USER MANUAL

MODEL:

KC-Virtual Brain 1 (Gen2) with KC-Brain Manager

P/N: 2900-301772 Rev 1

1. Contents

2. Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional daily. In recent years, we have redesigned and upgraded most of our line, making the best even better!

2.1 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment.
- Review the contents of this user manual.

Go to https://www1.kramerav.com/nz/product/KC-Virtual Brain 1 (Gen2) to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (wherever appropriate).

2.1.1 Achieving Best Performance

- Use only good quality connection cables (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables).
- Do not secure the cables in tight bundles or roll the slack into tight coils.
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality.
- Position your Kramer **KC-Virtual Brain 1 (Gen2)** away from moisture, excessive sunlight and dust.

2.1.2 Safety Instructions

Caution:

- This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.
- For products with relay terminals and GPI\O ports, please refer to the permitted rating for an external connection, located next to the terminal or in the User Manual.
- There are no operator serviceable parts inside the unit.

Warning:

- Use only the power cord that is supplied with the unit.
- Disconnect the power and unplug the unit from the wall before installing.
- Do not open the unit. High voltages can cause electrical shock! Servicing by qualified personnel only.
- To ensure continuous risk protection, replace fuses only according to the rating specified on the product label which is located on the bottom of the unit.

2.1.3 Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer's recycling arrangements in your particular country, go to our recycling pages at https://www.kramerav.com/social-responsibility/environment/.

2.2 Overview

Congratulations on purchasing your Kramer **KC-Virtual Brain 1 (Gen2) with KC-Brain Manager**.

KC-Virtual Brain 1 (Gen2) is a hardware platform with 1 instance of Kramer BRAINware software already installed on the device. KC−Virtual Brain is designed to maximize the features and benefits of Kramer BRAINware for controlling a standard space (e.g. a standard space could include a scaler, monitor, lighting system, touch panel and keypad).

Kramer BRAINware is an enterprise−class, revolutionary, user−friendly, software application that enables you to execute all your room control actions straight from a computer without installing a physical Brain between the user interface and the controlled devices. Using the power of Kramer Control cloud–based control & space management platform, Kramer BRAINware enables you to operate multiple devices over Ethernet such as scalers, video displays, audio amplifiers, Blu−ray players, sensors, screens, shades, door locks, and lights.

Designing a system was never easier, with Kramer Control's intuitive drag & drop Builder. Install, configure and modify your control system without any prior knowledge in programming.

2.2.1 Key Features

- Simplified AV Installation — Control 1 room without installing a physical Brain.
- Format Conversion — Use Kramer FC family of control format converters to enable controlling almost any device.
- Fully Customizable UI — Using Kramer Control, easily personalize your control interface any way you like.
- Space Controller — Controls any AV device with its corresponding logic.
- Simple Configuration — Install and start using the platform in minutes with easy configuration.

2.3 Typical Applications

- Fully customizable UI.
- Replaces physical Brains.
- Enables controlling almost any device.
- Scalable & flexible control.
- Simple configuration.

3. Defining KC-Virtual Brain 1 (Gen2) with KC-Brain Manager

This section defines **KC-Virtual Brain 1 (Gen2)**.

