SJT-VNT-V0

Vibration And Noise Detector

User Manual

Version

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Preface

Function overview:

Blue light VNT assistant and VNT measuring instrument are integrated methods for recording and analyzing elevator vibration. Support the measurement of three axial vibration and vertical acceleration, velocity, displacement and noise. The device uses Bluetooth communication, and realizes wireless control through smart phone, which is simple and fast, does not need to master more professional knowledge, and reduces the requirements for operators. At the same time, the equipment combined with Internet technology can do remote management of measurement data, and provide expert analysis support to further improve the intelligence of the device and reduce the difficulty of use.

Applicable object and scope:

This product is suitable for vibration measurement and analysis of control system of Blu ray series all-in-one machine. We only provide measurement function for control system of other manug (en-.(r)24(ol 0 .71 01

Chapter 1Model And Standard Specification

1.1 Model description

The model description of vibration and noise measuring instrument is shown in Fig. 1.1.

SJT VNT V0

Equipment series

Controller type

V vibration

N noise

Vibration and noise detector

Hardware version number

FIGURE 1.1 SCHEMATIC DIAGRAM OF MODEL DESCRIPTION

1.2 Standard specifications

Table 1 Standard specifications

DIMENSIONS	LENGTH	MM	103

Table 1 Standard specifications (Continued)

ANALYSIS OF OUTPUT RESULTS	MAXIMUM NOISE DURING OPERATION	
	MAXIMUM ACCELERATION (Z AXIS)	
	A95 ACCELERATION (Z AXIS)	
	A95 DECELERATION (Z-AXIS)	
	MAXIMUM SPEED (Z AXIS)	
	V95 SPEED (Z-AXIS)	
	RUNNING DISTANCE (Z AXIS)	
	MAXIMUM PEAK VALUE OF TRIAXIAL VIBRATION	
	A5 PEAK VALUE OF TRIAXIAL VIBRATION	
	MAXIMUM PEAK VALUE OF TRIAXIAL VIBRATION	
	SPECTRUM ANALYSIS OF TRIAXIAL VIBRATION	
CURVE OUTPUT	TRIAXIAL VIBRATION CURVE	
	NOISE CURVE	
	SPEED CURVE (Z AXIS)	
	ACCELERATION CURVE (Z AXIS)	
	DISPLACEMENT CURVE (Z AXIS)	
MOBILE PHONE PERFORMANCE REQUIREMENTS	SYSTEM	

Chapter 2 Operation process

2.1 VNT assistant software installation

1 After you get the blue light VNT device, use your mobile phone, scan the QR code on the front of the device, open the browser to enter the download page, Download VNT assistant software and install it. The download page is shown in Figure 2.1. The installation page is shown in Figure 2.2

