

GSEMClient

Software User Manual

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Contents

Chapter 1 Overview of GSEM	1
1. Introduction	1
2. Reading Objects.....	1
3. Technical Support.....	2
Chapter 2 Installation and system requirements	3
1. System Requirements.....	3
2. Software Installation.....	3
3. Overview of the Software.....	4
4. Connect the instrument.....	5
Chapter 3 General Software Features	7
1. Indicator light flashing prompt.....	7
2. Check the instrument information.....	8
3. Configure the instrument.....	10
4. Debugging	12
5. Settings Display.....	13
6. Instrument Self-check.....	14
Chapter 4 MT/AMT Measurements	15
1. Summary	15
2. Overview of the Operation Page.....	16
3. Calibrating the instrument.....	18
4. Calibrating the magnetic rod.....	19
5. Collecting Time Series Data (MT/AMT collection).....	21
6. Collect test data.....	24
7. Look at the timing curve.....	26
Chapter 5 Single-station SIP measurement	29
1. Overview	29
2. Brief Introduction to the Operation Interface.....	29
3. Feature Introduction.....	31
4. Channel information.....	36
Chapter 6 Frequently Asked Questions	37

Chapter 1 Overview of GSEM

1. Introduction

The GSEM acquisition station is a distributed electromagnetic data acquisition unit jointly developed by Changsha Gushan Intelligent Technology Co., Ltd. and Central South University. It draws on more than 20 years of experience in the development of geophysical instruments and adopts the latest electronic circuit technology. It has the advantages of high precision, low power consumption, lightweight equipment and long networking distance. The acquisition station is compatible with a variety of external sensors and has the acquisition and computing capabilities of methods such as MT, AMT, CSAMT, SIP, etc. With the configured long-range wireless sensing technology, it can achieve self-networking of the site and distributed construction in mountainous areas, and can complete large-scale two-dimensional and three-dimensional exploration at a very low cost.

GSEMClient is the Android mobile control software for the GSEM acquisition station, which can be used in conjunction with the GSEM acquisition station to complete data acquisition for various electrical exploration methods, including geoelectromagnetic (MT) data acquisition, audio geoelectromagnetic (AMT) data acquisition, etc.

2. Reading Objects

This user manual is intended for geophysicists and technicians familiar with electrical exploration techniques when using GSEM

For the collection of electrical or electromagnetic data at the series of collection stations.

3. Technical Support

Website: www.gs-ait.com

Email: support@gs-ait.com tel: 13786130128

Chapter 2 Installation and system requirements

GSEMClient is the control software for the GSEM collection station. The software consists of two parts of functions: one part is the general function related to equipment information, and the other part is the exploration collection function related to the exploration method. The general functions include testing hardware, viewing timing curves, viewing instrument information, configuring instruments and debugging instruments, etc. Exploration and acquisition functions in MT/AMT measurement mode include calibrating instruments, calibrating magnetic rods, and collecting time series data; Excitation acquisition, natural potential measurement, ground resistance measurement, etc. in single-station SIP measurement mode.

1. System Requirements

GSEMClient software is designed to run on Android phones and is compatible with lower versions of phones.

2. Software Installation

Scan the QR code with your mobile browser to download the GSEMClient.apk installation package for Android. Swipe down in your browser to view all the historical version information. If the current version is not the latest, swipe down to the list of historical versions and select the latest version to download. The QR code is shown in Figure 2-1



Figure 2-1. GSEMClient.apk download QR code

3. Overview of the Software

GSEMClient, the software displays the main page as shown in Figure 2-2.

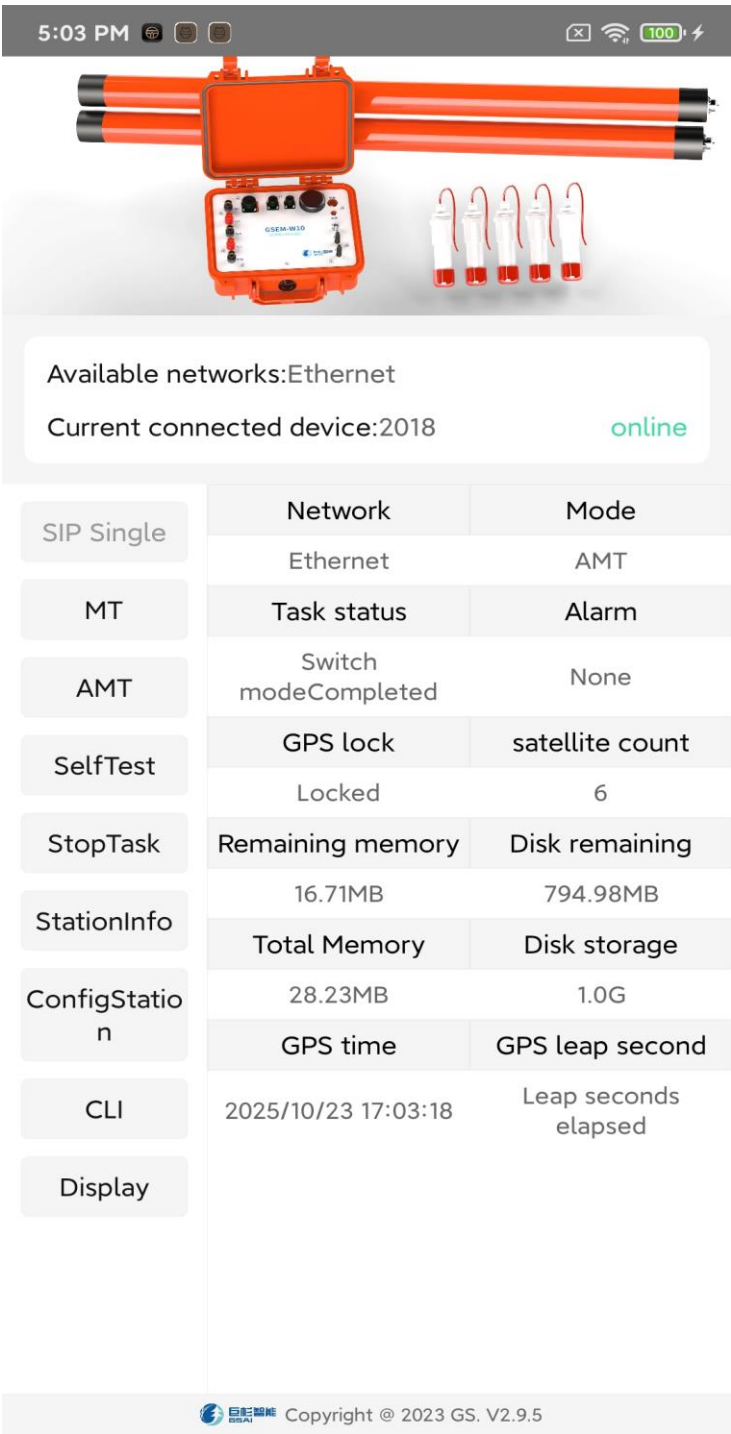


Figure 2-2. The main page of GSEMCenter software

The functions of the sections on this page are as follows:

Top box: Shows the collection stations found in the network, as well as the current connection status.

Available network: The network that GSEMClient has connected to.

Single-station SIP measurement: Enter spectrum excitation (SIP) acquisition measurement in single/dual-channel mode

MT measurement: Enter the geoelectromagnetic (MT) measurement mode.

AMT measurement: Enter audio Electromagnetics (AMT) measurement mode.

Stop mission: Stop the acquisition mission that the acquisition station is currently performing.

Instrument Information: View the current status and information of the acquisition station.

Configure the instrument: Configure parameters such as the GPS antenna of the acquisition station, the default acquisition method, and whether to turn on the acquisition.

Debugging the instrument: Control the acquisition station to execute commands via the command line, typically used during debugging.

Settings Display: You can set the information display items on the right according to your preferences (the default display items are shown in the picture)

Note: (1) When the status of the collection station is abnormal or the parameters are set incorrectly, the software will display the relevant information in red font as a warning.

4. Connect the instrument

The mobile phone needs to manually turn on WiFi, search for and connect to the WiFi signal of the collection station;

Once the WiFi connection is successful, the GSEMClient program will

automatically communicate with the collection station

Chapter 3 General Software Features

Common functions include flashing indicator lights, viewing instrument information, configuring instruments, debugging instruments, and debugging and setting displays.

