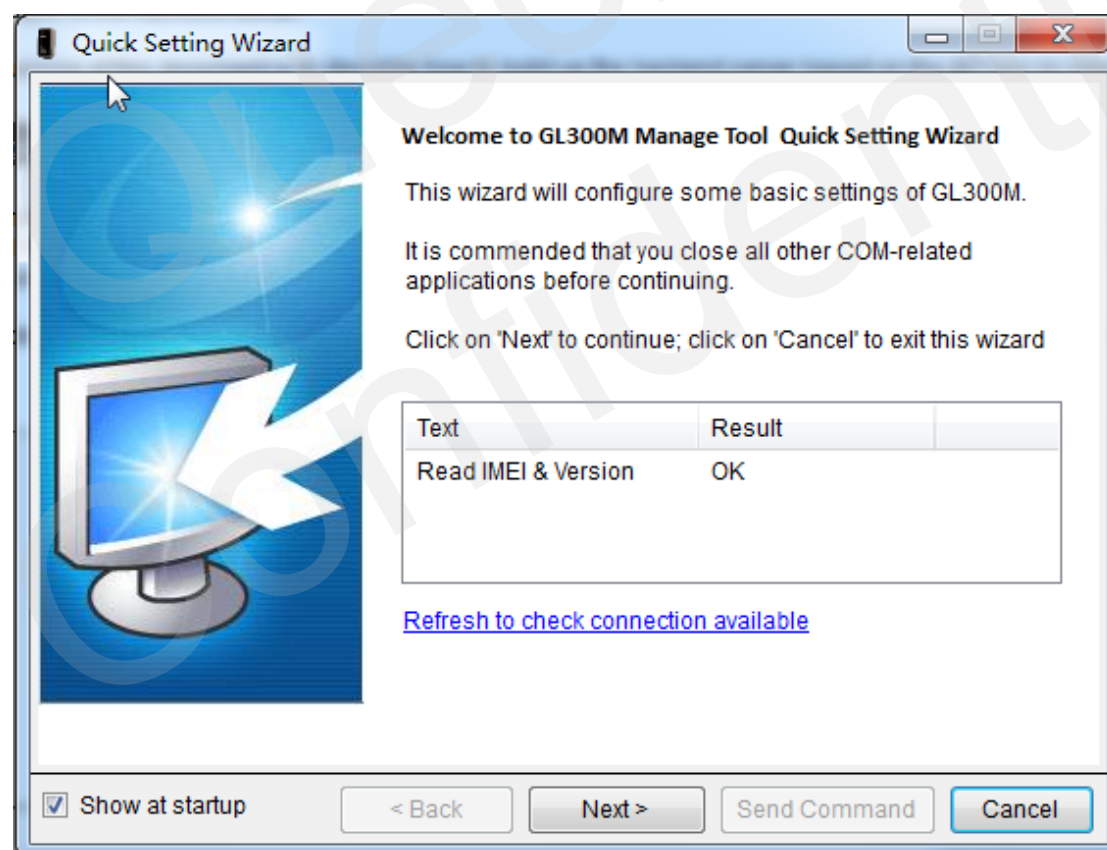
Select the COM port, input the password “gl300m”, and the main window will be displayed.

1.3. Quick Setting Wizard

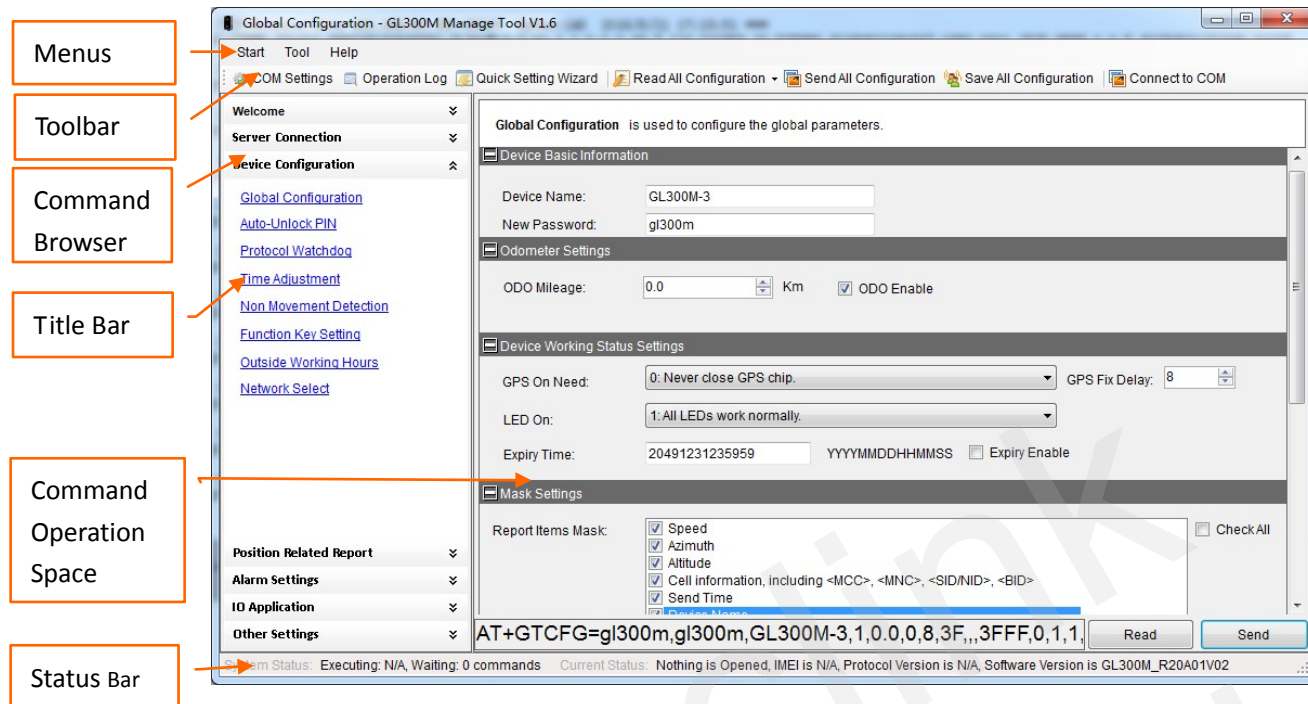
The Quick Setting Wizard is used to configure basic settings for the device. Select professional setting mode if more functions are required.

Make sure the COM connection is OK before using Quick Setting Wizard.

Please refer to Chapter 2.1 for details of the device configuration with Quick Setting Wizard.



1.4. Professional Setting Window



1.4.1. Title Bar

Title Bar indicates the command that is currently being operated.

1.4.2. Menus

There are menu options including “Start”, “Tool”, and “Help”.

Start Tool Help

1.4.2.1. Start Menu

Start menu contains “COM Settings”.

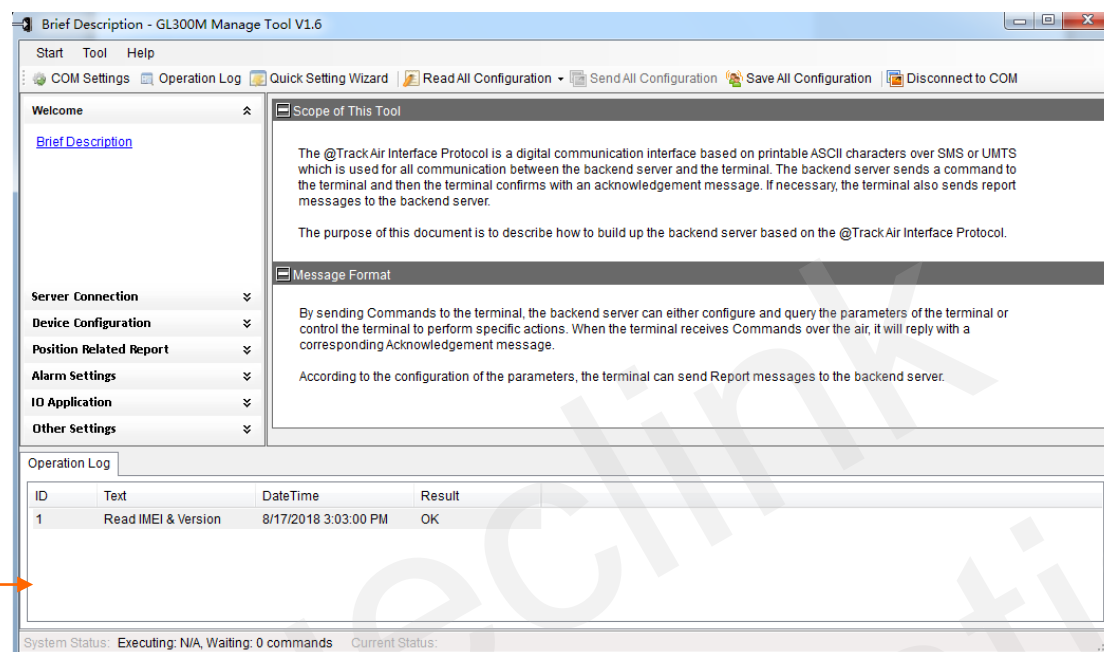
[COM Setting]: It is used to set the COM information and password. Please refer to Chapter 1.2 for more information.