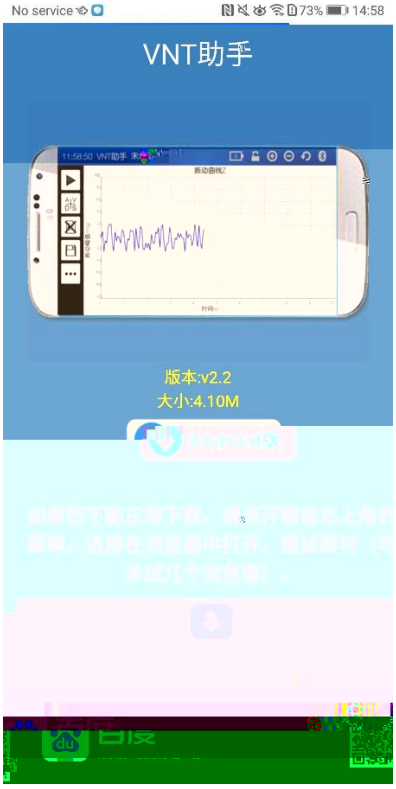


Figure 2.1 download page

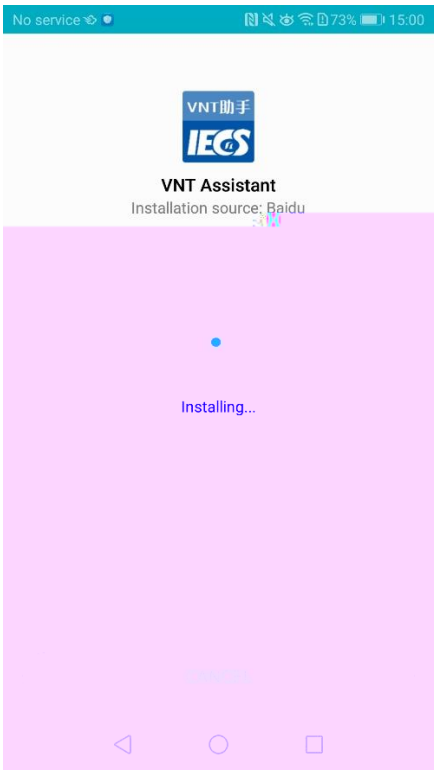


Figure 2.2 installation page

2 After the software installation is completed, open VNT assistant application to ensure that you can fill in your personal registration information in the mobile phone networking status. As shown in Figure 2.3 (for example, please fill in your personal accurate information)



Figure 2.3 registration page

2.2 Confirmation of measurement environment

1. Before measurement, please make sure that there is no other large-scale mechanical equipment operation in the operation section of the test elevator, so as not to affect the vibration measurement.

2. During the measurement, please do not carry too many people in the car. Please avoid walking during the test.

3. If noise measurement is needed, please eliminate the interference of advertising machine and arrival medium language equipment.

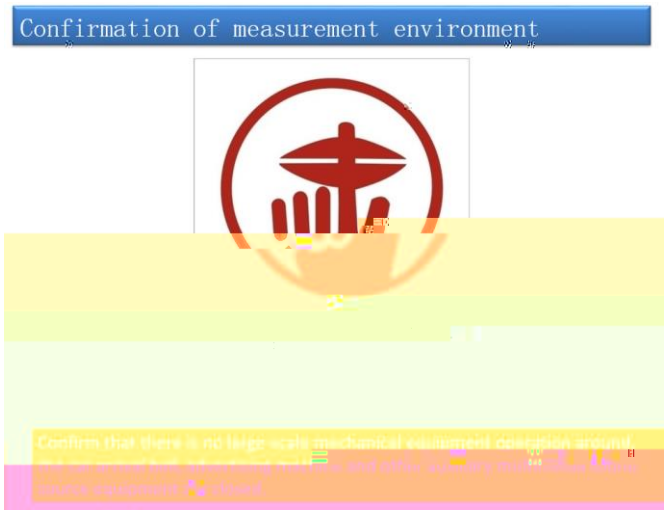


Figure 2.4 confirmation of measurement environment

2.3 Module power on check

1 After the battery is installed, turn the power switch to power on the equipment.

2. VNT equipment will check the hardware performance by itself. If there is any abnormality, the status light will flash and alarm.

3. After power on, pay attention to the run (status indicator), which should be off normally.

4. Com (communication light), when Bluetooth is not connected, should be flashing. After connecting successfully, it will be on normally.



Figure 2.5 power on inspection

2.4 Communication connection

After starting the quality assistant software on the mobile phone, click the Bluetooth icon in the upper right corner of the main interface to establish a link. If Bluetooth is not enabled, Bluetooth permission will be requested. Please grant Bluetooth permission, as shown in Figure 2.6.

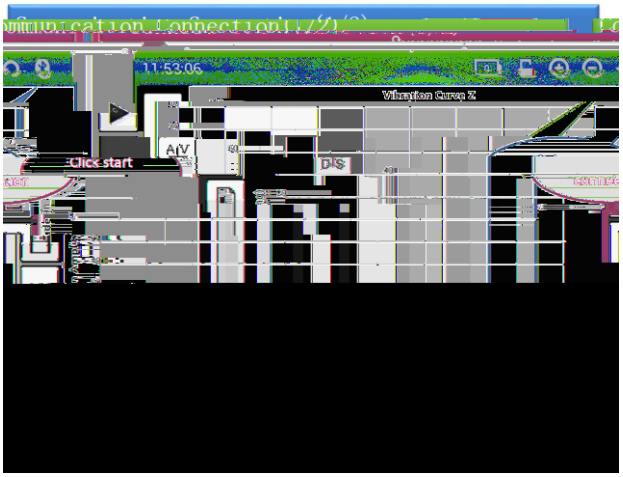


Figure 2.6 Bluetooth link

2. When connecting for the first time, you need to input the pairing password "1234". After the connection is successful, the check mark will appear on the Bluetooth icon, and the com communication light on VNT will turn on normally.