1. Indicator light flashing prompt

The instrument panel of the acquisition station has an indicator light for real-time display of the system events currently occurring on the instrument. Events in the system are classified as normal events, warning events, and fatal events. When there are no warning events or fatal events, the system only expresses normal events; When a warning event occurs, the system first expresses the normal event and then the warning event; When a fatal event occurs, the system only expresses the fatal event. The specific definitions for each event are as follows.

Event level	Flashing mode	Event name (the earlier events are expressed first)	Number of short flashes	Colour
Normal Events	Flash mode	Collecting data	Continuous	green
	One long and multiple short way	Collect wait for synchronization	3	green
		Regular status (default)	2	green
Warning Events	One long and multiple short approach	Excessive humidity	6	yellow
		Too hot/too low	5	yellow
		Battery voltage is too low	4	yellow
		Insufficient disk space	3	yellow
		GPS unlocked	2	yellow
Fatal event	Flash flash method	Task execution failed	continuous	red

Flash pattern: On for 0.1 seconds, off for 0.1 seconds, and in a loop.

One long multiple short style: one long light (1.5S) -> multiple short lights (0.1S on, 0.5S off) -> one long light off (1S). Note: (1) The instrument switch is a trigger switch. Press the button and release it immediately; (2) Alternate when the instrument is turned on
Flash the green light and red light, and keep the green light on for 4 seconds when the instrument is turned off.

2. Check the instrument information

Click on "Instrument Information" on the left side of the main page to enter the details page, as shown in Figure 3-1:

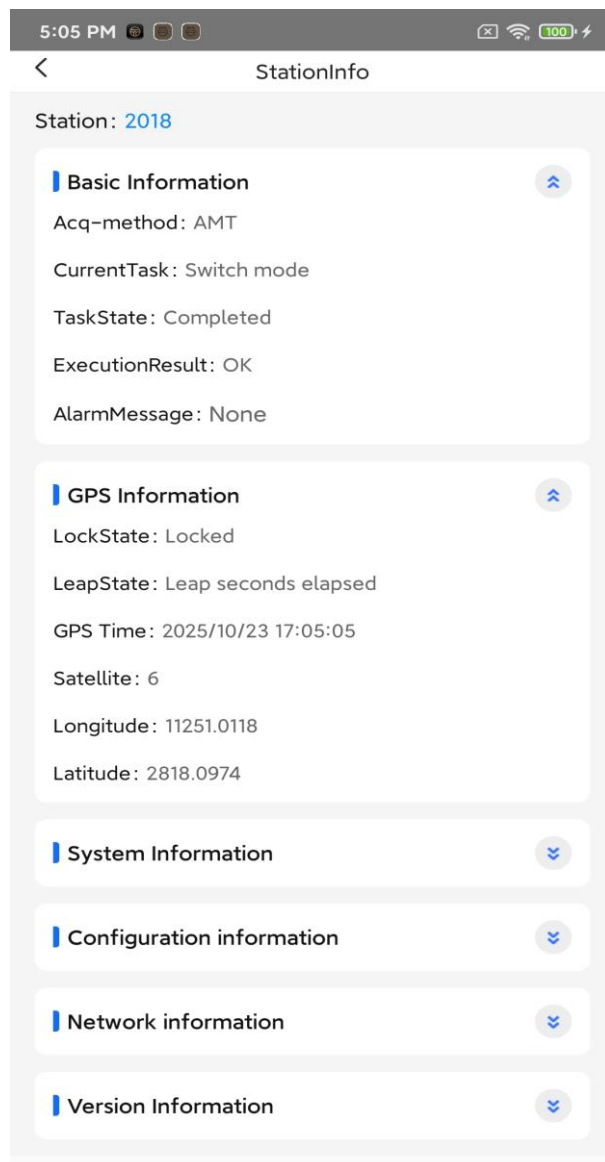


Figure 3-1 Instrument Information

The above is the page for viewing instrument information, and the meaning of each parameter in this page is:

1. Basic information

Acquisition method: The instrument's current acquisition mode (MT/AMT).

Current task: The most recent task performed by the instrument (instrument calibration/magnetic rod calibration/acquisition test /MT acquisition /AMT acquisition).

Task status: The status of the current task execution (pending/In progress/completed). Execution result: Whether an error occurred during task execution, "OK" indicates no error. Warning message: A warning message that appears while the instrument is running.

2. GPS information

Locked status: Shows whether GPS is locked. Leap second status: Shows whether GPS has made leap seconds.

GPS Time: Shows the time information of the current GPS. Number of satellites: The number of satellites currently detected by the instrument.

Longitude: GPS longitude information. Latitude: GPS latitude information.

3. Network Information

All Networks: Shows all types of networks the instrument has connected to.

Current network: The network used by the instrument for communication (generally the one with the fastest transmission rate).

IP address: The IP address of the instrument.

4. Version Information

Software version: The version of the software in the instrument.

Compilation time: The point in time when the software in the instrument is compiled.

5. System Information

Battery voltage: The voltage of the external battery connected to the instrument. Current power: The current instantaneous power of the instrument. Temperature: The internal temperature of the instrument.

Humidity: Humidity inside the instrument.

Remaining space: The size of the remaining disk space inside the instrument.

6. Configuration information

GPS antenna: The GPS antenna currently used by the instrument (built-in/external). Power-on mode: The default measurement mode after the instrument is powered on.

Power-on collection: Whether the instrument automatically collects after power-on.

3. Configure the instrument

The steps for configuring the instrument are as follows:

1. Click "Configure Instrument" on the main page to pop up the configuration box, as shown in Figure 3-2.
2. In the "Current Configuration" list box, double-click the cells you need to modify to modify the configuration.
3. Click the "Confirm Configuration" button to complete the configuration of all instruments.
4. Click the "Exit" button to close the configuration pop-up.

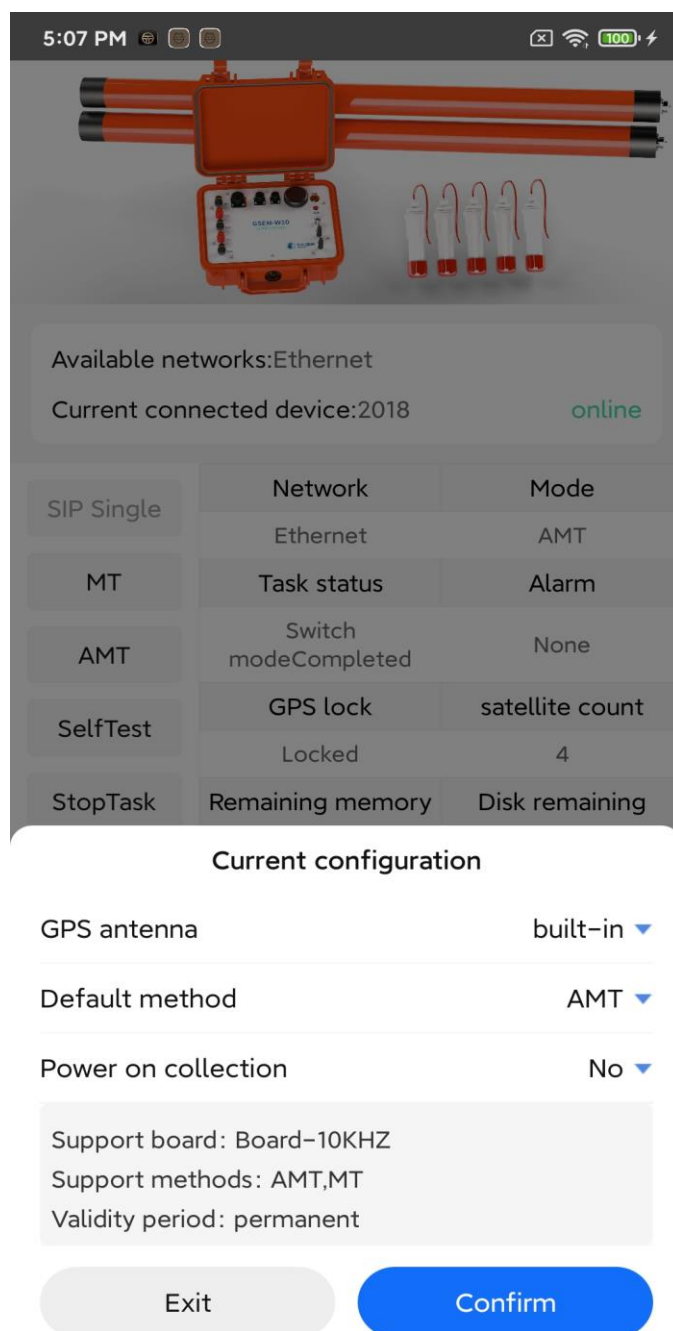


Figure 3-2. Instrument configuration pop-up

The above is the page for configuring the instrument. The meaning of each parameter column in the configuration list on this page is: GPS antenna: The GPS antenna used by the instrument can be selected as "external" or "built-in".