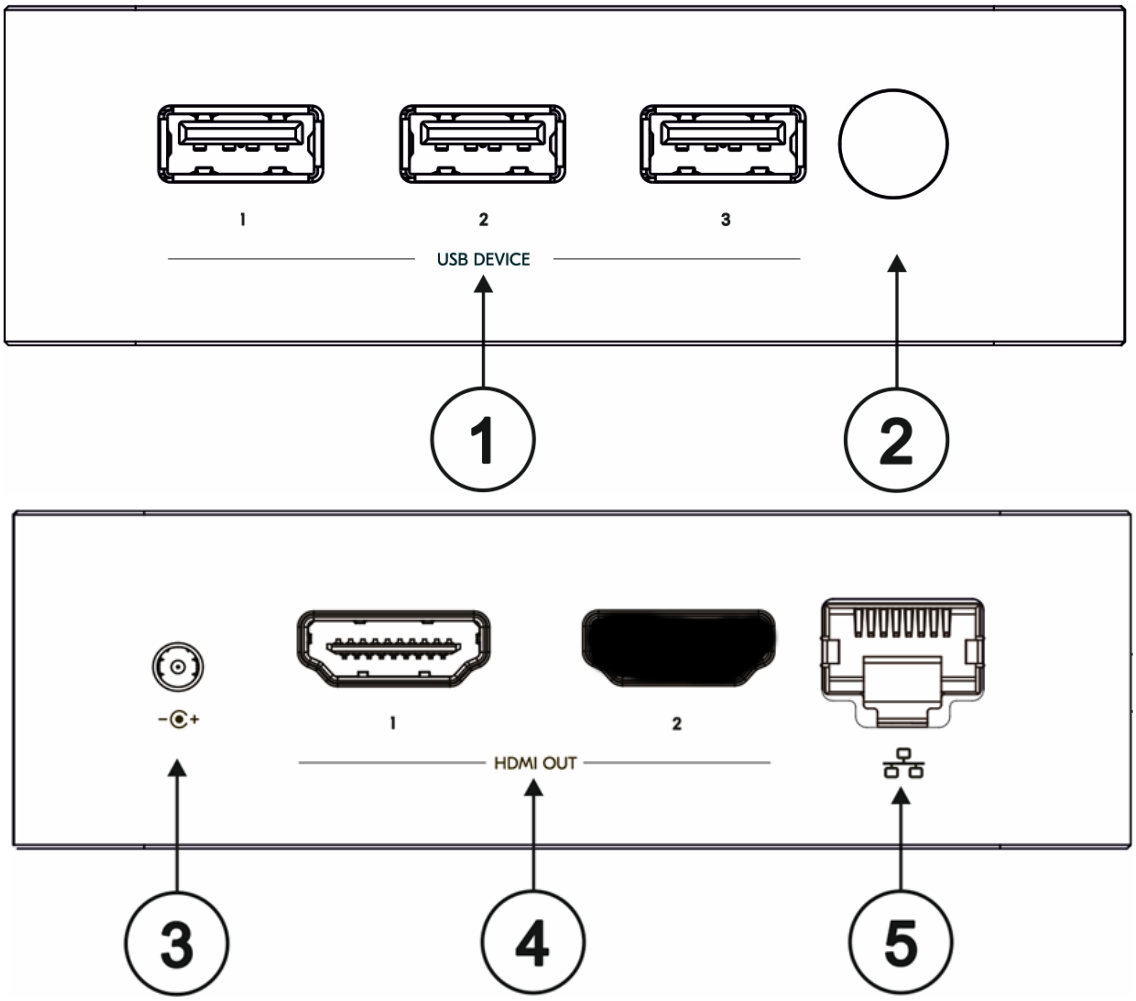


Figure 1: KC-Virtual Brain 1 (Gen2) with KC-Brain Manager

#	Feature	Function
1	3 x USB DEVICE 3.0 Connector	Connect to a USB Keyboard & mouse for direct interaction
2	Power Button with LED	Press to power ON or turn OFF the device.
3	Power Connector	Connect to the 12V DC power supply.
4	1 x HDMI OUT Connector	Connect to an HDMI sink.
5	RJ-45 Connector	Connect to a LAN (default mode).

The following ports are unavailable and are covered by rubber covers:

1. HDMI OUT 2.
2. USB-C.
3. Analog audio.

4. For Installer: Mounting KC-Virtual Brain 1 (Gen2)

This section provides instructions for mounting **KC-Virtual Brain 1 (Gen2)**. Before installing, verify that the environment is within the recommended range:

- Operation temperature – 0° to 40°C (32 to 104°F).
- Storage temperature – -40° to +70°C (-40 to +158°F).
- Humidity – 10% to 90%, RHL non-condensing.

Caution:

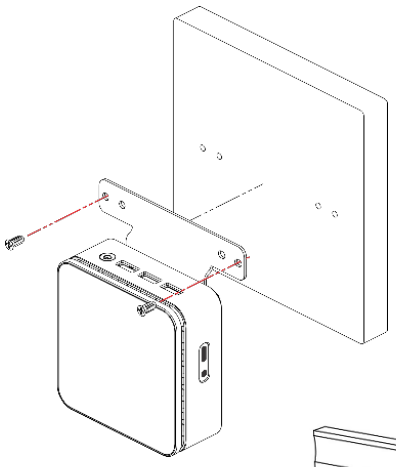
- Mount **KC-Virtual Brain 1 (Gen2)** before connecting any cables or power.
- The device is intended to be installed at a height of 2 meters or less.

