BAT.
BRITISH ACOUSTIC TECHNOLOGY

NAV II

User Manual

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Acknowledgments

EN

Thank you for choosing BAT.
Your trust in our commitment to sonic precision and purposeful design means the world to us. Each BAT product is the result of rigorous engineering, careful craftsmanship, and a relentless pursuit of acoustic clarity. We hope it brings richness and reliability to every sound you experience. Welcome to the BAT family.

FR

Merci d’avoir choisi BAT.
Votre confiance en notre engagement envers la précision sonore et le design réfléchi nous touche profondément. Chaque produit BAT est le fruit d’une ingénierie rigoureuse, d’un artisanat soigné et d’une quête incessante de clarté acoustique. Nous espérons qu’il apportera richesse et fiabilité à chaque son que vous vivrez. Bienvenue dans la famille BAT.

DE

Vielen Dank, dass Sie sich für BAT entschieden haben.
Ihr Vertrauen in unser Engagement für klangliche Präzision und durchdachtes Design bedeutet uns sehr viel. Jedes BAT-Produkt ist das Ergebnis rigoroser Ingenieurskunst, sorgfältiger Handwerkskunst und eines unermüdlichen Strebens nach akustischer Klarheit. Wir hoffen, dass es jedem Ihrer Klangerlebnisse Reichtum und Zuverlässigkeit verleiht. Willkommen in der BAT-Familie.

IT

Grazie per aver scelto BAT.
La sua fiducia nel nostro impegno per la precisione sonora e il design mirato è per noi di grande valore. Ogni prodotto BAT è il risultato di un’ingegneria rigorosa, di una lavorazione artigianale accurata e di una costante ricerca della chiarezza acustica. Ci auguriamo che porti ricchezza e affidabilità a ogni suono che ascolta. Benvenuto nella famiglia BAT.

JP

BAT をお選びいただきありがとうございます。
音の精度と意図的なデザインへの私たちの取り組みに対するあなたの信頼は、私たちにとって非常に重要です。BAT の各製品は、厳密なエンジニアリング、丁寧なクラフトマンシップ、そして音響の明瞭さへの絶え間ない追求の成果です。
それがあなたのすべての音の体験に豊かさと信頼性をもたらすことを願っています。BAT ファミリーへようこそ。

AR

شكرًا لاختيارك BAT.
إن ثقتك في التزامنا بالدقة الصوتية والتصميم المدروس تعني لنا الكثير. كل منتج من BAT هو نتيجة لهندسة دقيقة، وحرفية متقنة، وسعي لا يكل لتحقيق وضوح صوتي فائق.نأمل أن يضيف هذا المنتج ثراءً وموثوقية لكل تجربة استماع تخوضها. مرحبًا بك في عائلة BAT.

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Acknowledgments

SP

Gracias por elegir BAT.
Su confianza en nuestro compromiso con la precisión sonora y el diseño intencionado significa mucho para nosotros. Cada producto de BAT es el resultado de una ingeniería rigurosa, una artesanía cuidadosa y una búsqueda incansable de claridad acústica. esperamos que aporte riqueza y fiabilidad a cada sonido que experimente. Bienvenido a la familia BAT.

RU

Благодарим вас за выбор **BAT.**
Ваше доверие к нашему стремлению к звуковой точности и продуманному дизайну очень важно для нас. Каждый продукт **BAT** результат строгой инженерии, тщательного мастерства и неустанного стремления к акустической ясности.
Мы надеемся, что он принесет богатство и надежность в каждое ваше звуковое впечатление. Добро пожаловать в семью **BAT.**

CN

感 您 BAT。
您 我 在声音精度和有目的 方面承 的信任 我 意 重大。每一款 BAT 品都是 工程、精心工 和 音响清晰度不懈追求的 晶。
我 希望它能 您的每一次聆听体 来丰富和可靠。迎加入 BAT 大家庭。

PT

Obrigado por escolher a BAT.
A sua confiança no nosso compromisso com a precisão sonora e o design intencional significa muito para nós. Cada produto BAT é o resultado de engenharia rigorosa, artesanato cuidadoso e uma busca incessante pela clareza acústica.
Esperamos que ele traga riqueza e confiabilidade a cada som que você experimente. Bem-vindo à família BAT.

TR

BAT'ı seçtiğiniz için teşekkür ederiz.
Ses hassasiyeti ve amaçlı tasarıma olan bağlılığımıza duyduğunuz güven bizim için çok değerlidir. Her BAT ürünü, titiz mühendislik, özenli işçilik ve akustik netliğe yönelik amansız bir arayışın sonucudur.
Bu ürünün, yaşadığınız her ses deneyimine zenginlik ve güvenilirlik katmasını umuyoruz. BAT ailesine hoş geldiniz.