1.4.2.2. Tool Menu

Tool menu contains “Quick Setting Wizard”, “Operation Log”, and “Options” settings.

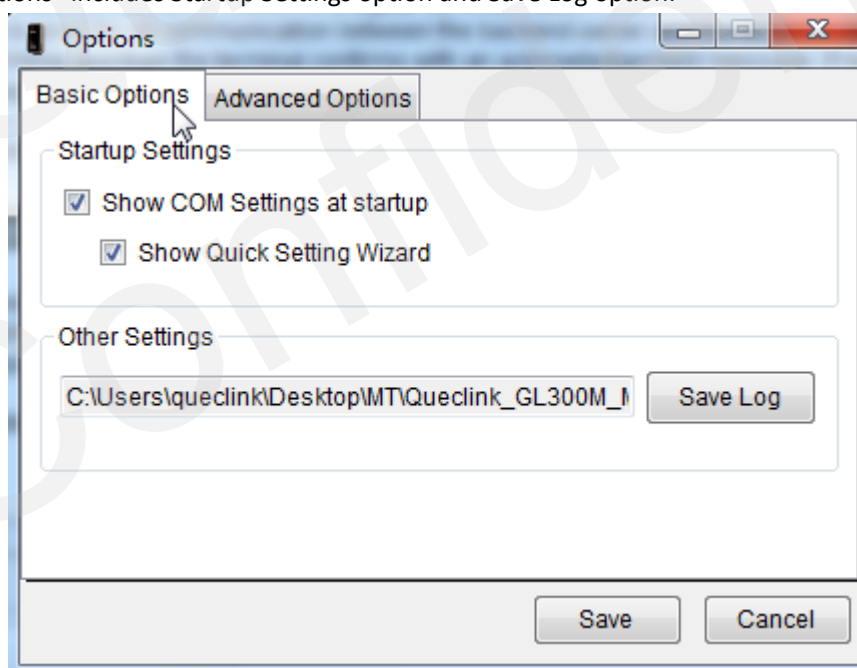
[Quick Setting Wizard]: It is used to open Quick Setting Wizard directly. Please refer to Chapter 2.1 for details.

[Operation Log]: It is used to display/hide the operation log.



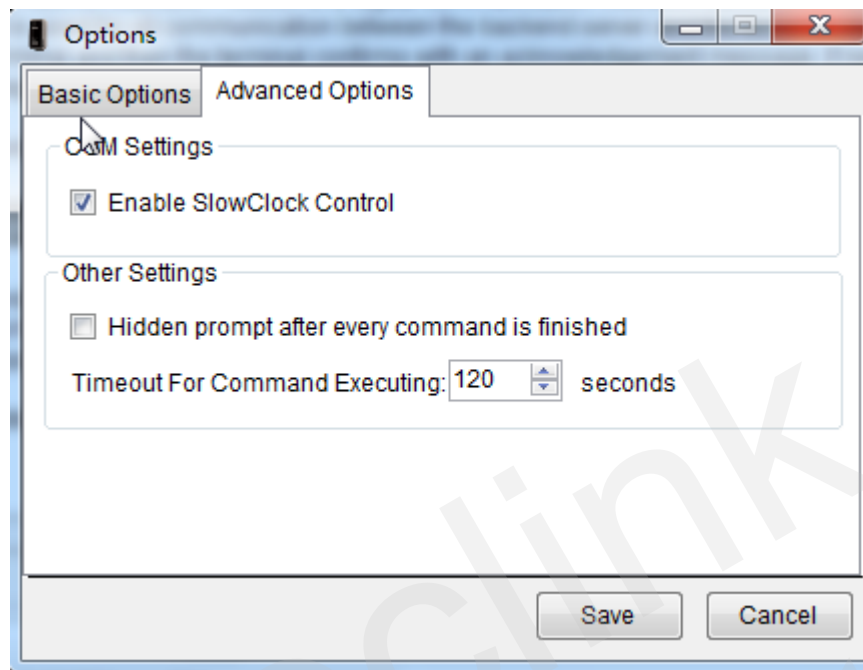
[Options]: It is used to configure the basic settings for the Manage Tool.

“Basic Options” includes Startup Settings option and Save Log option.



“Advanced Options” includes COM Settings and Other Settings.

COM Settings is used to enable/disable slow clock control. It is recommended to use default settings.



1.4.2.3. Help Menu

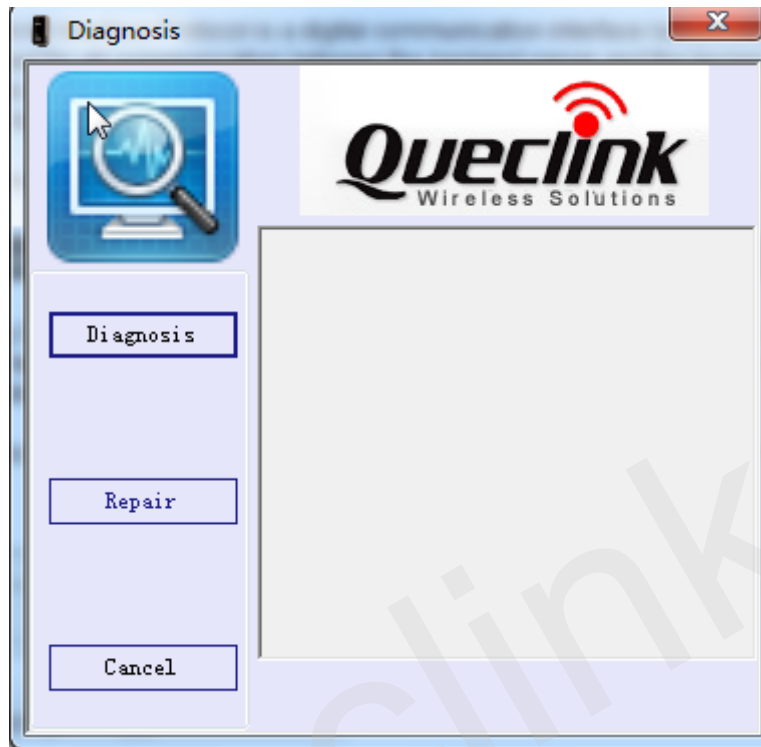
Help menu contains the options of “About” and “Diagnosis”.

[About]: The following window will pop up upon selecting “About”.



- “Tool Version” indicates the version of the Manage Tool.
- “Device Version” indicates the firmware which connects to the PC. It is recommended to use the same version as Support Version. If the Device Version is different from Support Version, new feature(s) of the device cannot be used with this tool.

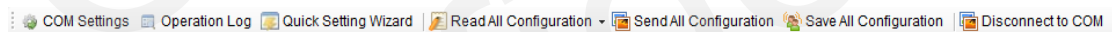
[Diagnosis]: The following window will pop up upon selecting “Diagnosis”.



This function is only for technical diagnosis when the device reports data abnormally. Ignore it when the device works normally.

1.4.3. Toolbar

Toolbar contains “COM Setting”, “Operation Log”, “Quick Setting Wizard”, “Read All Configuration”, “Execute All Configuration”, “Save All Configuration”, and “Connect/Disconnect to COM” as shown below.

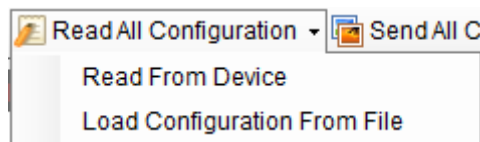


[COM Setting]: It is used to set the COM information and password. For details, please refer to Chapter 1.2.

[Operation Log]: It is used to display/hide the operation log.

[Quick Setting Wizard]: It is used to open Quick Setting Wizard directly. Please refer to Chapter 2.1 for details.

[Read All Configuration]: There are two options as shown below: “Read From Device” and “Load Configuration From File”.



“Read From Device”: It is used to read all configurations from the device.

“Load Configuration From File”: It is used to load configuration file to the Manage Tool.

[Send All Configuration]: It is used to execute all configurations in Command Operation Space except **GTRTO**.