Warning:

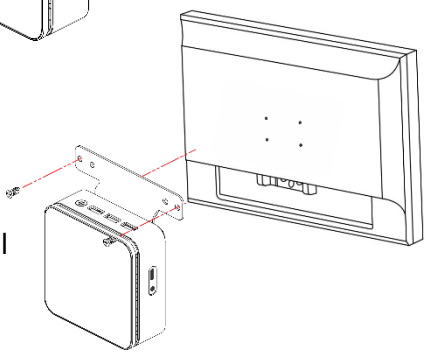
- Ensure that the environment (e.g., maximum ambient temperature & air flow) is compatible with the device.
- Avoid uneven mechanical loading.
- Appropriate consideration of equipment nameplate ratings should be used for avoiding overloading of the circuits.
- Reliable earthing of rack-mounted equipment should be maintained.

You can install KC-Virtual Brain 1 (Gen2) using one of the following 3 methods:

1. **Mount on a flat surface or a wall:**
   Secure the mounting bracket to a flat surface / wall with screws.

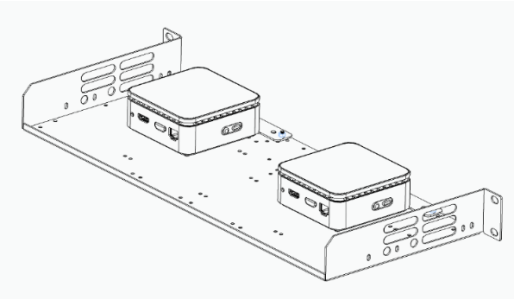


2. **Mount on the rear of a monitor.**
   Secure the mounting bracket to VESA holes located on the rear of the monitor.



When mounting the device on a display, the install MUST secure the display to prevent instability.

3. **Mount in a rack mount.**
   Secure the mounting bracket(s) to the rack mount with dedicated screws.



5. For Installer: Connecting KC- Virtual Brain 1 (Gen2)

Always switch off the power to each device before connecting it to your **KC-Virtual Brain 1 (Gen2)**. After connecting your **KC-Virtual Brain 1 (Gen2)**, connect its power and then switch on the power to each device.

5.1 Connecting Device

If you wish to use a Kramer active optical pluggable HDMI cable with your **KC-Virtual Brain 1 (Gen2)**, contact your local Kramer office to assist in purchasing the correct cable.