HI

BAT चुनने के लिए धन्यवाद।
ध्वनि की सटीकता और उद्देश्यपूर्ण डिज़ाइन के प्रति हमारी प्रतिबद्धता में आपके विश्वास का हमारे लिए बहुत महत्व है। प्रत्येक **BAT** उत्पाद कठोर इंजीनियरिंग, सावधानीपूर्वक शिल्प कौशल और ध्वनिक स्पष्टता की निरंतर खोज का परिणाम है।
हमें आशा है कि यह आपके हर श्रवण अनुभव में समृद्धि और विश्वसनीयता लाएगा। **BAT** परिवार में आपका स्वागत है।

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What's in the Box?

User Manual

Your BAT NAV II

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Key Features

NAV II

Simple Control,
Seamless Experience.

NAV II is a wall-mounted 2.4″ touch panel designed for easy volume and scene control via RS-485, ideal for conference rooms and classrooms. it features a compact design, low power consumption, and stable performance with a 400MHz dual-core processor.

Touch Precision, Power in Motion.

The **NAV II** features a 2.4-inch resistive touch screen with 480×480 resolution and 65K color display, delivering clear visuals and reliable touch control. its 400MHz dual-core processor ensures smooth, responsive operation in real-time applications.

Reliable Control, Effortless Integration.

With RS-485 communication, **NAV II** integrates easily with digital audio processors for functions like volume and scene control. it fits standard 86-type wall boxes, supports 5–36V input, and offers low power consumption for efficient, long-term use.

Specs Sheet

Unit	Touch Screen Control Panel
Display:	2.4-inch Resistive Touch Screen
Resolution:	480x480 pixels
Display Colors;	65K (16-bit RGB)
Core Processor:	400 MHz, 32-bit Dual-Core
Communication Interface:	RS-485
Touch Technology:	Resistive Touch
Power Consumption:	Hibernation: 0.4W Dimmest (No Speaker): 1.5W Brightest (No Speaker): 2.4W
Input Voltage:	5—36V DC (±0.2V Tolerance)
Storage:	128 Mbit
Effective Display Area:	71.9x70.2 mm
Dimension (LxWxH):	90.7x90.7x27.9mm
Refresh Rate:	80Hz

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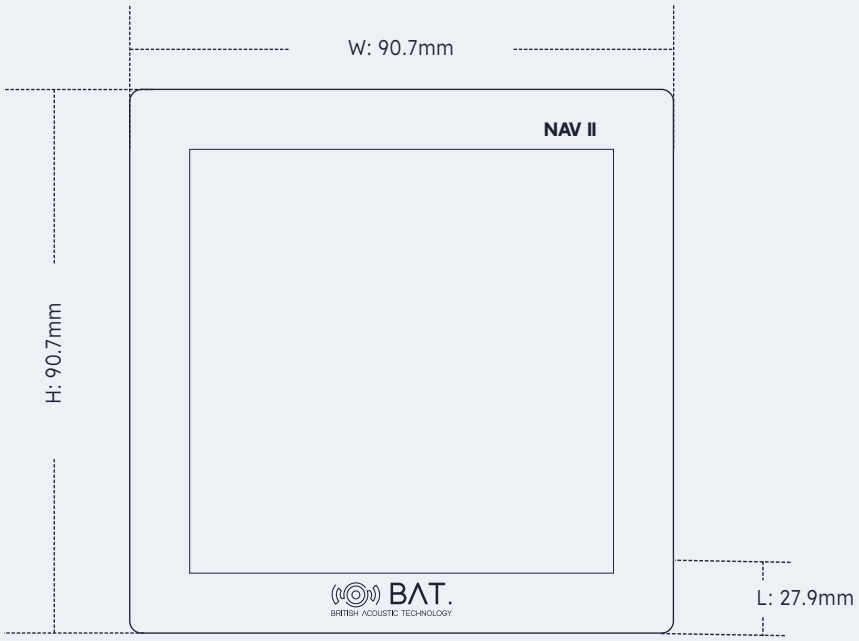
Dimensions


W: 90.7mm
NAV II
H: 90.7mm
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L: 27.9mm

Installation Guide

1. Introduction to the Work Page

VisualTFT Software installation

Operating environment：Windows
Select the installation directory as prompted, then proceed step by step by clicking “Next” to complete the installation.