[Save All Configuration]: It is used to save all configurations to file.

[Connect/Disconnect to COM]: It is used to connect/disconnect COM manually.

1.4.4. Status Bar

System Status: Executing: N/A, Waiting: 0 commands Current Status: COM15 is Opened, IMEI is 352948070074186, Protocol Version is FD0101, Software Version is A01V14

The Status Bar will display system state and current state.

[System Status]: It indicates the serial number of commands which are waiting to be executed.

[Current Status]: It indicates the current COM status, IMEI, protocol version and software version which are read from the device.

1.4.5. Command Browser and Command Operation Space

This area is mainly used to read and set the parameters for the device.

1.4.5.1. Command Browser

Command Browser divides all @Track protocol commands into several parts. Click Title Bar in Command Browser, parameters of this command will be shown in Command Operation Space.

Command Browser	Function Description	Command
Server Connection	Bearer Setting Information	GTBSI
	Backend Server Registration Information	GTSGRI
	Quick Start Settings	GTQSS
Device Configuration	Global Configuration	GTCFG
	Auto-Unlock PIN	GTPIN
	Protocol Watchdog	GTDOG
	Time Adjustment	GTTMA
	Non-Movement Detection	GTNMD
	Function Key Setting	GTFKS
	Outside Working Hours	GTOWH
	Network Select	GTNTS
Position Related Report	Fixed Position Report	GTFRI
Alarm Setting	Geo-Fence Configuration	GTGEO
	Speed Alarm	GTSPD
	Temperature Alarm	GTTEM
IO Application	Digital Input Settings	GTDIS
Other Settings	Real Time Operation	GTRTO
	Data Transfer Between UART and Backend Server	GTDTA
	Settings for SMS with Google Maps Link	GTGLM
	Over-the-Air Configuration Update	GTUPC
	Settings for Preserving Special Logic State	GTPDS
	Command String Storage	GTCMD
	User Defined Function	GTUDF
	White List Configuration	GTWLT
	GPS-assisted Motion Measurement	GTGAM

1.4.5.2. Command Operation Space

Quick Start Settings is used to configure the UMTS parameters and backend server information in one command.

Basic Settings

Report Mode:

It is suggest to set heartbeat interval in TCP long-connection mode. And the backend server should respond heartbeat data(+SACK:GTHBD) to unit.

UMTS Settings

APN: Notice: If this is the SIM card provided by Verizon, the APN item can be left blank, if not, please make sure the APN is correct

APN Username:

APN Password:

Backend Server Settings

Main Server IP/Domain Name:

Main Server Port:

Backup Server IP:

Backup Server Port:

SMS Gateway:

Other Settings

Heartbeat Interval: minutes

SACK Enable:

Buffer Enable:

Command Display

AT+GTQSS=gl300m,10569.MCS,,,3,,2,218.17.46.11,9173,218.17.46.10,0,13824347478,0,0,,,FFFF\$

[Command Description]: It is, as indicated above, a short description of a command.

[Parameters Area]: Set/Read current command parameters in this area.

[Command Display]: It shows the command and the corresponding parameter in Parameters Area.

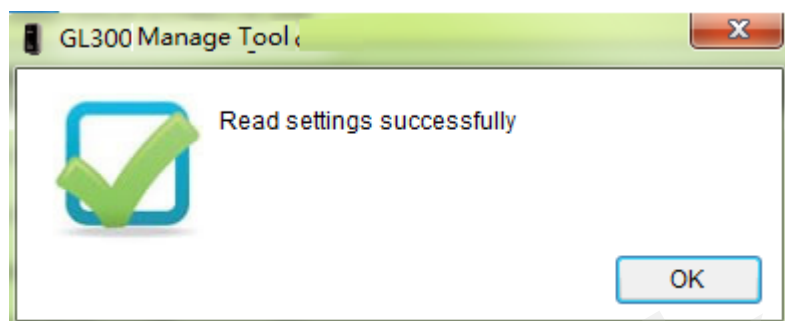
[Read]: Click this button to read the command from the device.

[Send]: Click this button to send the command to the device.

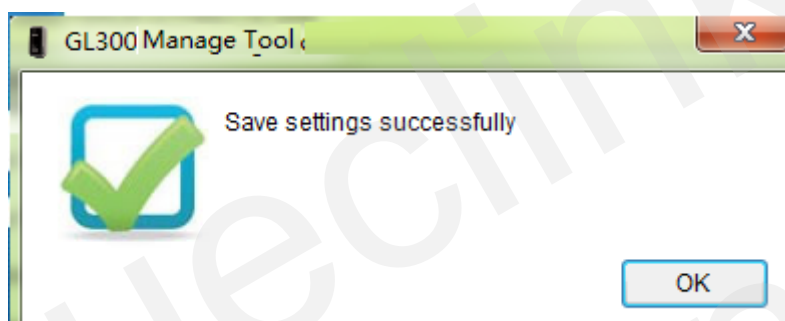
1.5. Operation Result Interfaces

1.5.1. Interfaces for Successful Operation

1.5.1.1. Command Read Successfully

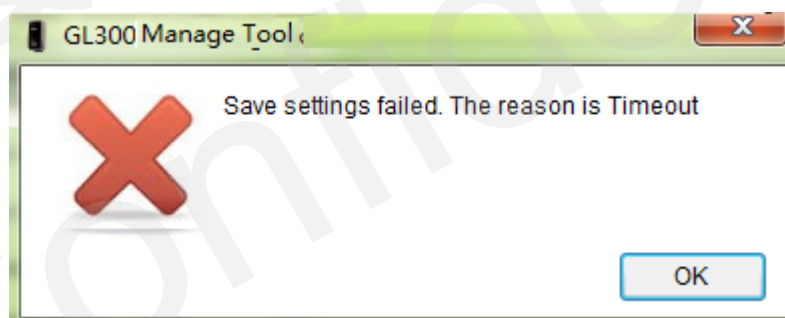


1.5.1.2. Command Sent Successfully

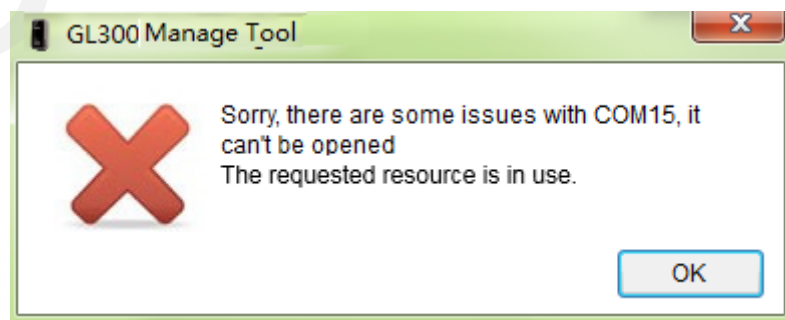


1.5.2. Interfaces for Failed Operation

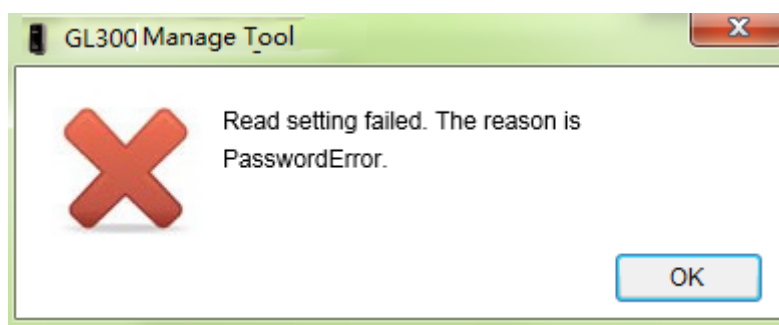
Problem may be with the COM port if the following error occurs.



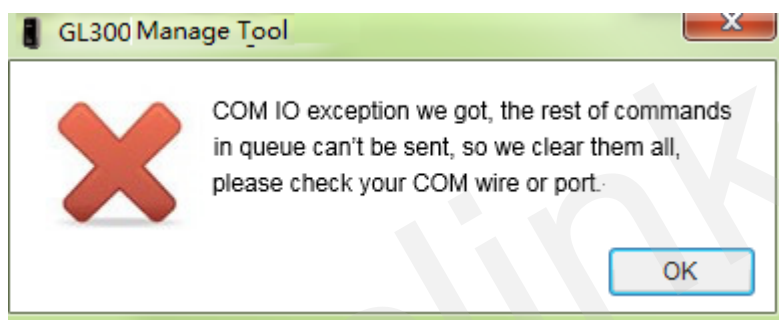
Current COM port is occupied. Please close and open again.