3. For some Android phones, due to system differences, the pairing reminder may not pop up automatically. When searching for connection, pay attention to the notice bar of the mobile phone to see if there is a Bluetooth connection request notification. If so, please enter the correct pairing password in it before trying to connect.

4. If the Bluetooth connection device cannot be found after many attempts, please find the Bluetooth setting option in the mobile phone system settings, clear the connected Bluetooth devices in the list, and then use the search device function of the mobile phone system Bluetooth to search for Bluetooth devices and pair them. After that, re-enter VNT assistant software and click Connect.

5. After the connection is successful, pay attention to the information in the status bar on the VNT assistant. The icon of exclamation mark indicates that there is a fault. You can view the detailed fault information in the fault record; the battery icon will display the battery power information of the current VNT device, as shown in Figure 2.7.

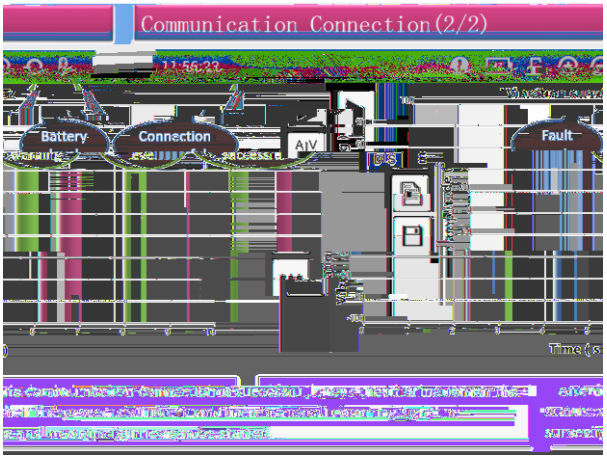


Figure 2.7 successful connection, status display

2.5 Measurement position adjustment

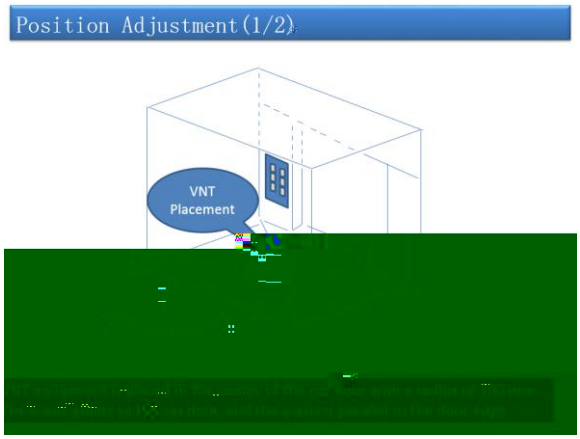


Figure 2.8 placement of measurement position

After the communication is established, it is necessary to adjust the position of the equipment before the measurement. The correct placement of the module can effectively improve the measurement accuracy.

VNT equipment is placed in the center of the car floor with a radius of 100 mm. The x-axis points to the car door, and the y-axis is parallel to the door edge.

2.6 Data measurement

1. After the modules are placed, the surveyors stand in the car near the control panel side. After selecting the elevator interior, click the start button (triangle icon) of software measurement to start measurement before the elevator starts to close. If you do not want to introduce the vibration when closing the door, you can first close the elevator door, then click the start button to start the measurement, and then give the internal selection. After the measurement, please keep quiet and do not walk or shake in the car to avoid affecting the measurement results, as shown in Fig. 2.9.

2. After the measurement starts, the button will turn into a rectangle. Click again to end the measurement. During the measurement process, the quality assistant software will draw the vibration curve of Z axis on the screen in real time, as shown in Fig. 2.10.

3. When the elevator reaches the target floor and the door is fully opened, click the stop button to complete a complete measurement. If you don't want to introduce the vibration caused by the door opening, click to stop measurement before the elevator stops and has not opened the door, as shown in Fig. 2.11.