VisualTFT Interface Introduction

If VisualTFT has been successfully installed, open an existing factory project to familiarise yourself with the VisualTFT workspace interface, which is displayed.

A. Menu Bar Area

The two main configurations are debugging and tools.

Debugging

For serial port debugging, when the physical screen employs a proprietary protocol, online operations will fail. In such instances, select Debug → Online without Handshake from the menu bar. Serial port command interactions can then be observed within the [Command Window].

Tool

Common operations on the toolbar include：

- **Icon generation:** the creation of icon files.
- **Font library configuration:** Generate vector font library.
- **Keyboard configuration:** Customisable user keyboard style.
- **Protocols and Variables:** Configuration of Modbus/FX2N/XGUS Protocols.
- **Minicscript programming:** After enabling Modbus/FX2N/XGUS protocols, lightweight logic scripts can be edited.
- **Lua script editor:** Utilising Lua scripts for powerful applications such as computations and proprietary serial port protocols.

Installation Guide

B .Compilation Area

The editing area primarily comprises compilation, download, and virtualnscreen functions.

- **Compilation:** The edited results and memory usage can be viewed in the Output Window.
- **Run virtual screen:** Click to simulate the operational logic of a physical screen using the configured page.

C. Control Zone

If the current physical screen uses a proprietary protocol, you may select the corresponding serial port number and click Connect.

Upon successful connection, Visual TFT will display ‘Connected device...’ in the bottom-right corner, enabling debugging and control via the [Command Debugger].

D. Controls Area

Controls are primarily categorised into basic controls and configuration controls.

The basic controls are as follows: Brush, Line Segment, Rectangular Frame, Solid Rectangle, Circle, Solid Circle, Ellipse, Solid Ellipse, Static Text, Image, etc.

The configuration controls are as follows, listed sequentially: Button, Text, Gauge, Slider, RTC, Animation, Icon, Curve, Menu, Slide Selection, QR Code, Data Logging, Historical Curve, Circular Progress Bar, Basic Shape, Video, Sub-screen Window Control, etc.

E. Control Layout

Used for adjusting the distribution between controls, including stacking order, alignment, spacing, equal width, and other height adjustments, as well as enabling locking, hiding, zooming in and out during the layout process.

F. Engineering Window

You may view the list of created scenes and loaded files such as images, audio, and video.

G. Editing Area

Primarily responsible for editing the UI interface, this is the main operational area during development. Users click to select the required controls and place them within this region to complete the creation of the controls.

H. Properties Window

The right-hand side constitutes the Properties window, primarily displaying the overall project configuration properties, control properties, and the comprehensive resource window for all screens and images.

I. Output Window

During user compilation, all errors, warnings, and the total project size are displayed in this window.

J. Command Window

Upon successful connection, users may view specific message details in the [Command Window] via command transmission control. For instance, when connecting to a Visual TFT physical display, navigate to [Command Assistant] Device Handshake.

Visual TFT Send：EE 04 FF FC FF FF
Screen feedback：EE 55 FF FC FF FF

2. How to create a project

Having familiarised yourself with the basic VisualTFT interface, this chapter will guide you through creating a new project.

In the menu bar, select [File] ⇨ [New Project N…] or use the direct shortcut button to create a new project.

Select the storage path. Based on the physical display model, choose the corresponding resolution and dimensions.

Installation Guide

3. How to download the project

IoT-enabled

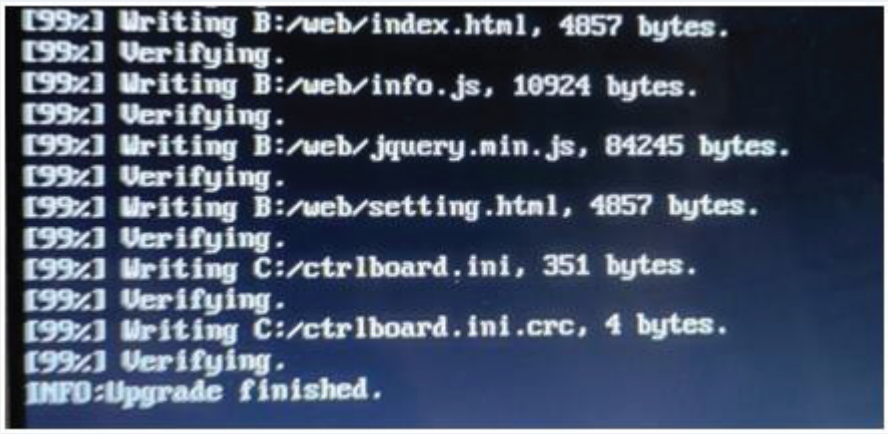
Click Compile the project. Upon successful compilation, the [Mass Production Wizard W] window will automatically appear. Proceed as follows:

USB drive requirements:
- The USB drive has not been configured as a bootable drive.
- Capacity recommendation: less than <= 32G
- Format as FAT32

Noted: Certain IoT models only support SD card downloads, with a similar download process.