Please input the correct device password if Password Error occurs.



Problem may be with the COM. Please check the USB cable and the serial port.



2. Operation Instruction

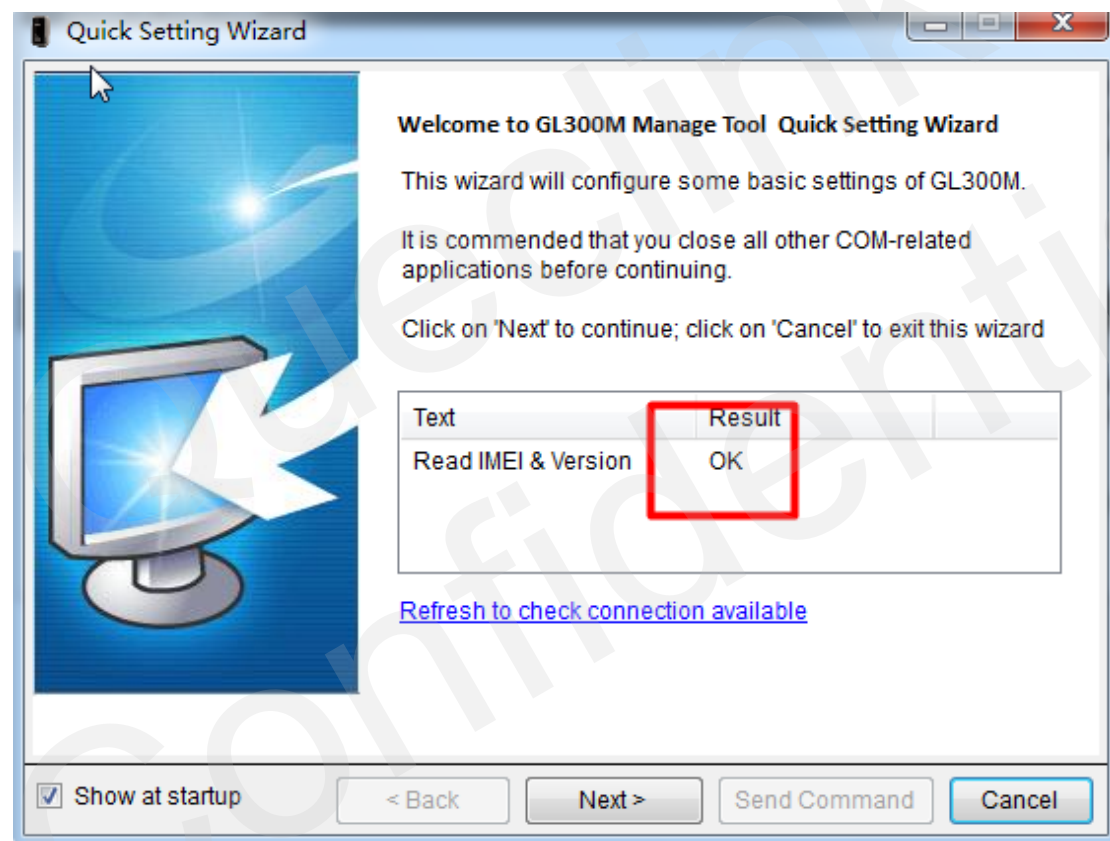
2.1. Device Configuration with Quick Setting Wizard

The Manage Tool is developed based on the @Track Air Interface Protocol. Please refer to “GL300M Series @Track Air Interface Protocol” for details.

The Quick Setting Wizard is used configure basic settings for the device. Select professional setting mode if more functions are required.

2.1.1. Welcome to Quick Setting Wizard

Click “Quick Setting Wizard” in toolbar to open the Quick Setting Wizard. If the “Result” in this window is “OK”, click “Next”. If the “Result” is not “OK”, please check the COM port connection till the result is “OK”.

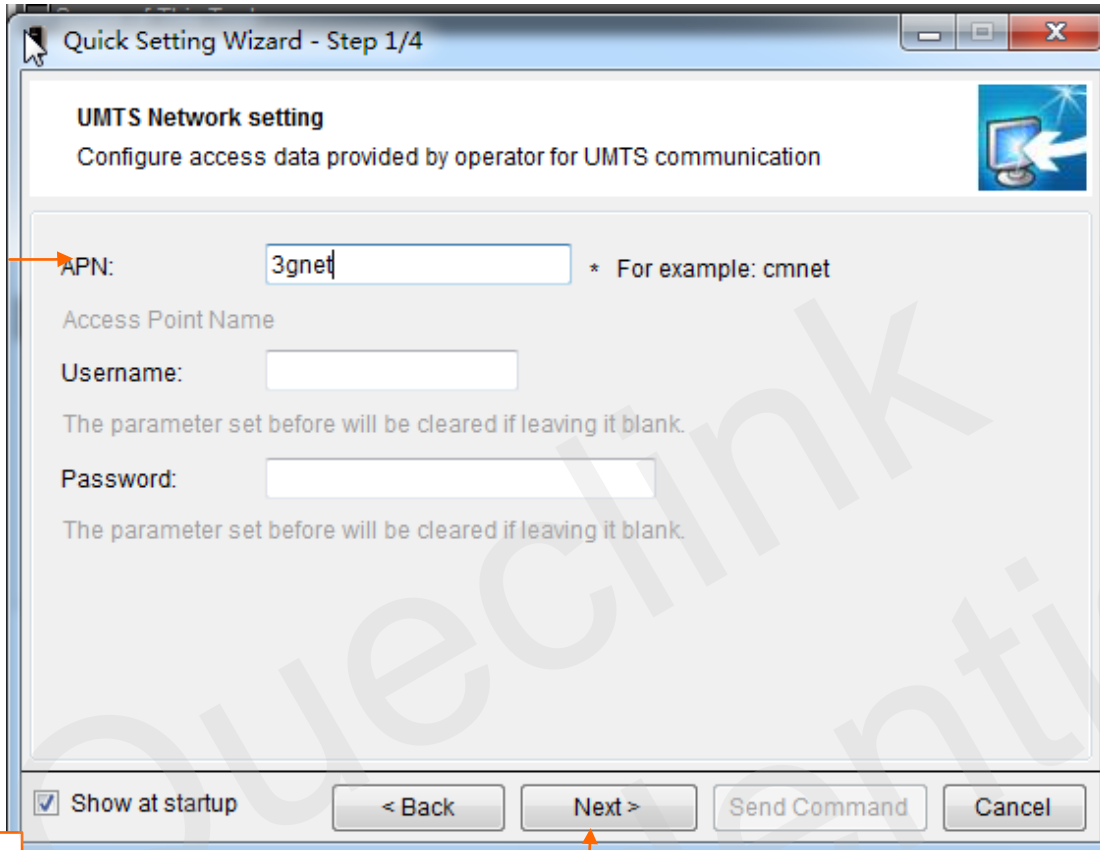


Welcome to Quick Setting Wizard

2.1.2. Network Setting

Step 1: Set APN, APN user name and password through the window below. For the meanings of these parameters, please refer to the “GL300M Series @Track Air Interface Protocol” for details.

Step 2: Click “Next”.