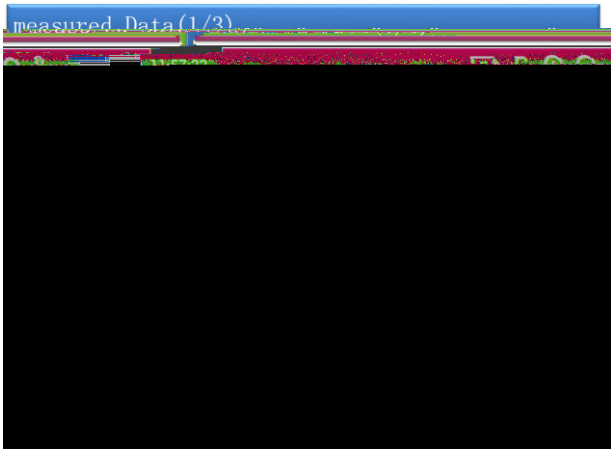


Figure 2.9 start measurement

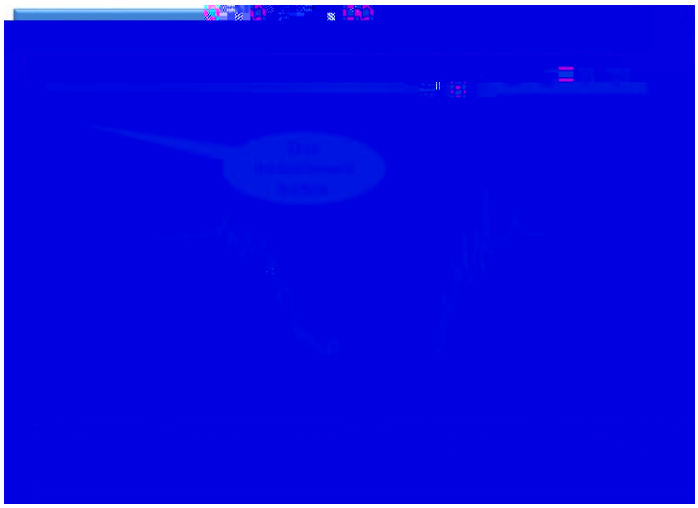


Figure 2.10 stop measurement

Chapter 3 Data activation

After the data measurement is completed, the analysis operation cannot be carried out immediately, and further intelligent analysis can only be carried out after activation and permission. If the activation fails or is not activated, the subsequent data analysis, file upload and remote management will not be available.

Note 1: only the tested elevator uses the blue light all-in-one machine to activate successfully;

Note 2: the data file is limited to the activation of the elevator driver;

Note 3: please save the complete file information before activation;

Note 4: during the activation process, the Bluetooth module should be used to communicate with the all-in-one machine. Pay attention to keep the Bluetooth module.

The activation steps are as follows:

1. Open the extended function, click the "open file" tab to pop up the saved file. The inactive file will be marked with red and cannot be opened. The file with successful activation can be selected to open and conduct subsequent analysis and processing;

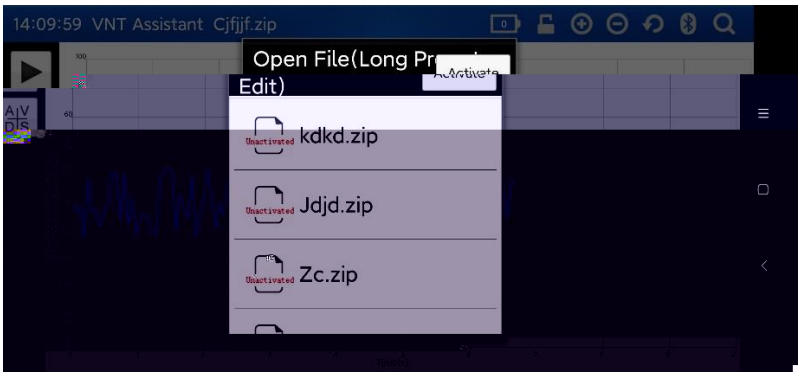


Figure 3.1 open file activation

2. Click the "Activate" button in the upper right corner, and the activation reminder and operation prompt will be given;

