



User Manual

Portrait WiFi eInk Display

Welcome to your Portrait WiFi eInk Display! This comprehensive manual will guide you through setup, features, and troubleshooting.

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1. Product Overview

Portrait is a WiFi-connected elnk display that brings dynamic content to your home or office. Unlike traditional screens, elnk technology provides a paper-like viewing experience with minimal power consumption and no eye strain.

Key Features

- **Paper-like Display:** High-contrast monochrome elnk for comfortable, glare-free viewing
- **WiFi Connected:** Receives automatic updates over your home network
- **NFC Setup:** Quick and easy configuration using your iPhone
- **Low Power:** Efficient design with USB-C charging
- **Multiple Content Types:** Display images, text, QR codes, live data, and more



Images



Text



QR Codes



Bible Verses



Clock



MTA Transit



Stocks



Weather

Features with purple border require Premium subscription

2. What's in the Box

- **Portrait Display Unit** - Your WiFi eInk display
- **Quick Start Guide** - Basic setup instructions

You will need: A USB-C cable and USB power adapter (5V, 1A minimum recommended) are not included. Use any standard USB-C cable and adapter to charge the device.

3. Technical Specifications

Display

Display Type	Monochrome eInk (E-Paper)
Resolution	400 x 300 pixels
Colors	Black and White
Viewing Angle	180 degrees (paper-like)

Connectivity

WiFi	2.4GHz 802.11 b/g/n
NFC	Built-in for device setup
Processor	ESP32-C3 (Espressif)

Power

Solar Panel	Built-in solar cell (SM400K10TF) for ambient charging
Charging Port	USB-C (located on right side)
Battery	Built-in rechargeable lithium battery
Charging IC	BQ24040 (Texas Instruments)