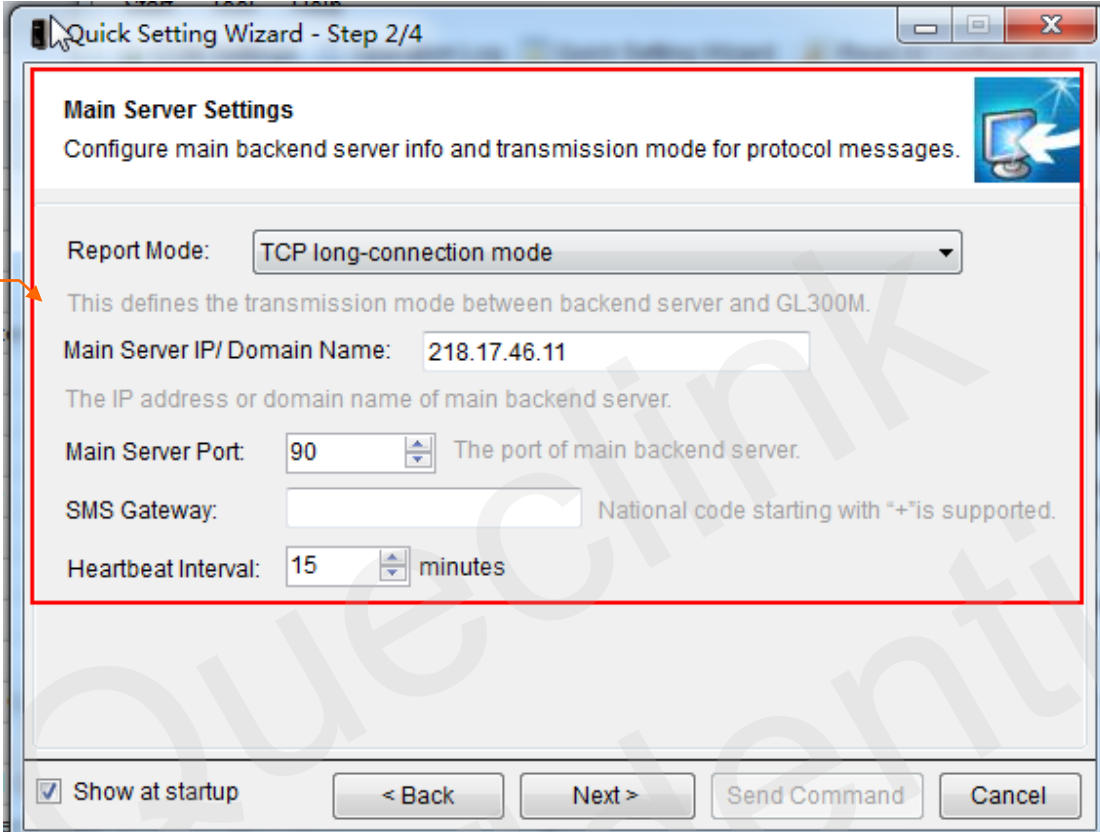
The image shows a screenshot of the 'Quick Setting Wizard - Step 1/4' window. The title bar reads 'Quick Setting Wizard - Step 1/4'. The main heading is 'UMTS Network setting' with a subtitle 'Configure access data provided by operator for UMTS communication'. There is a small icon of a computer monitor with a signal wave in the top right corner. The form contains the following fields and controls:

- APN:** A text box containing '3gnet'. To its right is a note: '* For example: cmnet'. An orange arrow labeled 'Step 1' points to this field.
- Access Point Name:** A label for the APN field.
- Username:** A text box. Below it is a note: 'The parameter set before will be cleared if leaving it blank.'
- Password:** A text box. Below it is a note: 'The parameter set before will be cleared if leaving it blank.'
- Buttons:** At the bottom, there is a checkbox labeled 'Show at startup' which is checked. To its right are four buttons: '< Back', 'Next >', 'Send Command', and 'Cancel'. An orange arrow labeled 'Step 2' points to the 'Next >' button.

2.1.3. Main Server Setting

Step 1: Set report mode, main server IP/domain name, main server port, and SMS gateway through the window below. For the meaning of these parameters, please refer to the “GL300M Series @Track Air Interface Protocol” for details.

Step 2: Click “Next”.



Quick Setting Wizard - Step 2/4

Main Server Settings
Configure main backend server info and transmission mode for protocol messages.

Report Mode: TCP long-connection mode
This defines the transmission mode between backend server and GL300M.

Main Server IP/ Domain Name: 218.17.46.11
The IP address or domain name of main backend server.

Main Server Port: 90 The port of main backend server.

SMS Gateway: National code starting with "+" is supported.

Heartbeat Interval: 15 minutes

☒ Show at startup

< Back Next > Send Command Cancel

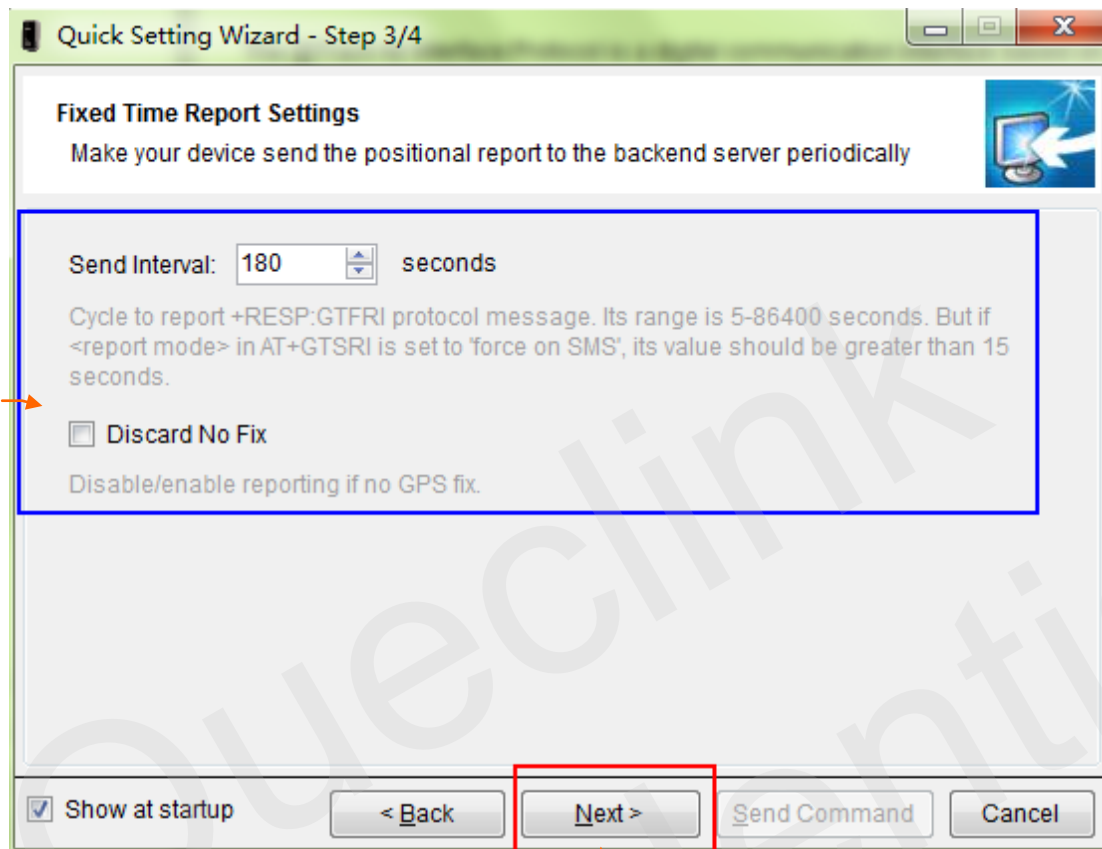
Step 1

Step 2

2.1.4. Fixed Time Report Setting

Step 1: Set send interval, discard no fix through the window below. For the meaning of these parameters, please refer to the “GL300M Series @Track Air Interface Protocol” for details.

Step 2: Click “Next”.



The screenshot shows the 'Quick Setting Wizard - Step 3/4' window. The title bar indicates the current step. The main heading is 'Fixed Time Report Settings' with a sub-instruction: 'Make your device send the positional report to the backend server periodically'. A blue box highlights the 'Send Interval' section, which includes a spinner box set to '180' and the unit 'seconds'. Below this is a checkbox labeled 'Discard No Fix' with a descriptive note. At the bottom, a red box highlights the 'Next >' button. Other buttons include '< Back', 'Send Command', and 'Cancel'. A 'Show at startup' checkbox is also present.

Fixed Time Report Settings
Make your device send the positional report to the backend server periodically

Send Interval: 180 seconds

Cycle to report +RESP:GTFRI protocol message. Its range is 5-86400 seconds. But if <report mode> in AT+GTSRI is set to 'force on SMS', its value should be greater than 15 seconds.

☐ Discard No Fix
Disable/enable reporting if no GPS fix.