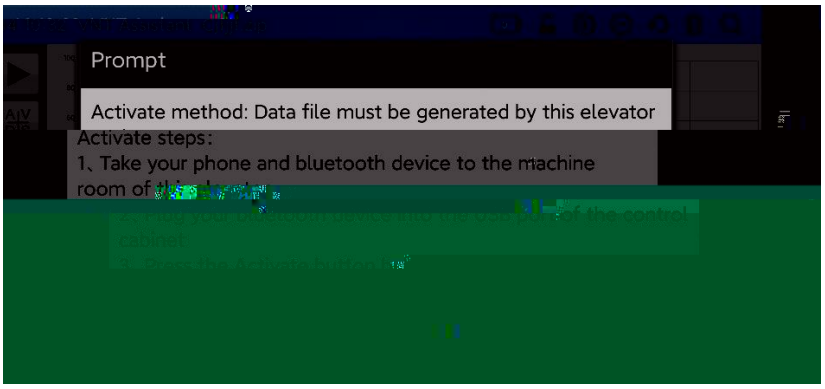


Figure 3.2 activation process

3. After entering the machine room, inserting the Bluetooth module and communicating with the controller, VNT assistant will automatically grant authority to the measurement data of the elevator, and illegal data will not be

Chapter 4 Data analysis

4.1 View curves

After completing the measurement, the module will automatically calculate multiple curves. You can select and view different curves in the curve selection panel. The device supports the display of the following curves:

1. Vibration X-axis curve: the whole vibration curve in x-axis direction
2. Vibration Y-axis curve: the whole vibration curve in Y-axis direction
3. Vibration z-axis curve: the whole vibration curve in z-axis direction
4. Noise curve: the whole process noise curve
5. Displacement curve: the whole displacement curve in z-axis direction
6. Speed curve: the whole speed curve in z-axis direction
7. Acceleration curve: the whole acceleration curve in z-axis direction

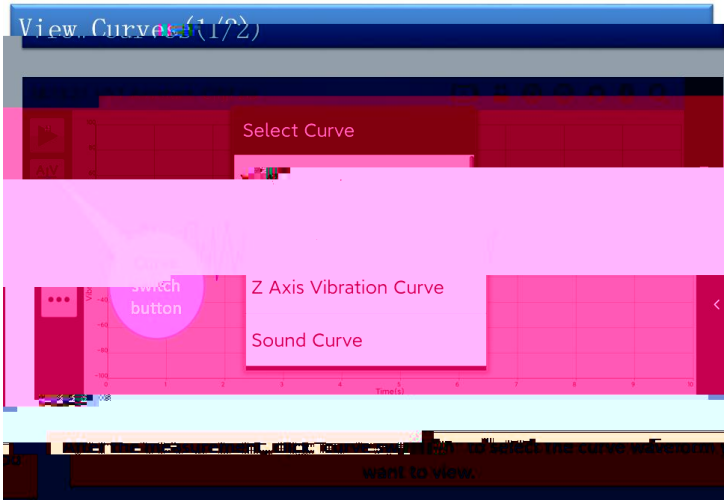


Figure 4.1 viewing multiple curves

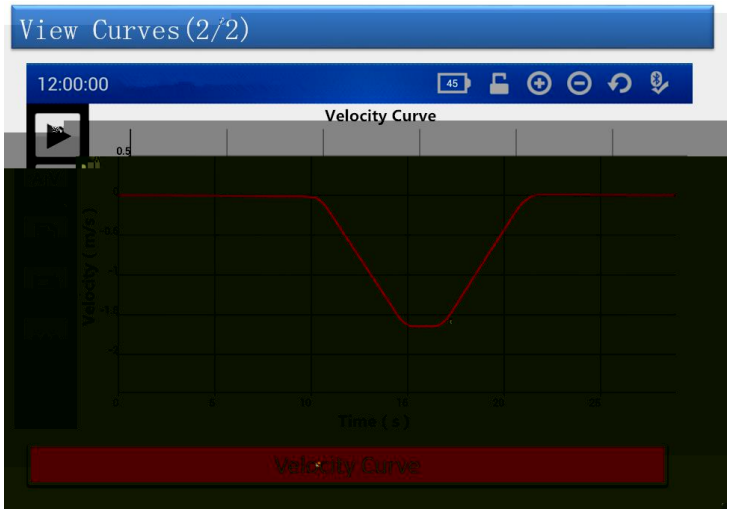


Figure 4.2 view speed curve

4.2 Data analysis

1. Curve scaling

   In the curve interface, you can drag the screen to zoom the curve arbitrarily, or click the zoom in and zoom out buttons in the toolbar at the top of the screen.