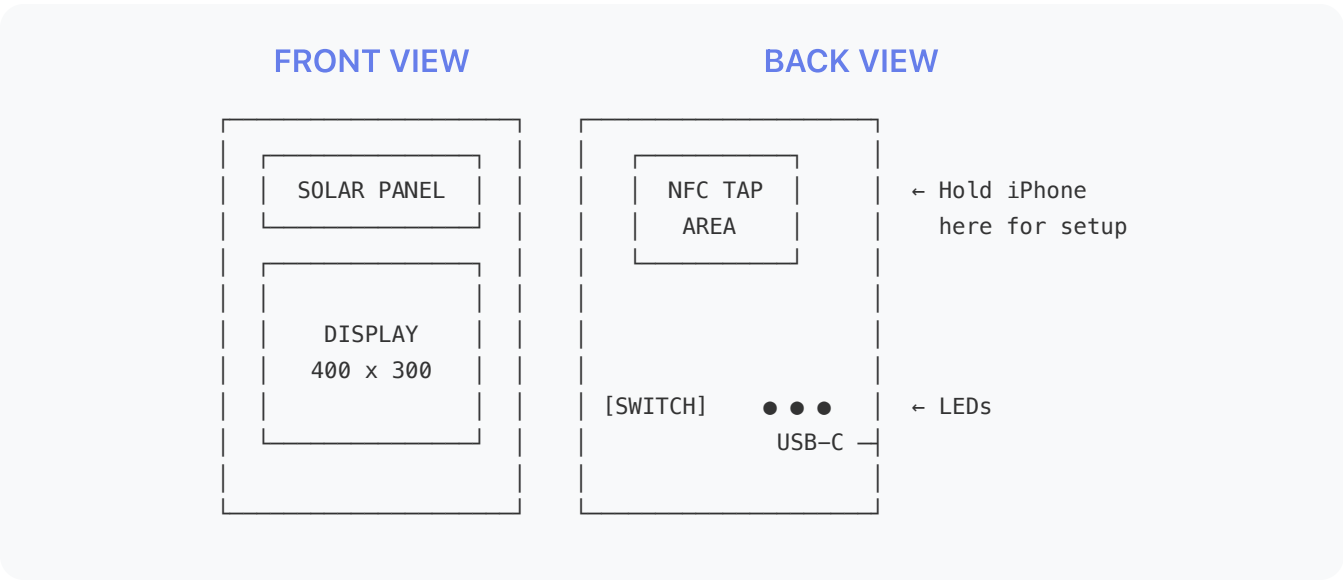
Physical

Dimensions	90mm x 76mm (3.5" x 3.0")
Model	PP-100

Important: Portrait only supports **2.4GHz WiFi networks**. If you have a dual-band router, ensure you connect to the 2.4GHz network (often labeled with "2.4G" in the network name).

4. Hardware Setup

Device Layout



PP-100 — Dimensions: 90mm x 76mm

LED Indicators

Three LEDs are located on the back right side of the device:

LED	Status
Charge LED (D2 - Solid)	Battery is charging
Charge LED (D2 - Off)	Fully charged or not connected to power
Status LEDs (D3, D4, D5)	Indicate device activity and connection status

Initial Charging

1. Connect the USB-C cable to the bottom port of your Portrait device
2. Connect the other end to a USB power adapter or computer
3. The charge LED will illuminate while charging
4. Allow 2-3 hours for a full charge before first use

Placement & Positioning

Choose an ideal location for your Portrait display:

- **Indoor use only:** Portrait is designed for indoor environments
- **Stable surface:** Place on a flat, stable surface or mount securely
- **WiFi range:** Ensure good WiFi signal strength at the chosen location
- **Viewing distance:** The 400x300 display is best viewed from 1-6 feet away
- **Good lighting:** Place near a window or well-lit area to maximize solar panel charging
- **Avoid direct sunlight:** Indirect light is best; prolonged direct sun exposure can damage the elnk display
- **Temperature:** Keep in a temperature-controlled environment (50°F - 95°F / 10°C - 35°C)

Orientation

Portrait can be displayed in either orientation:

- **Portrait mode:** Taller than wide - ideal for text, Bible verses, and stock prices
- **Landscape mode:** Wider than tall - ideal for images, weather, and MTA arrivals

Note: Content is automatically formatted for the display. The device orientation does not affect how content is rendered.

Switch Operation

The power switch is located on the back left side of the device:

Action	Result
Short press	Wake device / Toggle power on/off
Long press (5+ seconds)	Force restart

5. App Setup & Device Registration

Download the App

1. Open the App Store on your iPhone
2. Search for "**Paper Portrait Connect**"
3. Download and install the app
4. Open the app and create an account or sign in

Requirement: Portrait requires an iPhone with NFC capability (iPhone 7 or later) running iOS 14 or newer.

Register Your Device

Follow these steps to connect your Portrait display to WiFi and register it:

1. **1 Power on your Portrait device** by pressing the power button
2. **2 Open the Paper Portrait Connect app** and tap the **+** button to add a new device
3. **3 Enter your WiFi credentials:**
 - WiFi Network Name (SSID) - must be a 2.4GHz network
 - WiFi Password (case-sensitive)
4. **4 Tap "Connect & Register Device"**
5. **5 Hold your iPhone** to the back of the Portrait device, near the top where the NFC area is located
6. **6 Wait for connection:** The app will send WiFi credentials via NFC and receive the device ID
7. **7 Verify the code:** A 6-character verification code will appear on your Portrait display
8. **8 Enter the verification code** in the app to confirm device ownership
9. **9 Name your device** (optional) - e.g., "Kitchen Display" or "Office Portrait"
10. **10 Tap "Verify & Register"** to complete setup

Tip: If the NFC connection fails, try repositioning your iPhone. The NFC antenna on most iPhones is located at the top of the device.

6. Display Features

Portrait supports multiple content types. Tap on your registered device to access these options.

Show Image PREMIUM

Display photos from your iPhone on the elnk screen.