☒ Show at startup

< Back **Next >** Send Command Cancel

Step 1

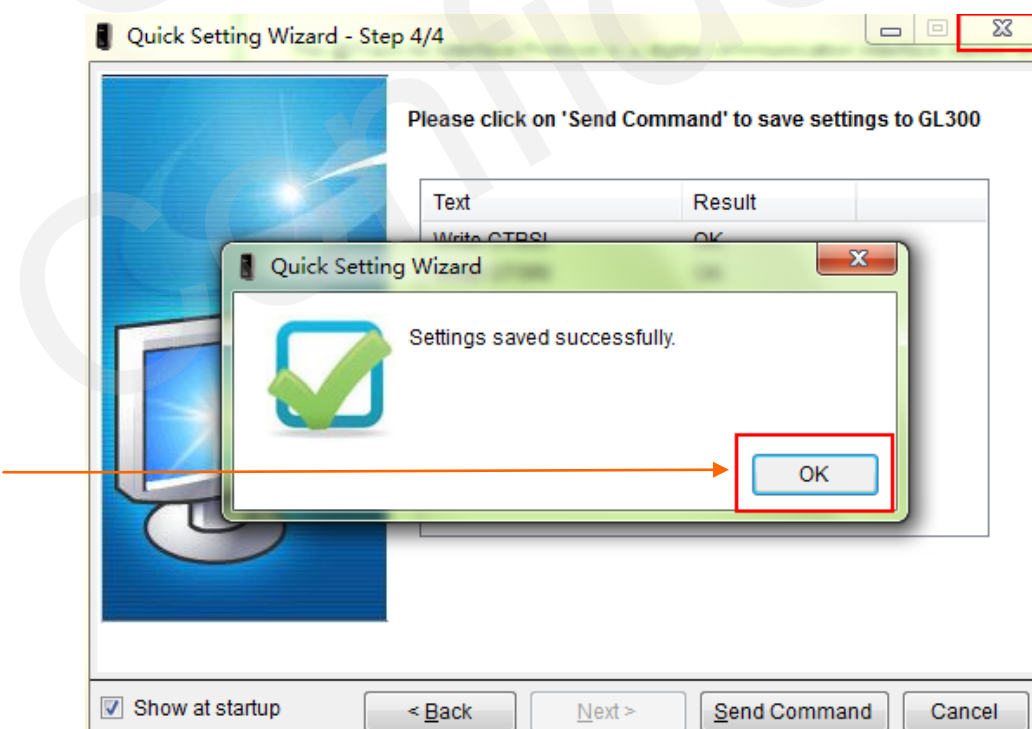
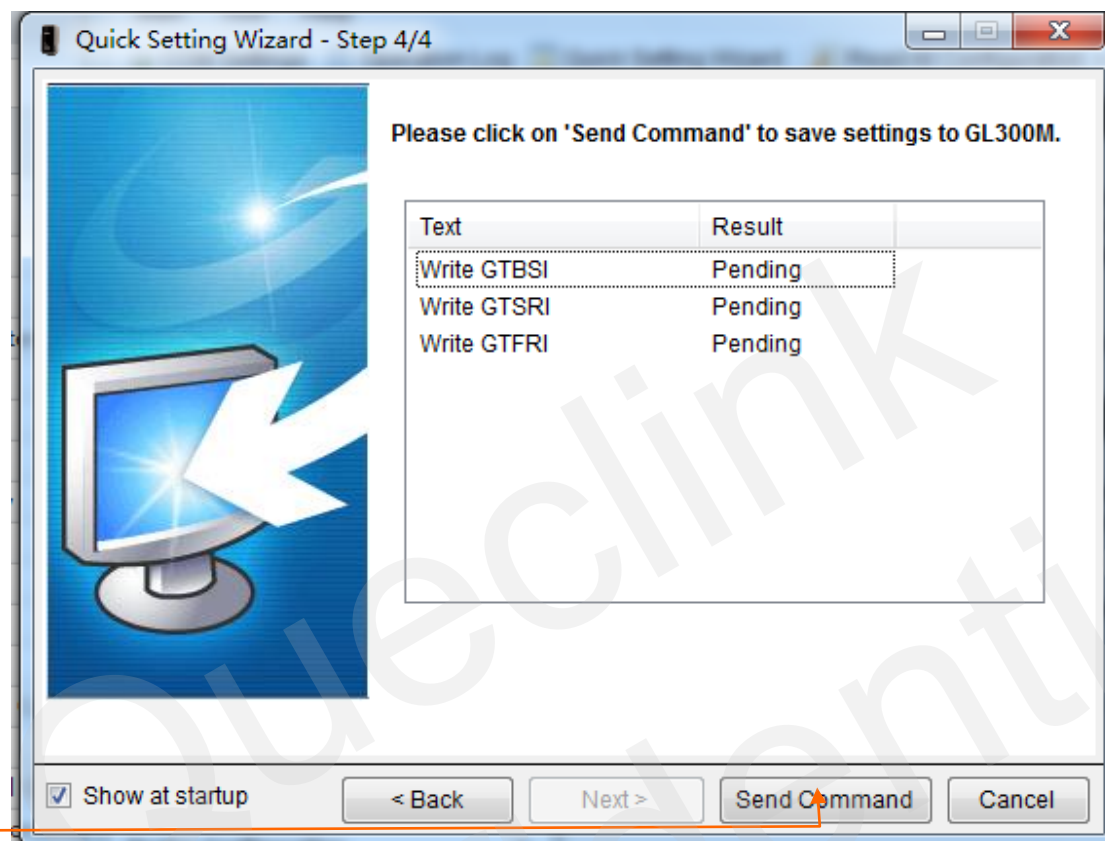
Step 2

2.1.5. Send a Command to the Device

Step 1: Click "Send Command". The commands **GTBSI**, **GTSRI**, and **GTFRI** will be sent to the device.

Step 2: If the settings are downloaded successfully, the result "OK" will be returned. Click "OK".

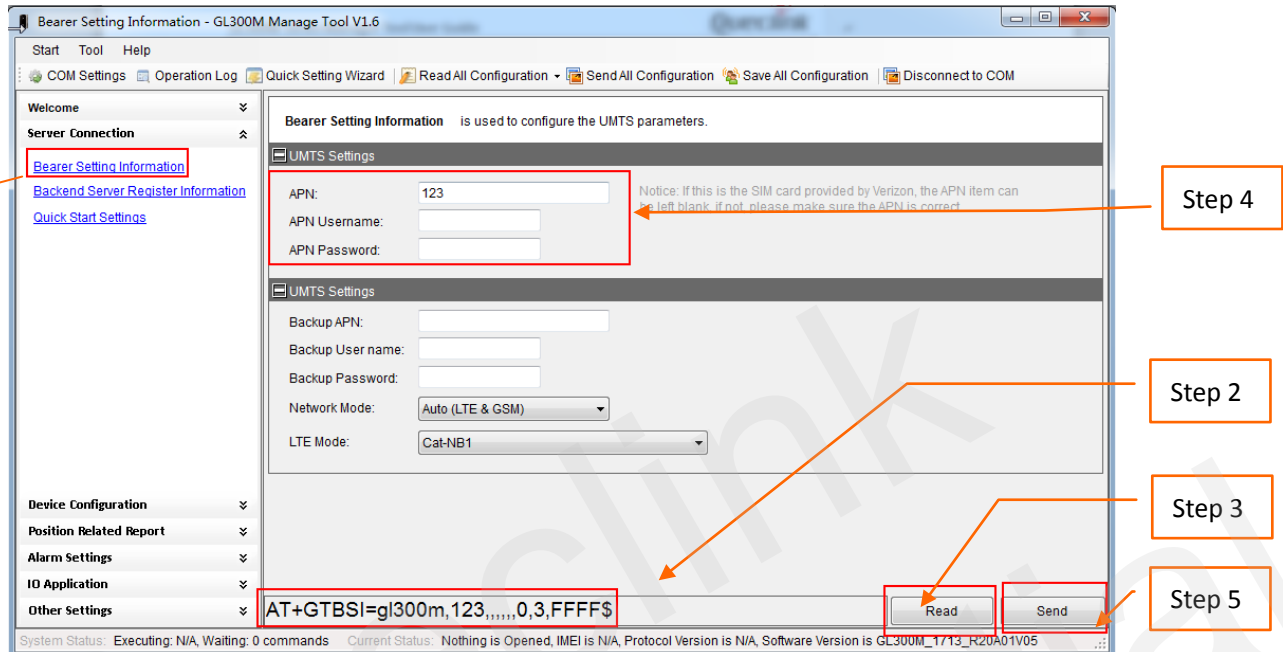
Step 3: Exit the Quick Setting Wizard.



2.2. Device Configuration in Professional Setting Mode

The Manage Tool is developed based on the @Track Air Interface Protocol. Please refer to “GL300M Series @Track Air Interface Protocol” for details.

The following shows a general procedure to configure GL300M Series with the Manage Tool.



Step 1: Select a Command

Select a command in Command Browser Space. After that, the parameters of the function will be shown in Command Operation Space.

Step 2: Create Command Automatically

The to-be-sent command message will be generated based on the inputs. Please note that the command message can also be sent to GL300M Series via SMS or Network.

Step 3: Read Command from the Device

Read the parameters from GL300M Series and modify them as needed.

Step 4: Set Parameters

Set parameters in Command Operation Space. Please refer to “GL300M Series @Track Air Interface Protocol” for the meaning of each parameter.

Step 5: Send a Command to the Device

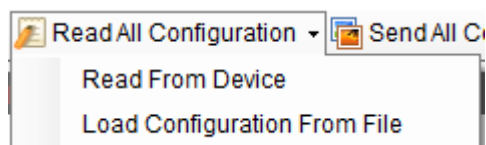
Click the “Send” button; download the parameters of this command to GL300M Series.