   There are auxiliary analysis tools in the toolbar at the top of the screen. After clicking the lock curve, the auxiliary measuring line will pop up, and the coordinates of any point on the curve will be calibrated, as shown in Figure 4.3.

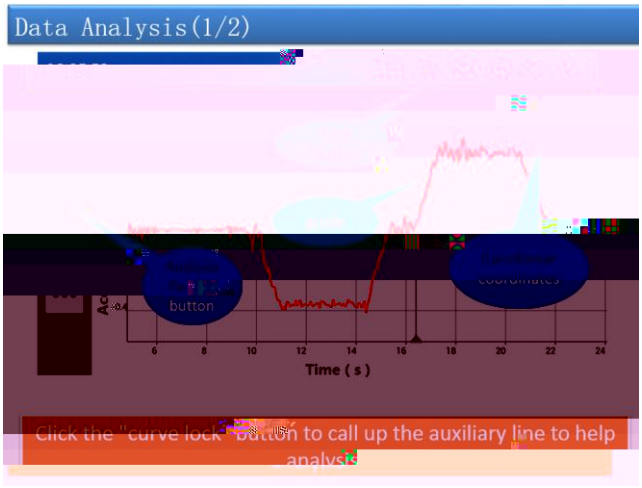


Figure 4.3 curve zooming and dragging

2. Data analysis is shown as below.

   In the analysis report, the instrument can automatically provide the following analysis results:

   Maximum noise in operation: the maximum noise decibel value in the process of elevator operation

   Maximum acceleration: the maximum acceleration in the process of elevator acceleration

   Maximum deceleration: the maximum deceleration in the process of elevator deceleration

   A95 acceleration: the acceleration A95 value of 5% to 95% of the speed during acceleration

   A95 deceleration: the acceleration A95 value of 95% to 5% of the speed during deceleration

   Maximum speed: the maximum running speed of the elevator during operation

   V95 speed: A95 value during steady speed operation

   Running distance: displacement in z-axis direction

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Chapter 5 File Management

5.1 Document Preservation

Click the save file button to save the measured file. Otherwise, the saved data will be lost when3 t or

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Chapter 6 Parameter configuration

6.1 Parameter setting

In the extended function, click the system settings panel to configure the "parameter settings". The default parameters have been configured and can be used directly. In case of special use, you can configure them. After modifying the parameters, if you want the configuration to be permanent, you need to save it. Otherwise, the default settings will be restored after the system power down. As shown in Figure 6.1.

1. Recording time: set the maximum recording time of a single measurement. After the set time is exceeded, the system will automatically stop collecting and measuring. The setting range is 0 ~ 120s.
2. DB correction: it is used for sound pressure drift correction. It is used by the manufacturer. Please do not modify it.
3. Sampling frequency: support 256 and 512 frequency, the default frequency is 256.
4. Transmission mode: to configure the effectiveness of the screen display curve, please select real-time transmission to synchronize the vibration curve displayed on the screen with the actual vibration.
5. Trigger mode: manual trigger, manually click start and measurement; automatic trigger is not supported temporarily.
6. Special function: parameters for manufacturer, please do not modify. The default is 0.
7. Speed correction: automatically correct the measured speed deviation to make the measurement result start at 0 speed and end at 0 speed. On by default.