The upgrade steps are as follows:

1. Clicking ‘Download to USB drive or SD card’ will automatically open the ‘Udisk_SD’ directory.
2. Copy the content to the root directory of the USB flash drive or SD card.
3. Screen power off.
4. Insert the USB flash drive into the USB slot on the serial port display.
5. Upon powering on, the screen automatically enters the download page.



6. Upon completion of the download, the screen displays “INFO: Upgrade finished”. Power off the screen ⇨ remove the card ⇨ power on to complete the engineering download.

4. Button Control

What is a button control?

Button controls can be configured to display either a raised or depressed state. The control's background may be set to a solid colour or an image, enabling a realistic button-press effect when depressed. Button controls also support multiple functionalities, such as long press, toggle, and set states.

This section introduces the fundamental properties and common applications of button controls. Each application's configuration is illustrated using examples from project interfaces. Common applications are outlined below:

1. **Button switch functions:** Implement transient, toggle, set, reset, long press, and delay functions.
2. **Button Logic Functionality:** Implement mutual exclusion between two buttons and utilise commands to achieve master switch functionality.
3. **Single-button multi-state:** A single button and icon can be used to implement the functionality of a multi-state button.
4. **Button Disabling & Enabling:** Utilise the delay function of buttons to disable and enable other buttons.
5. **Custom commands:** Transmits custom commands externally when the button is pressed.

A. Attribute Description

This section focuses on the properties of the button control, as displayed in the Properties window.

Touch the empty frame

When the user presses the button, a dotted outline appears.

Event Notification

Notify upon button state change. Note that if button notifications are disabled, corresponding minic scripts and Lua scripts will not trigger callbacks, nor will commands be sent via the serial port.

Image when popped up

The image displayed when the button is in its raised state. When “Crop” is selected, the image will show the area corresponding to the button's coordinates within the picture.

Image when pressed

The image displayed when the button is pressed. When “Crop” is selected, the image will show the area corresponding to the button's coordinates within the picture

Installation Guide

Text status

Display text on the button control. Select “Yes” to show text according to the state, as shown below.

1. Font: Text size and style
2. Colour when hovered over, colour when clicked: Text colour
3. Text displayed when hovered over, text displayed when pressed: the text shown in two different states.

Touchscreen applications

1. Switch screens
2. Switch Description
3. Customisable buttons
4. Custom Commands
5. Pop-up menu

Switch screens

Switch to the specified screen; the relevant parameter configurations are as follows:

Optional features include:

1. Target Screen: Upon clicking the button control, switch to the designated screen.
2. Sub-screen: Typically a small window with a transparent background, it can function as a dialogue box. Set the target page's [Background Transparency] to “Transparent”. Place an image control on the page and select the corresponding UI for its [Path].
3. Animation Effects: Transition effects during page switching, with options including full-screen left-to-right or top-to-bottom movement, fade-in/fade-out, or gradual reveal. This feature is supported exclusively by IoT-enabled devices.
4. Animation Scope: Animations are displayed within the designated area and not beyond it. Settings may be applied to the entire screen or to specified regions.
5. Password Protection: Once password protection is enabled, the correct password must be entered to switch screens.

Installation Guide

Switch Description

The functions of the pushbutton switch and relevant parameter configurations are as follows:

Optional features include:

1. Initial state: The switch's initial state.

2. Operational style:

- **Transient**: Upon release, the switch automatically springs back, functioning similarly to a tactile switch.
- **Toggle:** Upon pressing, the switch changes from a raised to a depressed state, or from a depressed to a raised state, functioning similarly to a latching switch.
- **Set**: The switch can only change from being raised to being depressed.
- **Reset:** The switch can only be activated by pressing it down and then releasing it.
- **Longpress:** Similar to the transient button, but notifies once every 100 milliseconds when pressed.
- **Delay:** Press and hold for a specified duration to trigger a notification.