Note:

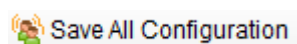
The parameters of GTSRI and GTBSI will also be changed when the parameters of GTQSS are changed.

2.3. Read/Save All Configurations

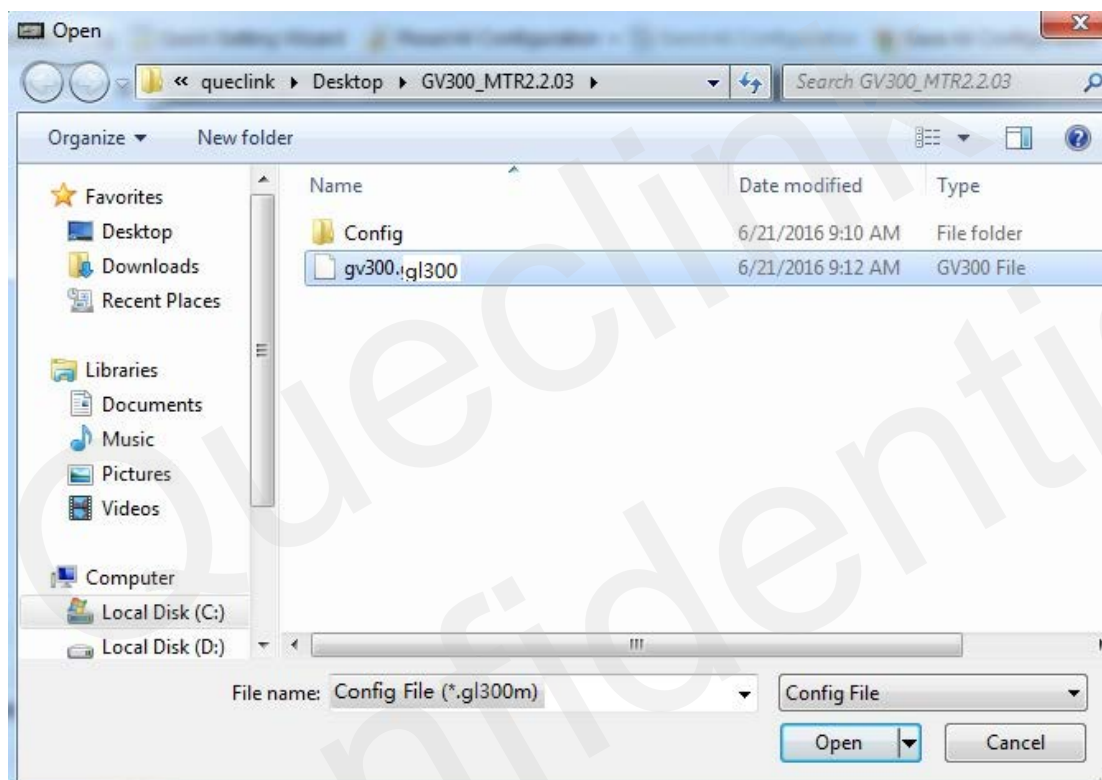
Step 1: It is recommended to read all configurations from the device before saving the configuration. Select “Read All Configuration”→“Read From Device”.



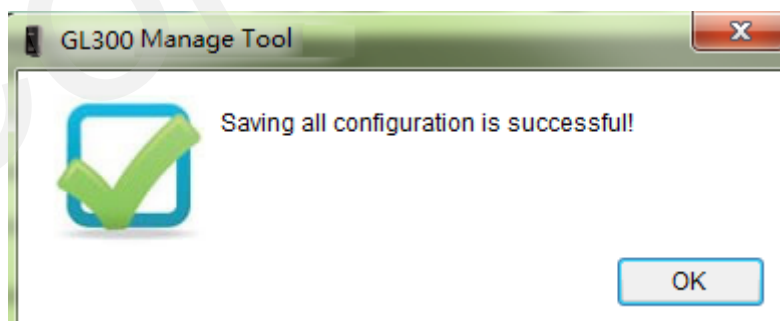
Step 2: After reading the configuration successfully, click “Save All Configuration” in toolbar.



Step 3: Select a folder, type in the name of configuration file, and then click “Save” button.

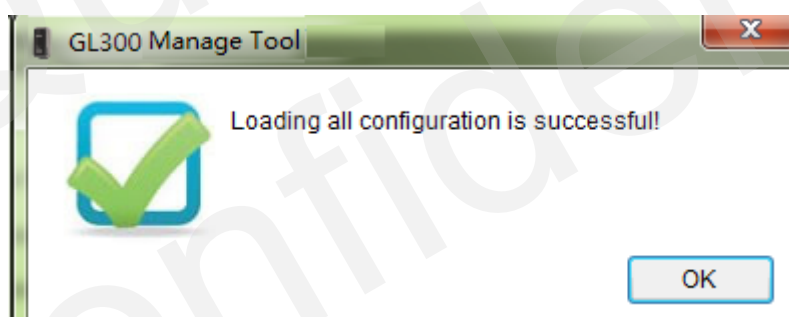
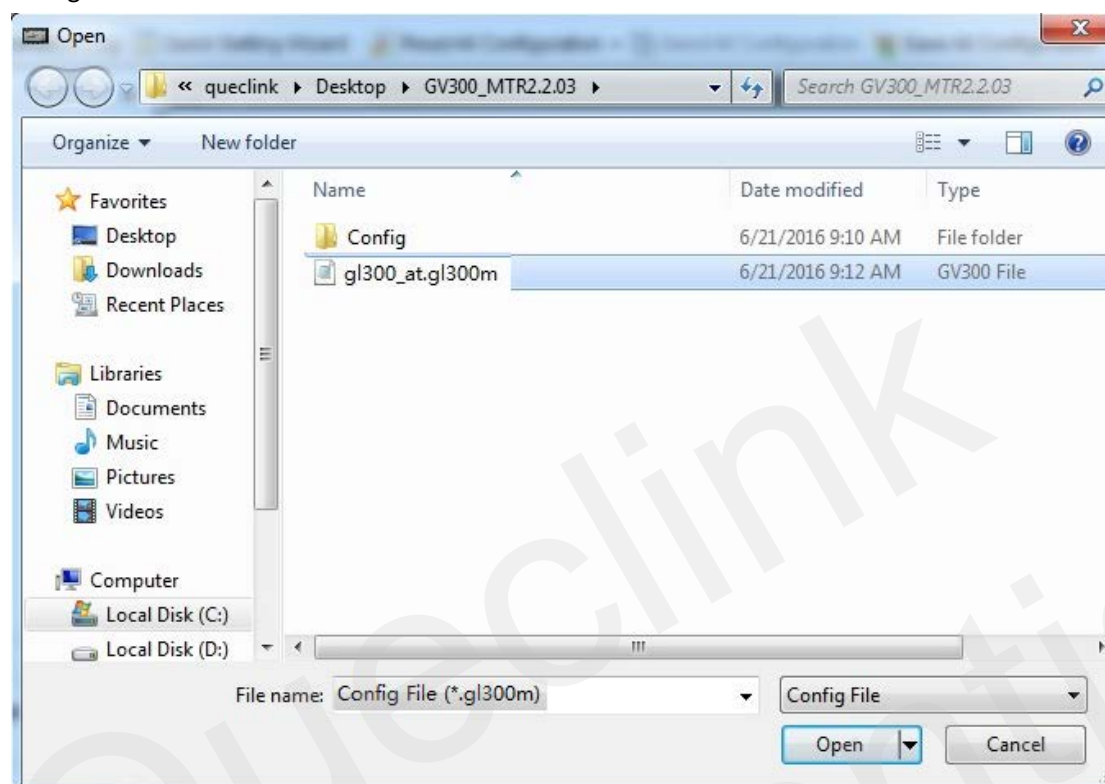


Step 4: The configuration information is saved successfully.

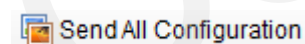


2.4. Load/Send All Configurations

Step 1: Load the configuration file or set all parameters of the commands before executing them. Select “Read All Configuration” → “Load Configurations From File”, and then select the needed configuration file.