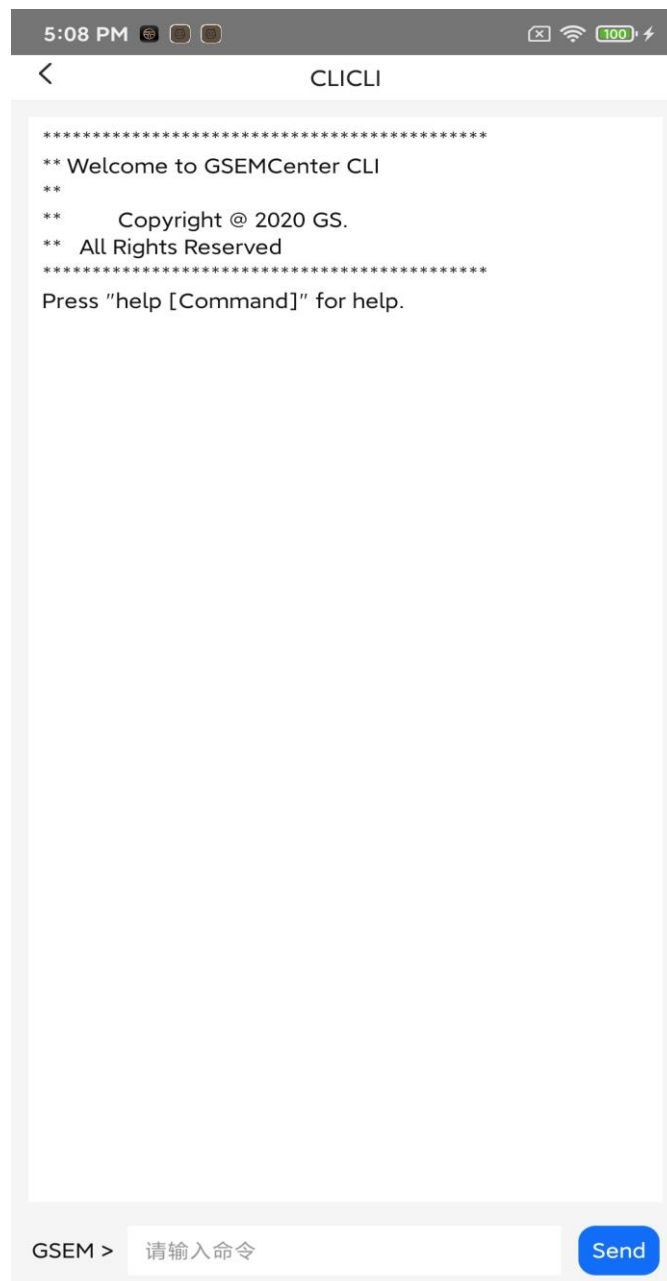
Default method: The default measurement mode after the instrument is turned on.

Power-on collection: Whether the instrument automatically collects after power-on, generally used for the power-on automatic collection mode in MT&AMT mode.

MT board card selection: Acquisition board used in MT measurement mode (only for ultra-wideband acquisition stations)

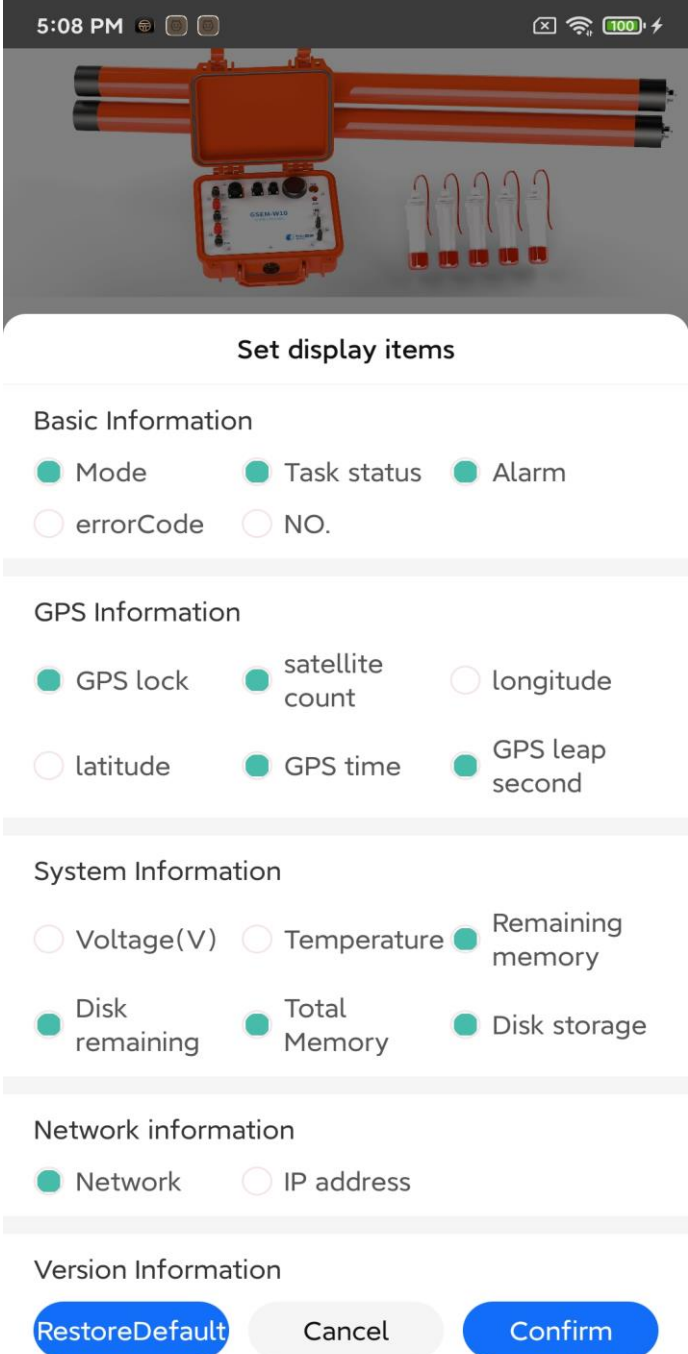
4. Debugging

Click the "Debug" button on the left side of the home page to enter the debug page as shown below:



5. Settings Display

Click the "Settings Display" button on the left side of the home page to pop up the Settings box as shown below:



5:08 PM    100%

Set display items

Basic Information

☒ Mode ☒ Task status ☒ Alarm

☐ errorCode ☐ NO.