3. Internal command: An instruction executed internally upon being pressed or released.

4. External command: Upon being pressed or released, sends a command to an external device.

Custom button

Convert corresponding buttons into value inputs. This feature requires use with text input fields that support custom keyboard input. Button controls can be designed as custom keyboard keys, enabling users to treat these button controls as custom keys.

Custom commands

Transmit custom data in hexadecimal format. This enables users to configure the device to upload custom data packets upon button press. Packets with a frame terminator of FF FC FF FF must not be transmitted, as this conflicts with proprietary protocols.

Pop-up menu

Requires coordination between the menu control and text control to enable a pop-up menu upon button click. After the user selects an option from the displayed menu, the text control should then present the corresponding data.

Functional Applications of Push-Button Switches

[Button Switch Functions]
Screen, detailing the transient, toggle, set, reset, long press, and delay functions of buttons.

Installation Guide

Display Configuration

Import the appropriate graphic image into the “Background Image” section of the [Button Switch Function] screen. Configure the button controls within this screen.

Property Configuration

Transient

Taking the button's transition function as an example: Set [Touch Outline] to ‘Off’; Select the processed image for [Image on Press]; Tick [Crop]; Set [Touch Purpose] to ‘Toggle Description’; Set [Operation Style] to ‘Transition’.

Similarly, the settings for the [Touch Outline], [Pressed Image], [Crop], and [Touch Purpose] of other buttons remain identical, though their operational styles differ. This document shall not elaborate further.

Toggle

Configure the toggle functionality for the button, with the [Operation Style] set to ‘Toggle’.

Set

Configure the button's toggle function with the [Operation Style] set to ‘Toggle’.

Reset

Configure the reset function for the button, with the [Initial State] set to ‘Pressed’ and the [Operation Style] set to ‘Reset’.

Longpress

Configure the Longpress functionality for the button, with the [Operation Style] set to‘Long Press’and the [Long Press Delay] set to ‘0.1s’.

Delay

Configure the button's delay function with the following settings: [Operation Style] set to ‘Delay’, [Long Press Delay] set to ‘5s’.

Run Preview

Run the virtual screen. The VisualTFT software and virtual screen establish a connection via a ‘virtual serial port’. Open the [Command Assistant], select [Button Controls] from the left navigation pane, and configure the command parameters for‘Setting the button control's raised and depressed states’. Set the button control (Control ID: 1) on the configuration screen (Screen ID: 0) to be depressed. Consequently, on the virtual screen, this button control transitions from raised to depressed.

Hazard/Warning Note

The exclamation mark in an equilateral triangle alerts users to important safety instructions in the user manual.
Please read carefully.

1. Read these instructions.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this apparatus near water.

6. Clean only with a dry cloth.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Only use attachments/accessories specified by BAT.

12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. Never introduce objects into the vents of the device. Doing so may contact high-voltage components or cause a short circuit, leading to fire or electric shock. Keep liquids away from the device.

16. Do not attempt to repair this device yourself. Opening the device can expose you to high voltages and other risks. For all maintenance or repairs, contact qualified professionals.

17. Replacement Components: When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

18. Safety Check: Upon completion of any service or repairs to this device, ask the service technician to perform safety checks to determine that the device is in proper operating condition.

19. This appliance shall not be exposed to dripping or splashing water and that no object filled with liquids, such as vases, shall be placed on the apparatus.

20. In order to avoid damaging your hearing, do not listen to loudspeakers at high volumes for extended periods. Listening to speakers at high volumes can damage the user's ears and may lead to hearing problems.

21. Exposure to excessive volumes (over 85dB) for more than one hour can cause irreparable damage to your hearing.

Warranty

Your **BAT NAV IV** is accompanied by a separate warranty document outlining the specific terms and conditions of your coverage.

Please refer to this document for detailed information regarding the duration of the warranty, what is covered, and the process for making a claim. We recommend retaining your proof of purchase along with the warranty document for convenient reference. For any warranty-related inquiries, please contact your authorized BAT dealer or reach out to us directly using the contact information provided in this manual."

Disclaimer

Information contained in this manual is subject to change without prior notice and does not represent a commitment on the part of the vendor. We shall not be liable for any loss or damages whatsoever arising from the use of information or any error contained in this manual.

It is recommended that all services and repairs on this product be carried out by us or its authorized dealer.

This product must only be used for the purpose it was intended by the manufacturer and in conjunction with this operating manual.

We cannot accept any liability whatsoever for any loss or damages caused by "service, maintenance or repair by unauthorized personnel" or by use other than that intended by the manufacturer.

Contact Us

info@bataudio.com
www.bataudio.com
United Kingdom

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