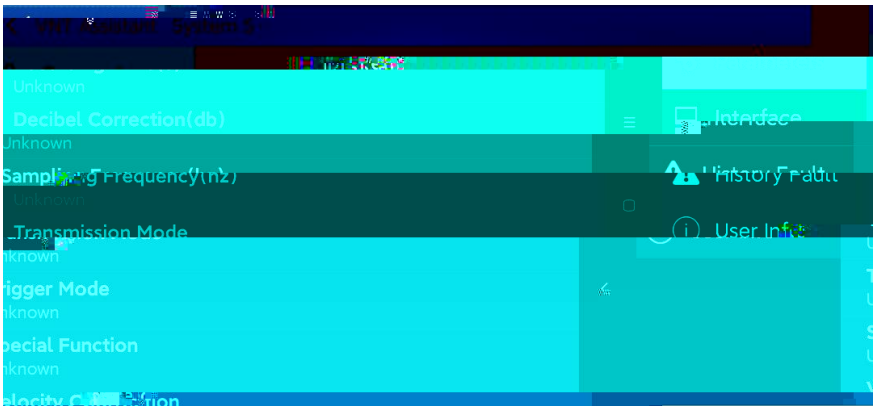


Figure 6.1 parameter setting

6.2 Interface settings

1. The style of mobile phone software can be self-

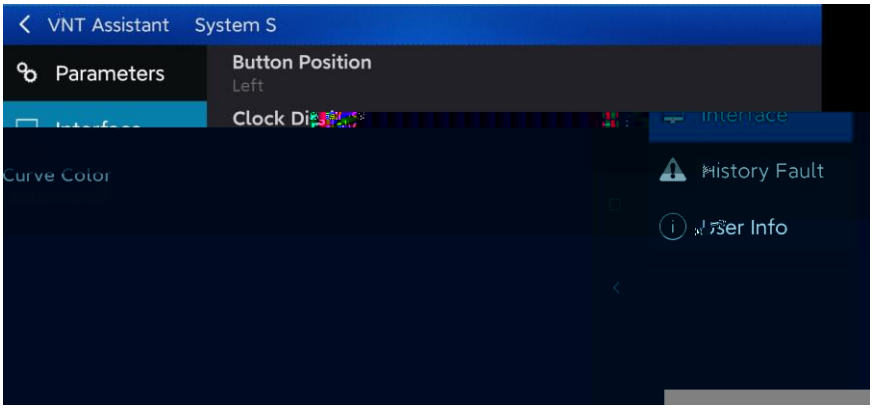


Figure 6.2 interface style setting

6.3 Historical failure

It supports fault record and query, and can view the latest 10 fault records. The latest faults are recorded on the top.

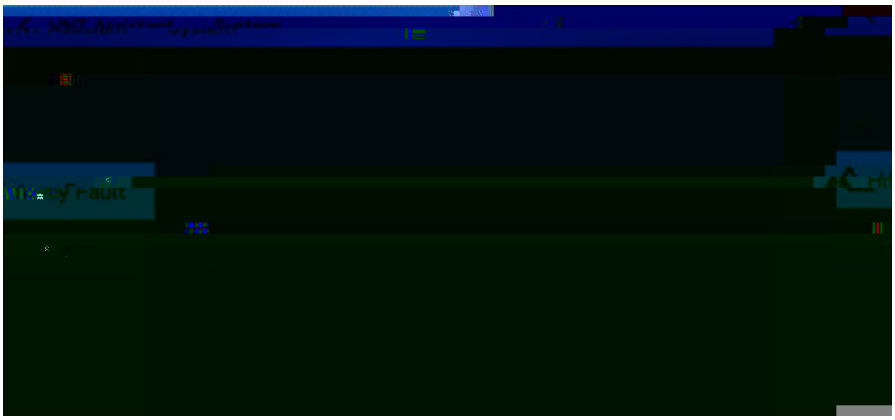


Figure 6.3 view of fault record

Chapter 7 Disassembly operation

When replacing the battery or involving the disassembly operation, please remove it in the following order. As shown in Fig. 7.1-7.3