GPS Information

☒ GPS lock ☒ satellite count ☐ longitude

☐ latitude ☒ GPS time ☒ GPS leap second

System Information

☐ Voltage(V) ☐ Temperature ☒ Remaining memory

☒ Disk remaining ☒ Total Memory ☒ Disk storage

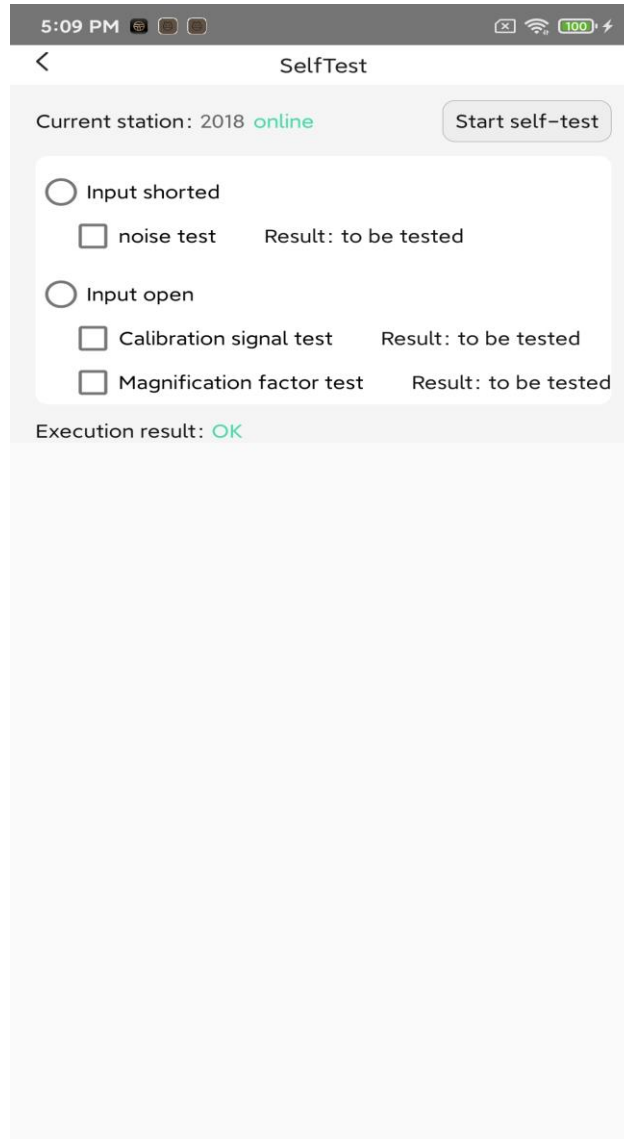
Network information

☒ Network ☐ IP address

Version Information

6. Instrument Self-check

Click the "Instrument Self-check" button on the left side of the home page to enter the self-check page as shown below:



Instrument self-check is divided into three parts (controlled and displayed by the device-end configuration file); Before performing input short-circuit-noise detection, it is necessary to keep the external channels of the instrument short-circuited; Before performing the sub-item detection of input open circuit, it is necessary to keep all external channels of the instrument open; When performing sub-item detection with an external signal source, the

collected signals and amplitudes of each channel or individual channel of the instrument will be provided by the signal transmitter. The frequency, amplitude, resistance and other related parameters input in the software need to correspond and be the same as the corresponding parameter values provided by the external signal transmitter

Chapter 4 MT/AMT Measurements

1. Summary

MT/AMT measurements include calibration data and time series data.

Calibration data, which records the response of the acquisition device and is mainly used to correct the spectral variation of the external electromagnetic signal after passing through the acquisition device, includes the instrument calibration file (*.CLb) and the magnetic rod calibration file (*.CLC).

The time series data recorded the electromagnetic signals collected by the equipment, including parameter files (*.TBL) and sampling files (*.ts2 / *.TS3 / *.TS4 / *.TS5), as shown in Tables 4-1 and 4-2 for individual measurement points of the AMT and MT methods.

Table 4-1. List of files corresponding to individual measurement points of the AMT acquisition method

File names	File Contents	Remarks
"*.TBL"	The parameter file corresponding to the measurement point records the sampling Set Parameters	Including position, pole pitch, mid and high frequency duration, interval Intervals, etc.
"*.TS2"	Time series data collected at a 24000Hz sampling rate	Interval sampling, duration and intervals can be set
"*.TS3"	Time series data collected at a 2400Hz sampling rate	Interval sampling, duration and intervals can be set

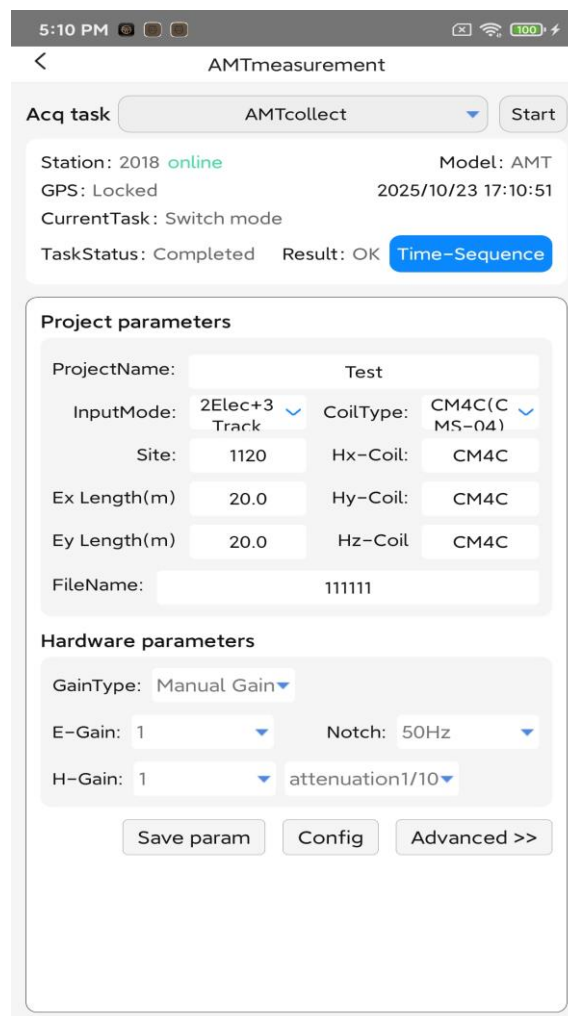
“*.TS4”	Time series data collected at a 150Hz sampling rate	Continuous sampling
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Table 4-2. List of files corresponding to individual test points in the MT collection method

File name	File Contents	Notes
“*.TBL”	The parameter file corresponding to the measurement point records the sampling Set Parameters	Including position, pole pitch, mid and high frequency duration, interval Intervals, etc.
“*.TS3”	Time series data collected at a 2400Hz sampling rate	Interval sampling, duration and intervals can be set
“*.TS4”	Time series data collected at a 150Hz sampling rate	Interval sampling, duration and intervals can be set
“*.TS5”	Time series data collected at a 15Hz sampling rate	Continuous sampling

2. Overview of the Operation Page

Click either “MT Measurement” or “AMT Measurement” on the main page to enter the corresponding measurement mode page. Figure 4-3 shows the operation page for the AMT measurement mode.



The screenshot shows the 'AMTmeasurement' app interface. At the top, there's a status bar with the time '5:10 PM' and battery level '100%'. Below the title bar, the 'Acq task' is set to 'AMTcollect' with a 'Start' button. The status section shows 'Station: 2018 online', 'Model: AMT', 'GPS: Locked', 'CurrentTask: Switch mode', and 'TaskStatus: Completed Result: OK'. A 'Time-Sequence' button is also present. The 'Project parameters' section includes fields for 'ProjectName: Test', 'InputMode: 2Elec+3 Track', 'CoilType: CM4C(C MS-04)', 'Site: 1120', 'Hx-Coil: CM4C', 'Ex Length(m): 20.0', 'Hy-Coil: CM4C', 'Ey Length(m): 20.0', 'Hz-Coil: CM4C', and 'FileName: 111111'. The 'Hardware parameters' section shows 'GainType: Manual Gain', 'E-Gain: 1', 'Notch: 50Hz', 'H-Gain: 1', and 'attenuation1/10'. At the bottom, there are buttons for 'Save param', 'Config', and 'Advanced >>'.

Figure 4-3. The main page for operating AMT measurement mode

Through this page, functions such as calibrating the instrument, calibrating the magnetic rod, collecting time series data, collecting test data and viewing time series curves can be achieved, and automatic reconnection is supported in case of disconnection. For specific steps, see Sections 2, 3, 4 and 5 of this chapter.

This page mainly consists of three parts, each meaning as follows:

Part 1: The top button allows you to select the current execution task, update information, and start and stop tasks.

Part 2: Basic information of the instrument at present. Information included is as follows:

a: Name of the collection station currently connected and connection status (red font shows "disconnected" when disconnected).

b: Measurement Mode (AMT/MT)

c: GPS lock status of the instrument and GPS time information.

Note: GPS time is the Standard Coordinated Universal Time (UTC), which is later than Beijing Time in China

8 hours, that is, "Beijing Time of China =UTC Time +8 hours".

d: Name of the current connected collection station and connection status (red font shows "disconnected" when disconnected).

e: The name of the current task being executed, as well as the result and status of the execution; Check if there is an error in the task execution. If there is no error, show "OK". If there is an error, show the corresponding error character.

f: Timing Monitoring (Click the button to enter the timing monitoring page to view the timing diagram)

Part 3: Specific parameter configuration related to the current collection task. See Sections 3, 4, 5, 6.