1. Select **Show Image** from the display options
2. Choose a photo from your library
3. The image will be automatically optimized for the elnk display
4. Tap **Send** to update your display

Tip: High-contrast images with clear subjects look best on elnk displays. Avoid images with subtle color gradients.

Show Text

Display custom messages, quotes, or reminders.

1. Select **Show Text** from the display options
2. Enter your message in the text field
3. Tap **Send** to display it

Show QR Code

Generate and display scannable QR codes for URLs, WiFi passwords, or any text.

1. Select **Show QR Code** from the display options
2. Enter the URL or text to encode
3. Tap **Generate** to create and display the QR code

Use Case: Perfect for sharing WiFi passwords with guests, linking to your business website, or displaying contact information.

Bible Verse

Display inspirational scripture with automatic updates.

1. Select **Regular Bible Verse** from the options
2. Choose your update interval:
 - 5 minutes
 - 30 minutes
 - 1 hour
 - Daily (24 hours)
3. Tap **Start** to begin receiving verses

Clock PREMIUM

Display the current time with automatic updates.

1. Select **Clock** from the display options
2. Choose your timezone from the list
3. Select update interval (1-60 minutes)
4. Tap **Start** to display the clock

MTA Transit PREMIUM

Display real-time NYC subway and bus arrival times.

1. Select **MTA Updates** from the options
2. Choose **Subway** or **Bus**
3. Search for your stop by name or line
4. Select your stop from the results
5. Choose update interval (1-30 minutes recommended)
6. Tap **Start** to display live arrivals

Stock Prices PREMIUM

Track stock prices with automatic updates.

1. Select **Stock Prices** from the options

2. Search for a stock symbol (e.g., AAPL, GOOGL, TSLA)
3. Select the stock from results
4. Choose update interval
5. Tap **Start** to display live prices

Weather

PREMIUM

Display current weather conditions for US cities.

1. Select **Weather Updates** from the options
2. Search for your city
3. Select the city from results
4. Choose update interval (30-60 minutes recommended)
5. Tap **Start** to display weather

7. Device Management

Rename Device

Tap on the device name in the device list to edit it. Give each device a memorable name like "Kitchen Display" or "Office Portrait".

Change Device Icon

Tap the device icon to choose from a selection of icons. This helps you quickly identify devices if you have multiple Portrait displays.

Pause/Resume Updates

Tap the power icon to toggle updates on or off. When paused:

- The device will retain its current display
- No new content will be sent until resumed
- The device still connects to WiFi

Update WiFi Credentials

If you change your WiFi network or password:

1. Tap the WiFi icon on your device card
2. Enter the new WiFi credentials
3. Tap "Write to Device"
4. Hold your iPhone to the back of the Portrait device
5. The device will reconnect with the new credentials

Delete Device

Swipe left on a device in the list to delete it from your account. This removes the device registration but does not affect the device itself.

8. Daily Operation

Understanding how your Portrait device operates day-to-day will help you get the most out of it.

How Content Updates Work

Portrait uses two operating modes for different content types:

Live Updates Mode (Default)

- Used for: Clock, MTA Transit, Stocks, Weather, Bible Verses
- Device maintains a secure WiFi connection to receive updates
- Updates occur at your chosen interval (1 min to 24 hours)
- Display refreshes automatically when new content arrives
- Slightly higher power consumption due to active WiFi

Static Display Mode

- Used for: Images, Text, QR Codes
- Content is sent once and displayed until changed
- WiFi can be disabled to conserve power
- Display retains content even when powered off (eInk feature)
- Very low power consumption

Understanding Update Intervals

Interval	Best For
1 minute	MTA Transit arrivals (real-time accuracy)
5 minutes	Clock, Stock prices during market hours
30 minutes	Weather updates, general monitoring
1 hour	Bible verses, ambient displays
Daily (24 hours)	Daily inspiration, low-priority content

Power Tip: Longer update intervals use less battery. For battery-powered operation, use 30-minute or longer intervals.