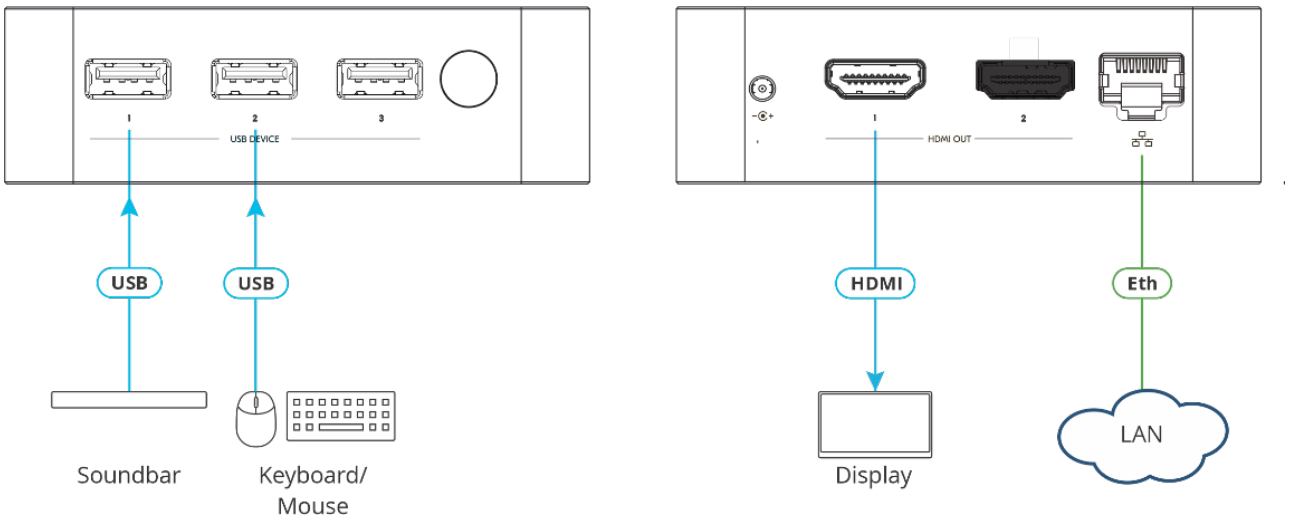


Figure 2: Connecting KC-Virtual Brain 1 (Gen2)

To connect the KC-Virtual Brain 1 (Gen2) **as illustrated above** (numbers in brackets refer to the diagram in Defining KC-Virtual Brain 1 (Gen2) with KC-Brain Manager on page 6):

1. Connect a Local Area Network (LAN) cable to the LAN RJ-45 Connector (2) for connection to your network.
2. KC-Virtual Brain 1 (Gen2) (can be controlled from a browser connected to the same network. Optional: To control the Brain from the local display, connect an HDMI display to the HDMI OUT Connector (5) and a keyboard and mouse to the USB Connectors (5) and (6).

   When a display is connected to the KC-Virtual Brain 1 (Gen2), the device's IP address is displayed at the bottom of the screen.

Connect the 12V DC power adapter to the Power Connector (4) and plug it into the mains electricity.

Do not turn the device on before connecting the LAN port to the network.

KC-Virtual Brain 1 (Gen2)is connected.

The following ports are not in use and covered by rubber covers:

1. HDMI OUT 2.
2. USB-C.
3. Analog audio.

6. Essential First Steps

Do the following after connecting your KC-Virtual Brain 1 (Gen2)for the first time:

1. Log into the Management pages: See Logging into the Management pages.
2. Change the password: See Changing the password.
3. Set the time zone and date/time: See Setting the time.
4. Initialize the Services. See Initializing the Services.
5. (Recommended) Check for updates. See Checking for updates.
6. Provision the Brains. See Provisioning the Brains.
7. (Optional) Activate Auto-update. See Activating Auto-Update.
8. (Optional) Deactivate Kramer Remote Support. See deactivating Kramer Remote Support.

6.1 Logging in to the Management Pages

Use the Management Pages to monitor and configure your KC-Virtual Brain 1 (Gen2).

There are two ways to access the Management pages:

1. **Locally,** by connecting a mouse, keyboard and display.
2. **Remotely**, in a browser connected to the same network.

6.1.1.1 To log in locally:

1. Connect a mouse, keyboard and screen to the KC-Virtual Brain 1 (Gen2).
2. Enter the username and password (default kramer/kramer) on the display connected to the KC-Virtual Brain 1 (Gen2).

6.1.1.2 To log in remotely:

1. Connect your computer to the same network as the KC-Virtual Brain 1 (Gen2).
2. Open a Web browser and go to the IP address of your KC-Virtual Brain 1 (Gen2) unit.

The login page appears.