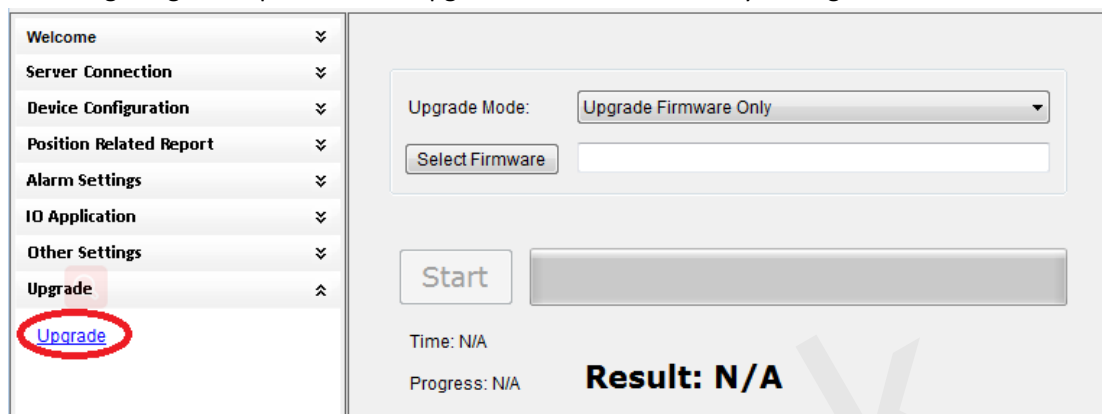
Step 2: The user can set the parameters of the commands based on the configuration file, and then click “Send All Configuration” in toolbar.



Step 3: The Manage Tool will write all commands to the device.

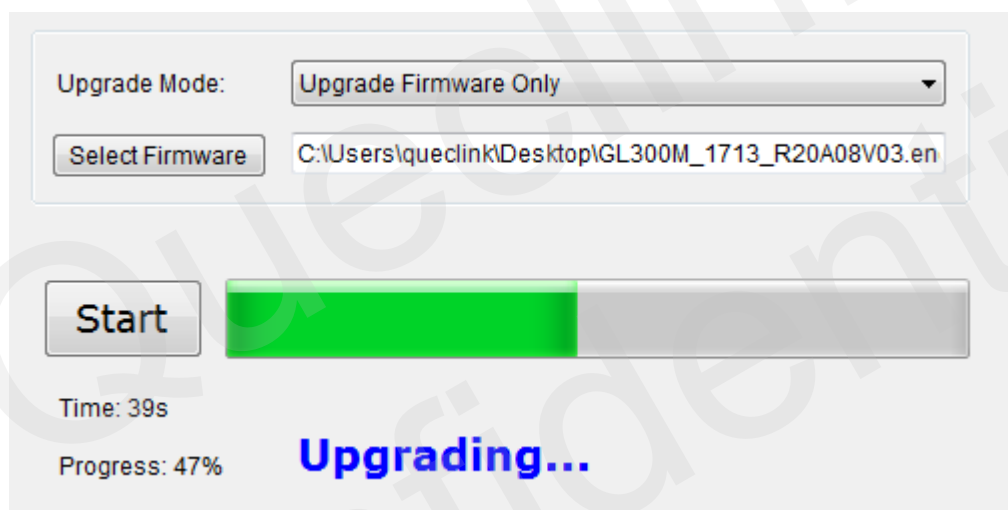
3. Device Upgrade

Following is a general procedure to upgrade GL300M firmware by Manage Tool.



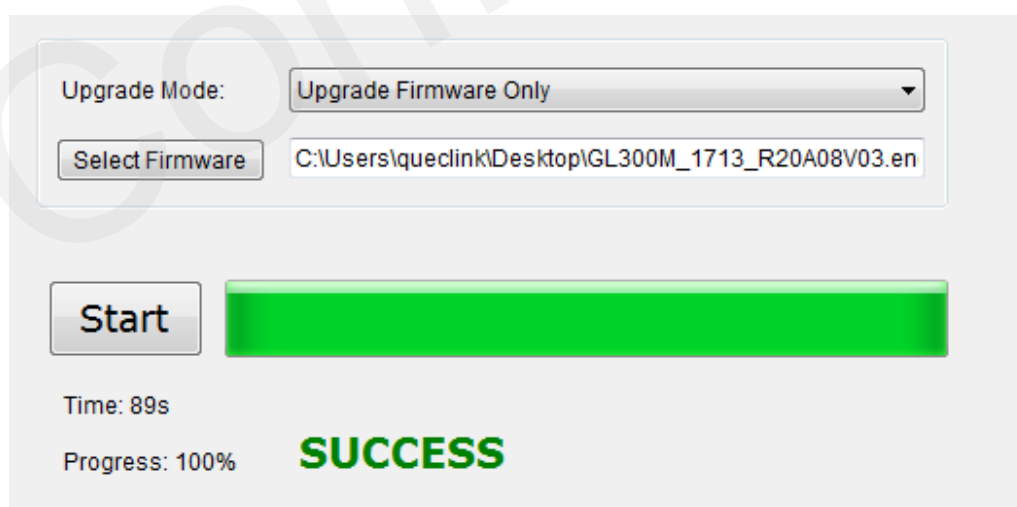
The screenshot shows the Manage Tool interface. On the left sidebar, the 'Upgrade' option is highlighted with a red circle. The main panel displays the 'Upgrade Mode' dropdown set to 'Upgrade Firmware Only'. Below it is a 'Select Firmware' button and a text field. A 'Start' button is visible. At the bottom, it shows 'Time: N/A', 'Progress: N/A', and 'Result: N/A'.

- 1) Click "Select", select the file for upgrade (".enc" file format).
- 2) Click "Start", then the interface of upgrade process will show as below:



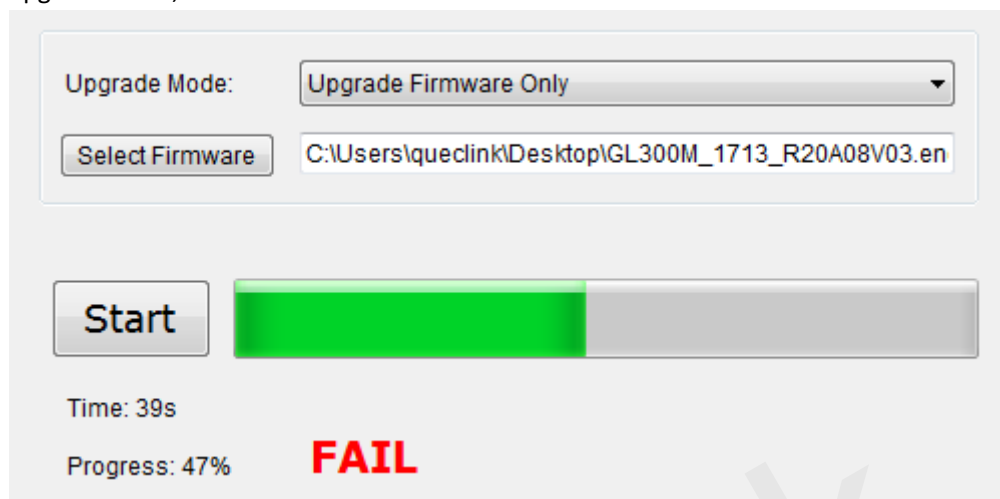
The screenshot shows the Manage Tool interface during the upgrade process. The 'Upgrade Mode' dropdown is set to 'Upgrade Firmware Only'. The 'Select Firmware' button is next to a text field containing the file path: 'C:\Users\queclink\Desktop\GL300M_1713_R20A08V03.en'. A 'Start' button is visible. Below it, a progress bar is shown with a green segment indicating 47% progress. The text 'Time: 39s' and 'Progress: 47%' are displayed. The word 'Upgrading...' is shown in large blue letters.

- 3) If upgrade is successful, the interface will show as below:



The screenshot shows the Manage Tool interface after a successful upgrade. The 'Upgrade Mode' dropdown is set to 'Upgrade Firmware Only'. The 'Select Firmware' button is next to a text field containing the file path: 'C:\Users\queclink\Desktop\GL300M_1713_R20A08V03.en'. A 'Start' button is visible. Below it, a progress bar is shown with a green segment indicating 100% progress. The text 'Time: 89s' and 'Progress: 100%' are displayed. The word 'SUCCESS' is shown in large green letters.

4) If upgrade failed, the interface will show as below:



The screenshot displays the firmware upgrade interface. At the top, the 'Upgrade Mode' is set to 'Upgrade Firmware Only'. Below this, a 'Select Firmware' button is next to a text field containing the file path 'C:\Users\queclink\Desktop\GL300M_1713_R20A08V03.en'. A 'Start' button is positioned to the left of a progress bar. The progress bar is partially filled with green, indicating 47% completion. Below the progress bar, the text 'Time: 39s' and 'Progress: 47%' is shown. To the right of the progress bar, the word 'FAIL' is displayed in large, bold, red capital letters. A large, light gray watermark reading 'Queclink Confidential' is diagonally across the entire page.