3. Calibrating the instrument

The steps for calibrating the instrument are as follows:

1. Click on "MT Measurement" or "AMT Measurement" on the main page to enter the corresponding measurement mode page.
2. Select "Instrument Calibration" in the drop-down box after "Acquisition Tasks".
3. Click the "Start Collection" button and observe the calibration status in Part 2 of the page until "Instrument calibration completed" appears.

Note: When calibrating the instrument, external electrodes and magnetic rods should not be connected to the instrument.

The parameter configuration for calibrating the instrument is shown as three as shown in Figure 4-4:

1. Instrument calibration status (shown in red font when not calibrated)
2. Calibration cycle (configurable)
3. Estimated calibration time (calculated based on the calibration cycle, not configurable)

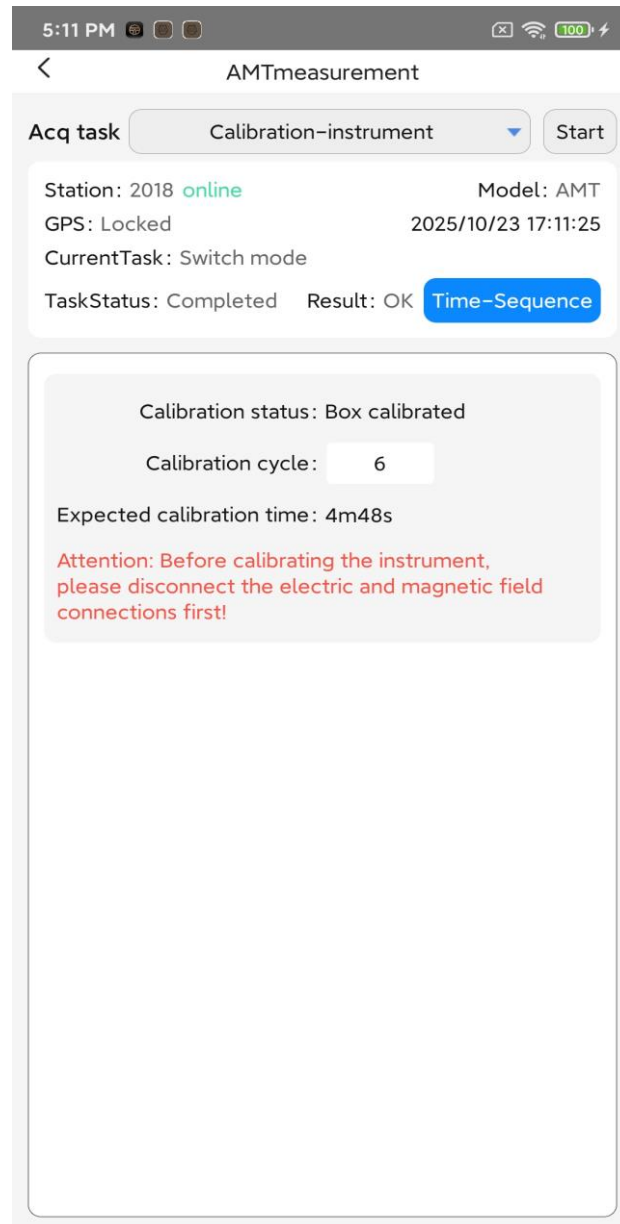


Figure 4-4: Instrument calibration

4. Calibrating the magnetic rod

The steps for calibrating the magnetic rod are as follows: (as shown in Figure 4-5)

1. Click "MT Measurement" or "AMT Measurement" on the main page to enter

the corresponding measurement mode page.

2. Select "Magnetic Rod Calibration" in the drop-down box after "Acquisition Tasks".
3. Select the probe type and fill in the magnetic rod numbers connected to the Hx, Hy and Hz channels.
4. Click the "Start Collection" button and observe the calibration status of the third information box in the status bar until "Magnetic rod calibration completed" appears.

Note: Before calibrating the magnetic rod, the instrument must be calibrated first, that is, the instrument calibration status must be "Instrument calibrated".

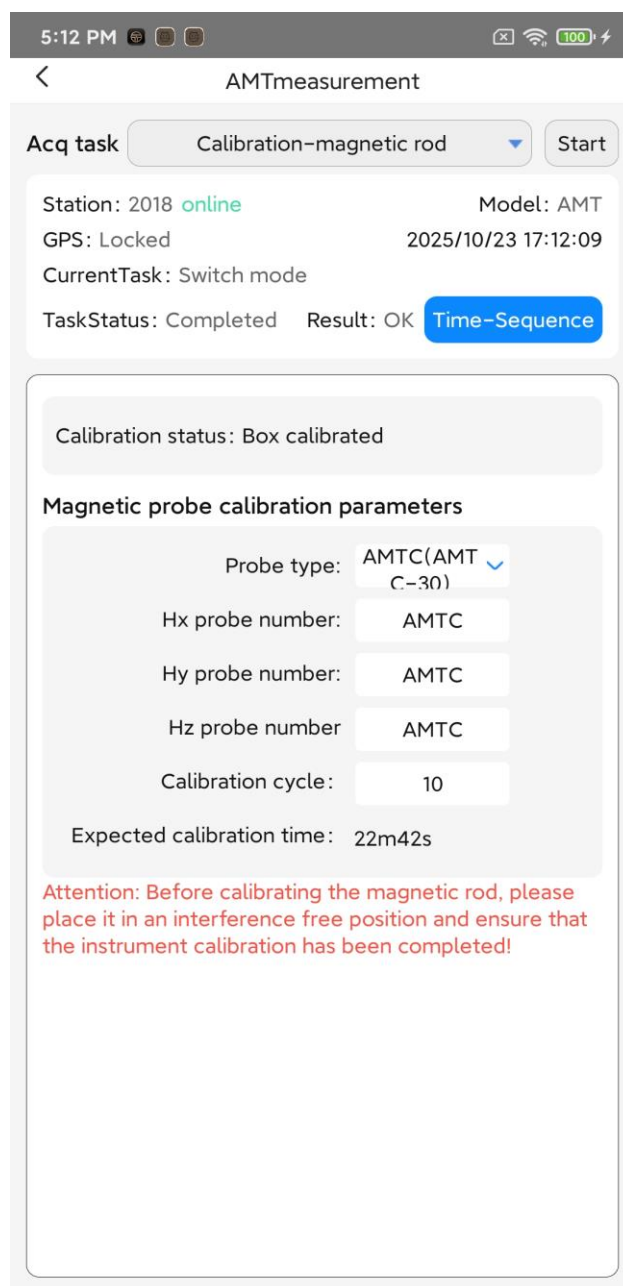


Figure 4-5 Magnetic rod calibration

5. Collecting Time Series Data (MT/AMT collection)

There are two ways to collect time series data, either manually starting the collection or automatically starting the collection.

(1) The steps for manually starting the collection are:

1. Click "MT Measurement" or "AMT Measurement" on the main page to enter the corresponding measurement mode page, as shown in Figure 4-3.

2. Select either "AMT Acquisition" or "MT Acquisition" in the drop-down box after "Acquisition Tasks".
3. Set engineering parameters, hardware parameters, acquisition parameters (click the "Advanced Settings" button to pop up).
4. Click the "Start Collection" button to begin time series data collection.
5. If the current time reaches the set "stop time", the instrument will automatically stop collecting and complete the data collection; Users can also click the "Stop collection" button in advance or simply shut down the instrument to complete the data collection.

(2) The steps for automatic data collection upon startup are:

1. Click "Configure the Instrument" on the main page to enter the instrument configuration page.
2. Double-click the cell corresponding to "Default Method" and change it to the measurement mode that requires startup collection.
3. Double-click the cell corresponding to "Boot Collection" to change the parameter to "Yes".
4. Click the "Confirm Configuration" button to complete the instrument configuration, then click the "Exit" button to exit the configuration page.
5. Each time the instrument is turned on, a new timing file (named with time information) will be automatically established, and data will be automatically collected according to the configured measurement mode.
6. When the required time for data collection is reached, the user shuts down directly to complete the data collection.

The meaning of each parameter in "Time Series Acquisition parameters" is:

1. Engineering parameters

Project Name: The name of the measurement project, usually the name of the work area. Measurement point number: The point number at the current measurement position.