What Happens During a Display Refresh

When the display updates, you'll notice:

1. The screen may briefly flash black and white (this is normal for eInk)
2. New content appears within 1-2 seconds
3. The device returns to low-power state until the next update

Keeping Your Device Connected

For reliable operation, ensure:

- **Stable WiFi:** Keep your router powered and working
- **Signal strength:** Move the device closer to your router if updates are unreliable
- **Network changes:** Update WiFi credentials in the app if you change your network password
- **Power:** Keep the device charged or plugged in for continuous operation

Battery Life Expectations

Usage Pattern	Approximate Battery Life
Static content (Image/Text/QR)	Weeks to months
Live updates (1-hour interval)	Several days
Frequent updates (1-5 min interval)	1-2 days

Solar Charging

The built-in solar panel above the display provides supplemental charging:

- **Indoor light:** Extends battery life by trickle-charging throughout the day
- **Near a window:** More effective charging with indirect natural light
- **Not a replacement:** Solar charging supplements but does not replace USB-C charging for heavy use

Tip: Place your Portrait near a window or well-lit area to maximize solar charging benefits. The solar panel works best with ambient indoor light and indirect sunlight.

Recommendation: For live data features like MTA or Stocks, keep the device plugged in or in a well-lit area for uninterrupted operation.

9. Premium Subscription

Free Features

- Show Text
- Show QR Code
- Bible Verse (scheduled updates)

Premium Features

- Show Image
- Clock (with timezone selection)
- MTA Transit (NYC subway and bus)
- Stock Prices
- Weather Updates

Subscribe to Premium

To unlock premium features:

1. Open the Paper Portrait Connect app
2. Tap on the **Profile** tab
3. Tap **Upgrade to Premium**
4. Choose your subscription plan
5. Complete the purchase through the App Store

Subscriptions are managed through your Apple ID and can be cancelled at any time in your iPhone Settings under Subscriptions.

10. Maintenance & Care

Proper maintenance ensures your Portrait display operates reliably for years.

Cleaning the Display

The elnk display requires gentle care:

1. **Power off** the device before cleaning
2. Use a **soft, dry microfiber cloth** (like one for glasses or screens)
3. Gently wipe the screen in one direction
4. For stubborn marks, slightly dampen the cloth with distilled water
5. Never spray liquid directly on the device

Do NOT use: Alcohol, ammonia, window cleaners, abrasive cloths, paper towels, or any harsh chemicals. These can permanently damage the elnk surface.

Cleaning the Device Body

- Wipe with a soft, slightly damp cloth
- Avoid getting moisture in ports or buttons
- Let the device dry completely before powering on

Battery Maintenance

Maximize your battery's lifespan:

- **Avoid full discharge:** Recharge before the battery is completely empty
- **Regular use:** If storing long-term, charge to ~50% first
- **Temperature:** Avoid charging in extreme heat or cold
- **Quality chargers:** Use reputable USB power adapters (5V output)

Charging Tip: For always-on displays, it's safe to keep the device plugged in continuously. The charging circuit prevents overcharging.

Firmware Updates

Your Portrait device receives automatic firmware updates when connected to WiFi. These updates:

- Improve performance and stability
- Add new features
- Fix security issues
- Install automatically during low-activity periods

No action is required on your part. Keep your device connected to WiFi to receive updates.