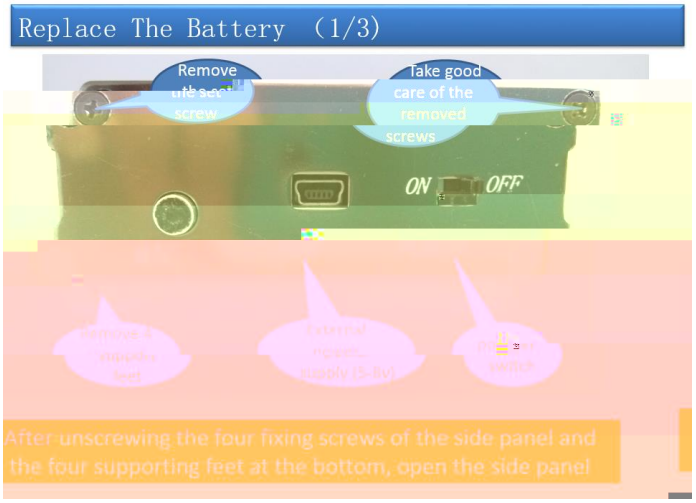


Figure 7.1 disassembly process

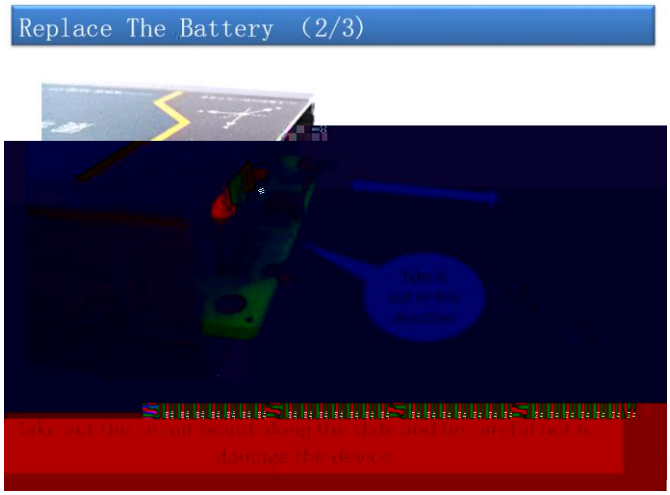


Figure 7.2 disassembly process

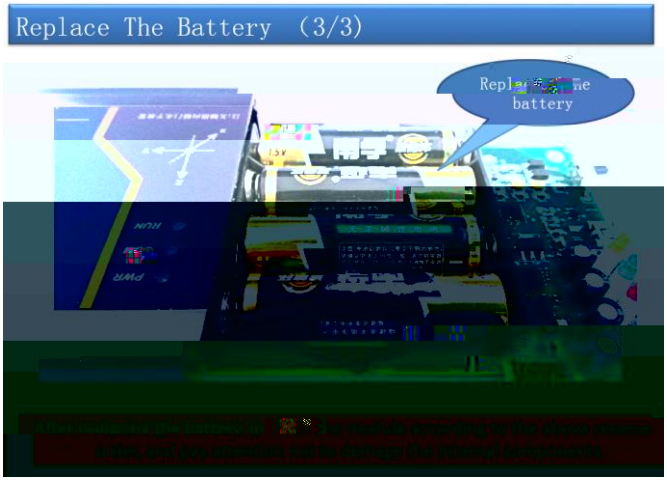
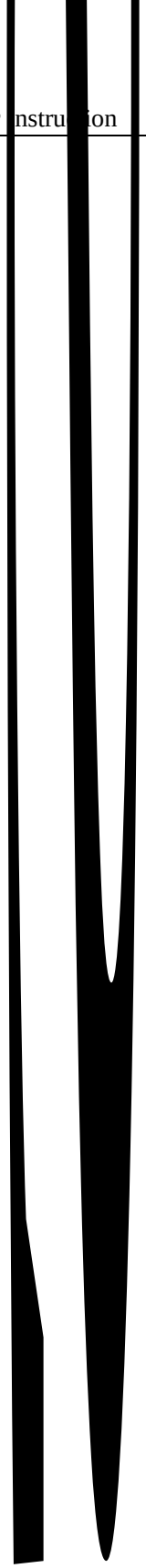


Figure 7.3 battery replacement



9.2. Daily inspection

It is necessary to ensure the normal use of the equipment and prolong its service life. Usually check the following points:

1. The power switch and Mic are loose;
2. Whether the indicator light of VNT device can be on normally;
3. Whether the equipment breaks down frequently during use;
4. Whether the internal circuit board is scratched or falling off;
5. Whether the battery capacity is within the rated range;
6. Whether there is peculiar smell inside the equipment.

9.3. Regular calibration

In order to ensure the accuracy of the equipment, VNT equipment should be calibrated regularly. It is recommended to calibrate once a year. The calibration method is as follows:

1. Inspection by professional measurement institutions;
2. Use calibrated precision equipment for simple calibration.

For equipment with large deviation, please return to factory for correction.

9.4. Equipment warranty

The warranty period of the equipment is within 12 months from the date of delivery.
Failure or damage caused by the following reasons outside the warranty period and within the warranty period will be repaired with compensation.
1. Problems caused by improper use according to the manual or self maintenance or transformation without permission.
2. Problems caused by use beyond the standard specifications.
3. The damage occurred after arrival or during transportation.
Damage caused by force majeure (such as fire, flood, earthquake, lightning strike and other natural disasters and their associated causes).
For server quality platform instructions, please log in iecs.com.cn View detailed usage information.