Ex length: The polar distance in the north-south direction.

Ey length: The polar distance in the east-west direction.

File name: The storage file name of the time series data in manual startup mode (in automatic startup acquisition mode, the acquisition station automatically names the file with time information).

Probe type: The type of magnetic rod attached to the instrument.

Hx probe number: The number of the magnetic rod in the north-south direction.

Hy probe number: The magnetic rod number in the east-west direction.

Hz probe number: The magnetic rod number in the vertical direction.

2. Hardware parameters

Channel gain: Amplification factor for Ex and Ey channels.

Track gain: Amplification of Hx, Hy, and Hz channels. Track decay: The decay values of the Hx, Hy, and Hz channels. Notch: The DSP notch used.

3. Collect parameters (in "Advanced Settings")

High-frequency record count: The number of time slices collected in a single high-frequency session. In MT mode, each time slice records 1 second of data, and in AMT mode, each time slice records 0.1 second of data. MT mode is typically set to the default value of 2, and AMT mode is typically set to the default value of 10.

Number of intermediate records: The number of time slices collected in a single intermediate record, with each time slice recording 1 second of data. MT mode is generally set to the default value of 8, and AMT mode is generally set to the default value of 10.

Mid-high frequency interval: The time interval between mid-high frequency and high frequency recordings, where mid-high frequency and high frequency are collected alternately. MT mode is typically set to the default 60, and AMT mode is typically set to the default 30.

Start time (GPS) : The time when the timing collection is initiated, which is UTC time. Start the collection immediately if the current time has exceeded the set time.

Stop time (GPS) : The time to stop timing collection, which is UTC time. If the current time has exceeded the set time, the instrument will remain in the acquisition state.

Note: To ensure the best data quality in unsaturated conditions, first collect the external input signal in the "Acquisition test" mode without DSP notch at a sampling rate of 150Hz, and check the values of "STD", "MIN", and "MAX", which are best kept between 0.1mV and 200mV. If the range is exceeded, stop the acquisition and restart the acquisition after adjusting the track gain, track gain, and track decay. For detailed operation steps, see "4.6 Collect Test Data" and "4.7 View Timing Curves".

6. Collect test data

This function is typically used for hardware testing of the instrument, and the specific operation steps are as follows:

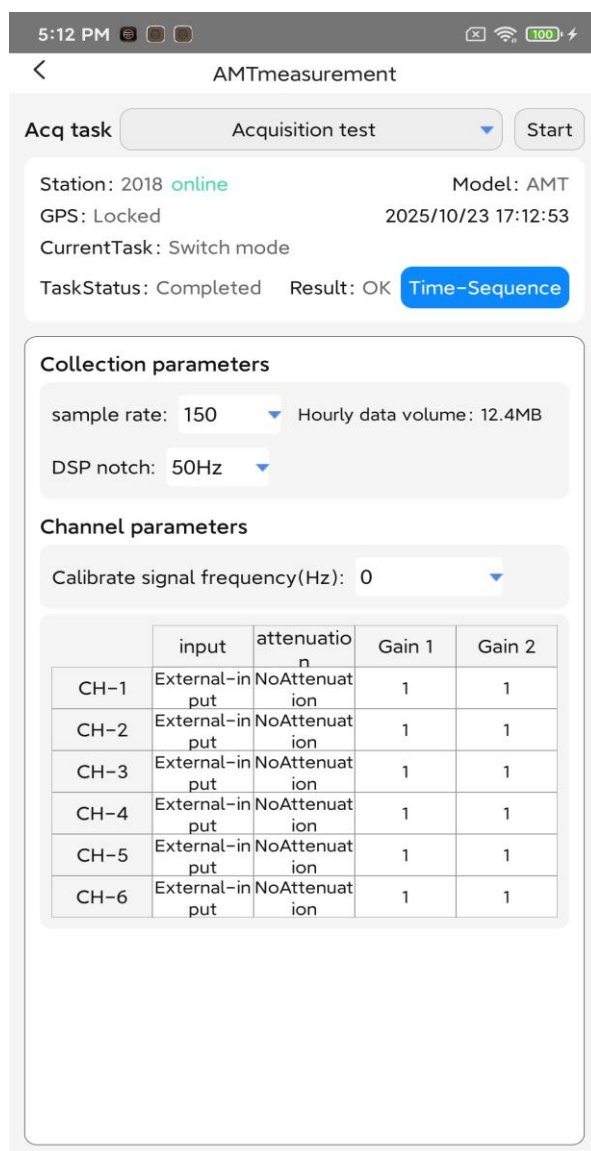
1. Click "MT Measurement" or "AMT Measurement" on the main page to enter the corresponding measurement mode page, as shown in Figure 4-6.

2. Select "Collect Tests" in the drop-down box after "Collect Tasks".

3. Set the capture parameters.

4. Click the "Start Collection" button to begin collecting time series data.

5. If the current time reaches the set "stop time", the instrument will automatically stop collecting and complete the data collection; Users can also click the "Stop collection" button in advance or simply shut down the instrument to complete the data collection.



The screenshot shows the 'AMTmeasurement' app interface. At the top, there's a status bar with the time 5:12 PM and battery level 100%. Below the app title, there's a 'Start' button and a dropdown menu for 'Acq task' set to 'Acquisition test'. The status section shows 'Station: 2018 online', 'Model: AMT', 'GPS: Locked', 'CurrentTask: Switch mode', and 'TaskStatus: Completed Result: OK'. A 'Time-Sequence' button is also present. The 'Collection parameters' section includes 'sample rate: 150' (with a dropdown arrow) and 'Hourly data volume: 12.4MB'. The 'Channel parameters' section has a 'Calibrate signal frequency(Hz): 0' dropdown. Below this is a table with 6 channels (CH-1 to CH-6) showing their input, attenuation, and gain settings.

	input	attenuation	Gain 1	Gain 2
CH-1	External-input	NoAttenuation	1	1
CH-2	External-input	NoAttenuation	1	1
CH-3	External-input	NoAttenuation	1	1
CH-4	External-input	NoAttenuation	1	1
CH-5	External-input	NoAttenuation	1	1
CH-6	External-input	NoAttenuation	1	1

Figure 4-6. Parameter Settings page for AMT acquisition test

The above is the collection test page, and the meaning of each parameter in this page is:

Sampling rate: The number of samples collected per second in the collection test.

DSP notch: Whether to apply a 50Hz notch to the input signal (to filter out power frequency interference).

Acquisition methods: including synchronous acquisition and asynchronous acquisition. In the synchronous collection mode, the collection station will start collecting data at the set GPS time point; In asynchronous collection mode, the collection station initiates the collection directly.

Test data: Set whether data needs to be saved to a file.

Calibration signal frequency: Set the frequency value of the calibration signal output by the CPLD inside the acquisition station.

Input: Set the signal input source for each channel, including "external input" and "internal calibration".

Attenuation: Whether attenuation is required for the channel input signal.

Gain: To amplify the channel input signal.

7. Look at the timing curve

The steps to view the timing curve are as follows:

1. Click "MT Measurement" or "AMT Measurement" on the main page to enter the corresponding measurement mode page, as shown in Figure 4-7.
2. Click the "Timing Monitoring" button to enter the timing monitoring page.
3. After setting the displayed channel, starting point, and display length, click the "Start" button and the timing monitoring page begins to output the timing curve.
4. When you need to stop monitoring the timing, click the Pause button.