App Updates

Keep the Paper Portrait Connect app updated for the best experience:

1. Open the App Store on your iPhone
2. Tap your profile picture (top right)
3. Scroll down to see pending updates
4. Tap **Update** next to Paper Portrait Connect, or **Update All**

Network Maintenance

If you make changes to your home network:

- **Changed WiFi password:** Update credentials via the WiFi icon in the app
- **New router:** Re-register the device with new network credentials
- **Network name changed:** The device will need new credentials via NFC

Long-Term Storage

If you won't use your Portrait for an extended period:

1. Charge the battery to approximately 50%
2. Power off the device
3. Store in a cool, dry place (50°F - 77°F / 10°C - 25°C)
4. Avoid humid environments
5. Recharge every 3-6 months to maintain battery health

Recommended Maintenance Schedule

Task	Frequency
Clean display surface	As needed (weekly to monthly)
Check for app updates	Monthly
Verify WiFi connection	If updates stop working
Full charge cycle	Monthly (for unplugged devices)
Check device placement/ventilation	Seasonally

11. Troubleshooting

Device Won't Connect to WiFi

- **Check network type:** Portrait only supports 2.4GHz networks. Ensure you're not trying to connect to a 5GHz network.
- **Verify password:** WiFi passwords are case-sensitive. Double-check your password.
- **Router issues:** Restart your router and try again.
- **Distance:** Move the Portrait device closer to your router during setup.

NFC Connection Fails

- **iPhone position:** Hold the top of your iPhone to the back of the Portrait device, near the top edge.
- **Remove case:** Thick cases can interfere with NFC. Try removing your iPhone case.
- **Hold steady:** Keep your iPhone in position for 2-3 seconds.
- **Check settings:** Ensure NFC is enabled in your iPhone Settings.

Display Not Updating

- **Check device status:** Ensure the device is not paused in the app.
- **WiFi connection:** Verify your WiFi network is working and the device is in range.
- **Wait for interval:** Updates occur at the selected interval (e.g., every 30 minutes).
- **Force refresh:** Open the device details and tap "Refresh" to manually trigger an update.

App Issues

- **Update app:** Ensure you have the latest version from the App Store.
- **Force quit:** Close and reopen the app.
- **Sign out:** Try signing out and back in from the Profile tab.
- **Reinstall:** Delete and reinstall the app as a last resort.

Verification Code Not Showing

- **Wait:** It may take 5-10 seconds for the code to appear after NFC transfer.

- **Check WiFi:** The device needs to connect to WiFi before showing the code.
- **Restart device:** Power off and on the Portrait device, then retry registration.

12. Safety Information

Intended Use

Paper Portrait is designed for stationary indoor use. Perfect placement options include:

- **Desktop display:** On your desk, nightstand, or kitchen counter
- **Shelf display:** On a bookshelf, mantle, or entertainment center
- **Wall-mounted:** In a hallway, office, or living space
- **Reception areas:** Lobbies, waiting rooms, or storefronts

Note: This device is designed for fixed placement and is not intended for portable or body-worn use.

General Safety

- Keep the device in a dry, indoor environment
- Avoid direct sunlight for extended periods
- Do not expose to temperatures below 32°F (0°C) or above 113°F (45°C)
- Keep out of reach of small children and pets
- Do not place near heat sources, radiators, or open flames

Battery Safety

- Use only the provided USB-C cable or equivalent quality cables
- Use only standard USB power adapters (5V, 1A-2A output)
- Do not attempt to open, modify, or replace the battery
- If the device becomes hot, swells, or emits odor, discontinue use immediately and contact support
- Do not puncture, crush, or expose the battery to fire
- Dispose of old devices according to local electronics recycling regulations

Electrical Safety

- Keep away from water, rain, and excessive moisture

- Do not use with wet hands
- Unplug during electrical storms
- Do not use damaged cables or adapters
- Ensure proper ventilation around the device when charging

Display Safety

- The eInk display contains no backlight and emits no harmful blue light
- If the display cracks or breaks, avoid touching the internal components
- Do not apply pressure to the display surface

Regulatory Information

This device complies with FCC regulations for electronic devices. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

13. Support & Contact

We're here to help! If you have questions or need assistance:

- **Email:** babs@wanyekitech.com
- **Support Page:** [Portrait Support](#)

When contacting support, please include:

- Your device's registration code (if applicable)
- A description of the issue
- Your iPhone model and iOS version
- Any error messages you've seen