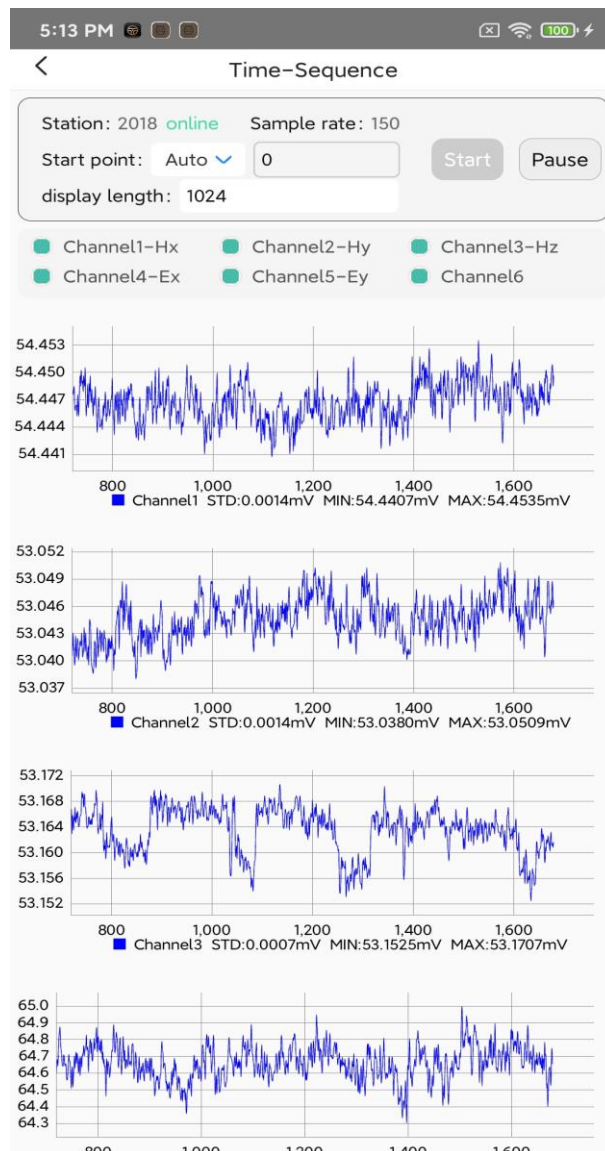


Figure 4-7. Timing monitoring page for AMT measurement mode

The above is the page for viewing the timing curve, and the meaning of each parameter in this page is:

Starting point: "Real-time" means to display the latest collected time series data, and "Custom" means to display the starting point based on the user-set starting sample.

Display length: This value represents the number of sampling points that need to be displayed on the plotting page. STD: The mean square error of all sample data in the plotting page. MIN: The minimum value of all sample data in the plotting page. MAX: The maximum number of all sample points in the plotting page.

Note: To ensure the best data quality is collected under unsaturated conditions, when the DSP is turned on

At 50Hz notch, it is best to keep the values of "STD", "MIN", and "MAX" between 0.1mV and 100mV if

If the range is exceeded, stop the acquisition and restart the acquisition after adjusting the track gain, track gain and track decay.

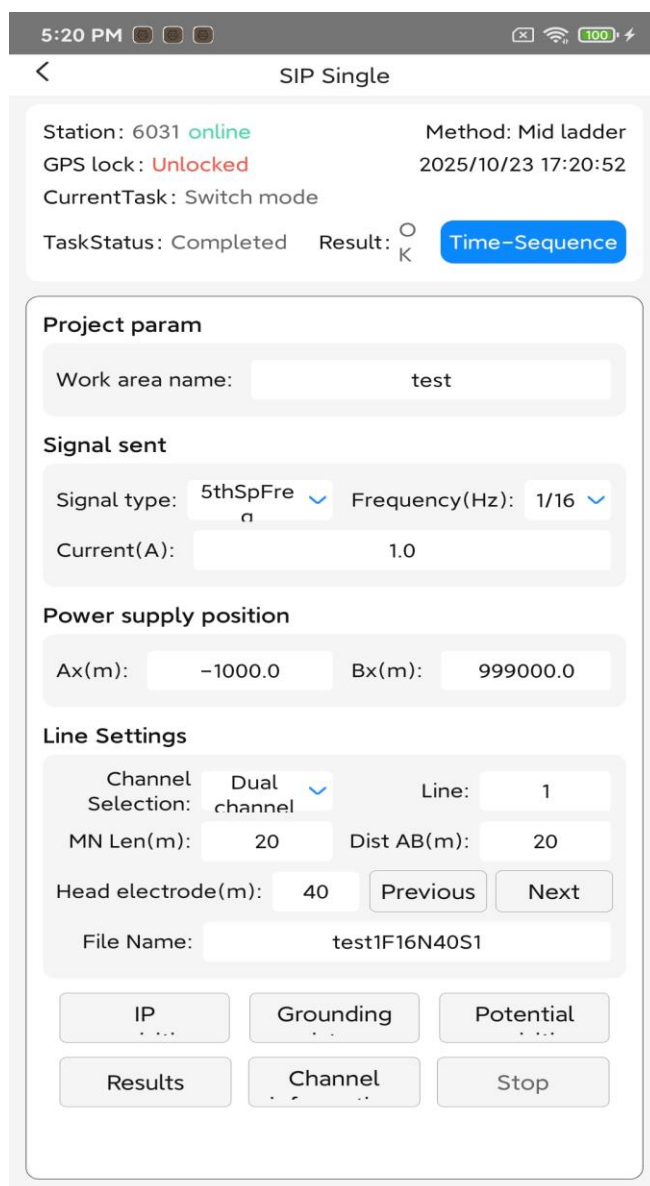
Chapter 5 Single-station SIP measurement

1. Overview

Single-station SIP measurement mode is a special method of the conventional SIP measurement mode, which only supports a single acquisition station. The acquisition station has six channels in the conventional configuration. This mode uses only the third and fourth channels and is divided into single-channel/dual-channel modes; The measurement method uses a mid-ladder device and does not use a current acquisition station, and the current input is manual input.

2. Brief Introduction to the Operation Interface

After the mobile phone connects to the Wi-Fi of the collection station, start and run the GSEMClient application. If the collection station supports SIP mode, click the "Single Station SIP Measurement" button on the home page to enter the measurement page (as shown in Figure 6-1) :



5:20 PM

SIP Single

Station: 6031 **online** Method: Mid ladder
 GPS lock: **Unlocked** 2025/10/23 17:20:52
 CurrentTask: Switch mode
 TaskStatus: Completed Result: $\frac{O}{K}$ **Time-Sequence**

Project param

Work area name: test

Signal sent

Signal type: 5thSpFre α Frequency(Hz): 1/16
 Current(A): 1.0

Power supply position

Ax(m): -1000.0 Bx(m): 999000.0

Line Settings

Channel Selection: Dual channel Line: 1
 MN Len(m): 20 Dist AB(m): 20
 Head electrode(m): 40 Previous Next
 File Name: test1F16N40S1

IP Grounding Potential
 Results Channel Stop

Figure 6-1. Single-site SIP measurement page

The parameter meanings are as follows:

Work area name: Name of the current survey area, manually entered.

Signal type: The type of external input signal from the current acquisition station.

Fundamental: The magnitude of the current signal frequency.

Current size: Manually enter the current value.

Ax: The x coordinate value of the power supply point A.

Bx: The x coordinate value of point B.

Channel selection: Channel mode, divided into single-channel mode/dual-

channel mode; Single-channel mode uses only channel 3,

Dual-channel mode uses channels 3 and 4.

Side line: Current side line number.

Electrode spacing: The distance between receiving electrodes.

A point vertical distance: The vertical distance between the side line and the supply point A.

Head electrode coordinates: Mx coordinate values of the third channel electrode.

File name: The name of the file where the current collected data is stored.

Previous measurement point: Click this button to automatically set the parameters of the previous measurement point while updating the file name.

Next Test point: Click this button to automatically set the parameters for the next test point and update the file name.

3. Feature Introduction

1. Excitation collection

After all the devices have been deployed and the corresponding parameters have been set, when the GPS status is locked, click

Click the "Excitation Collection" button to start the collection; After starting the collection, it will automatically redirect to the "Collection Results" page (as shown in Figure 6-2).

Update and display the relevant calculation results in real time. After the collection task stops, you can enter the "Collection Results" page and click "Save Results".

Click the button to save the collection results to the SRS file.

2 Ground resistance measurement

After the parameters are set according to the actual layout, click the "Ground Resistance" button to measure the ground resistance

After the measurement begins, it will automatically jump to the "Channel Information" page (as shown in Figure 6-3) to view the measurement results.

3 Natural potential collection (optional)

After setting the acquisition parameters, when GPS is locked and click "Potential Acquisition", it will automatically jump to the "Channel Information" page to view the results after the acquisition is completed and click "Save to File" to save the measurement results. When collecting natural potentials, make sure the transmitter is not powered to the ground.

Note: Before starting each work area, the instrument channel should be calibrated without external cables, otherwise natural electricity

Positions may fail to be measured.

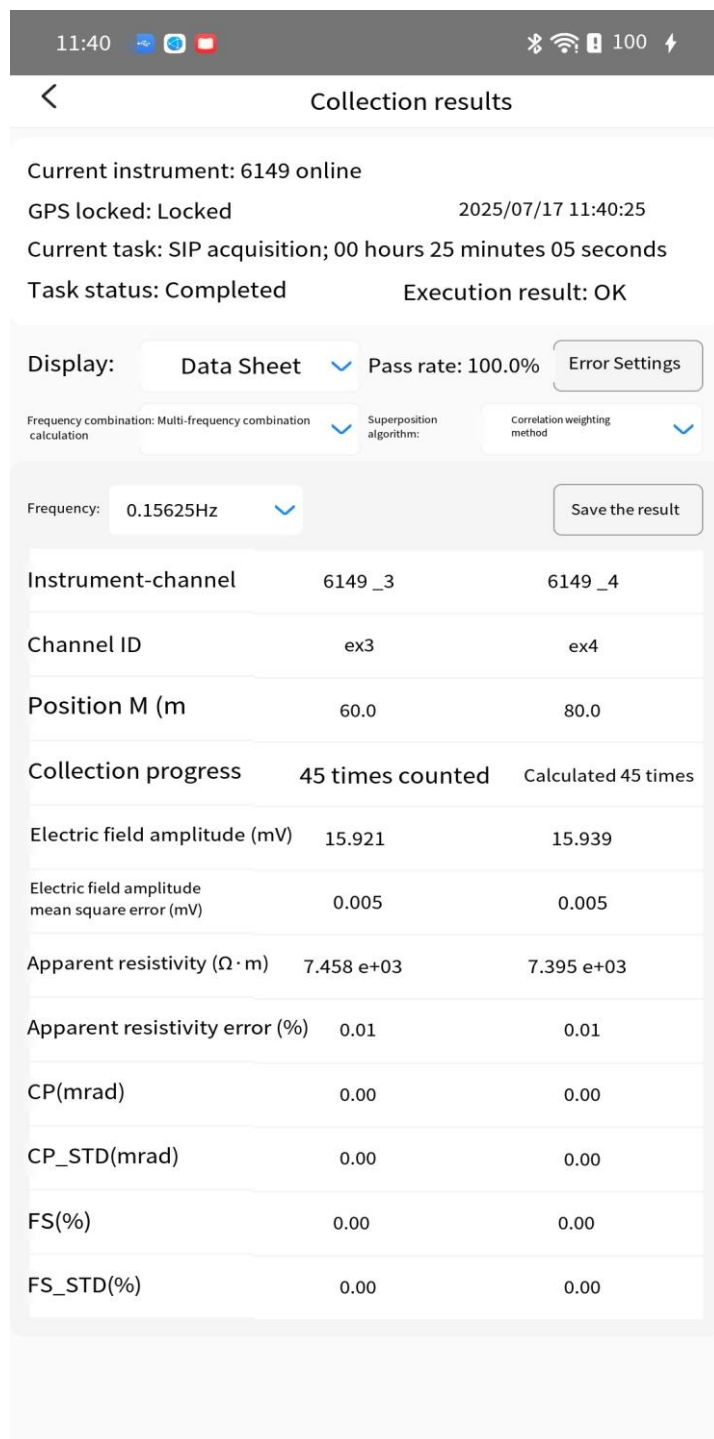


Figure 6-2 Collection Results Page – Data Table View



Figure 6-2 Collection Results Page – Spatial View

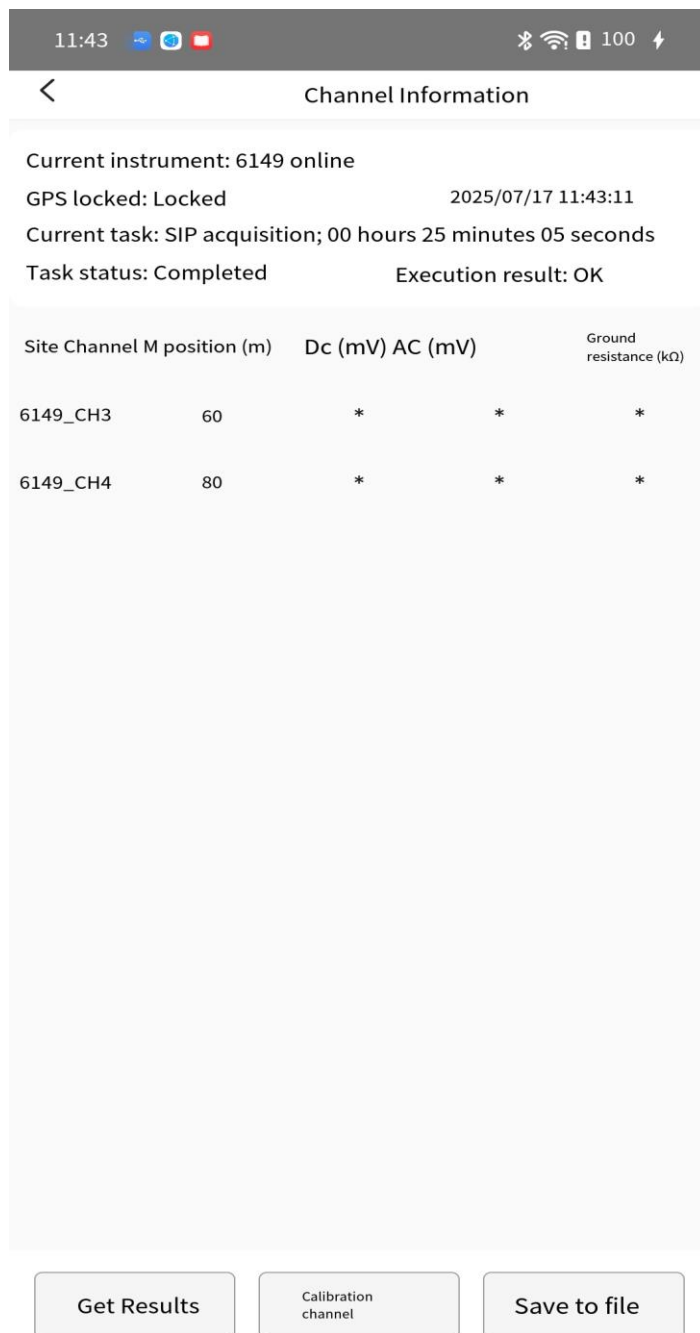


Figure 6-3 Channel Information Page

4. Channel information

The Channel information page, as shown in Figure 6-3 above, is used to display the current and resistance information of the effective channel. It automatically jumps to this page during "ground resistance" and "potential acquisition", and the relevant information will be displayed after the acquisition is completed. The page can be manually triggered to obtain the relevant information by clicking the "Get Results" button at the bottom after it ends.

"Calibration Channel" is mainly used for calibrating the channel, which is generally required when starting the instrument for the first time.

The "Save to File" button is used to store the above channel information locally on your phone.

Chapter 6 Frequently Asked Questions

1. In AMT/MT acquisition mode, the software prompts acquisition failure and the instrument flashes red lights continuously.

Possible causes: (1) After data acquisition begins, connecting the instrument monitoring timing with a computer or downloading data may occasionally result in insufficient instrument resources. In this case, simply restart the instrument and restart the acquisition. Also, after starting the collection, do not connect the computer for a long time to monitor the timing to avoid this problem.

2. In the AMT/MT acquisition mode, the data in both the xy and yx directions of the calculation results are very poor.

Possible reasons: (1) The Hx and Hy channels are connected in reverse. It is necessary to swap the channel numbers of Hx and Hy in the TBL parameter editing page, save the TBL and recalculate; (2) Interference near the measurement point

3. The mobile phone connection to the instrument wifi is unstable and the connection is constantly disconnected.

Solution: Modify the wifi connection properties, change the dynamic acquisition of IP addresses to static, and the optional range of IP address segments is 21-254, as shown in the following figure:

9:08 AM





 Station2018_Wireless Net...







IP address

Subnet mask

35d:cOab 192.168.1.128

255.255.255.0



Gateway

192.168.1.1

Proxy

None 

IP settings

Static 

IP address

192.168.1.128

Gateway

192.168.1.1

Prefix length

24

DNS 1

192.168.1.1

DNS 2

8.8.4.4