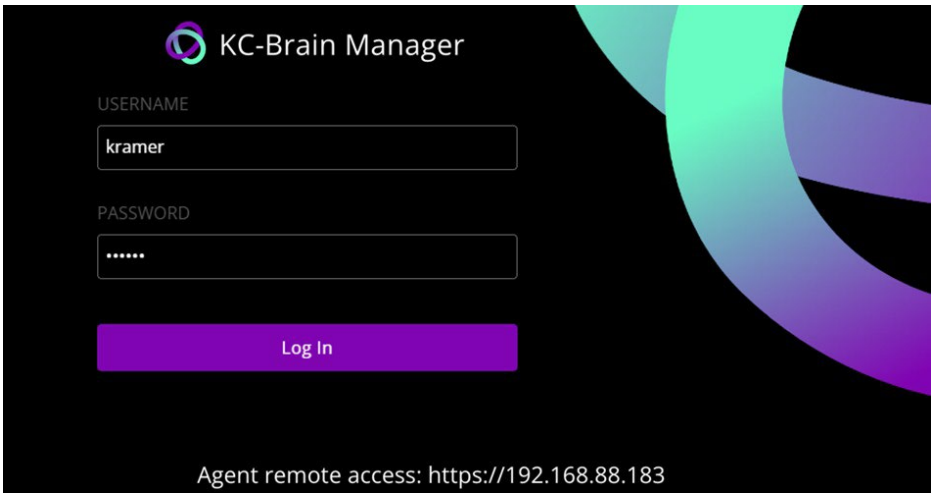


Figure 3: Brain login page

To identify the IP address of KC-Virtual Brain 1 (Gen2):

- By default, the IP address is allocated by the network DHCP. Connect a screen to the device: The IP address is shown below the login screen. Alternatively, ask your system administrator or perform a network scan.
- If no DHCP is available, the device will seek to obtain IP 192.168.1.39.

The device checks for a DHCP with every reboot.

3. Enter the username and password (the default is kramer/kramer).

After logging in, the Home page opens with an overview of the device status.

6.2 Changing the Password

The default log in details for KC-Virtual Brain 1 (Gen2) Management pages is user “kramer” and password “kramer”. Change this password as soon as possible.

1. Log in to the KC-Virtual Brain 1 (Gen2).
2. Navigate to **Settings** and open the **Security tab then the credentials page**.
3. Enter a new password: The Save button appears at bottom right after the details are entered.
4. KC-Virtual Brain 1 (Gen2) uses an SSL certificate generated by Kramer.
   For added security, ask your network manager to provide a custom SSL certificate and key which you can upload to the device on the SSL settings page under the Security tab.

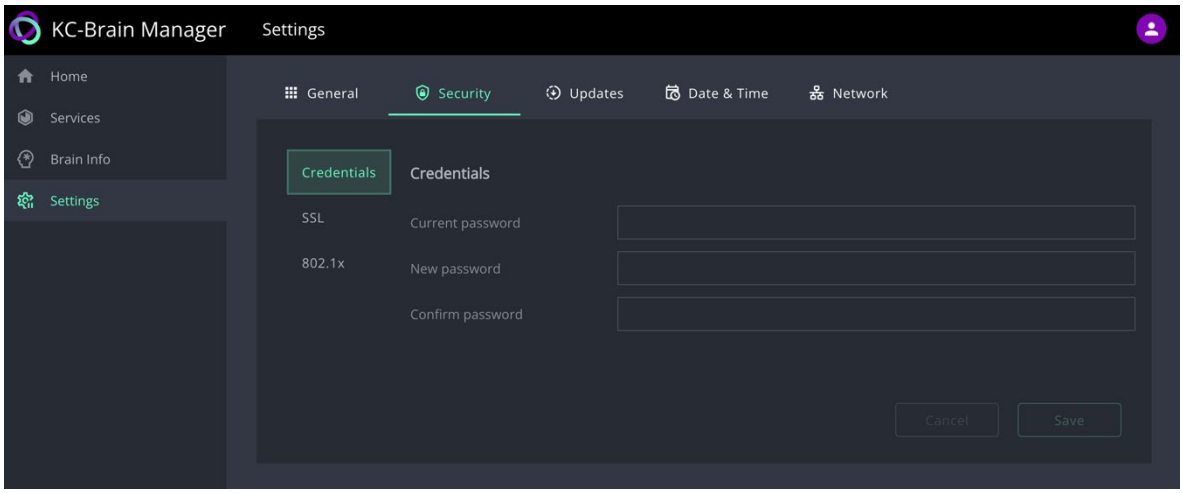


Figure 4: The Settings > Security page.

6.3 Setting the time

Accurate time shared by all devices is vital to successful network communications.

Navigate to **Settings** and open the **Time & Date tab**.

1. Set the Time zone.

6.3.1.1 To sync device time and date from a network time server:

1. Set **Time Server (NTP),** to On (this disables manual time and date entry).
2. Enter the Time Server Address IP.
3. Click the refresh arrow to check that the server is available.
4. Click SAVE (button is enabled after a change is made).

The device date and time are synchronized to the server address entered.

If there is no NTP server on the network, make sure Time Server NTP is off and enter the date and time manually.

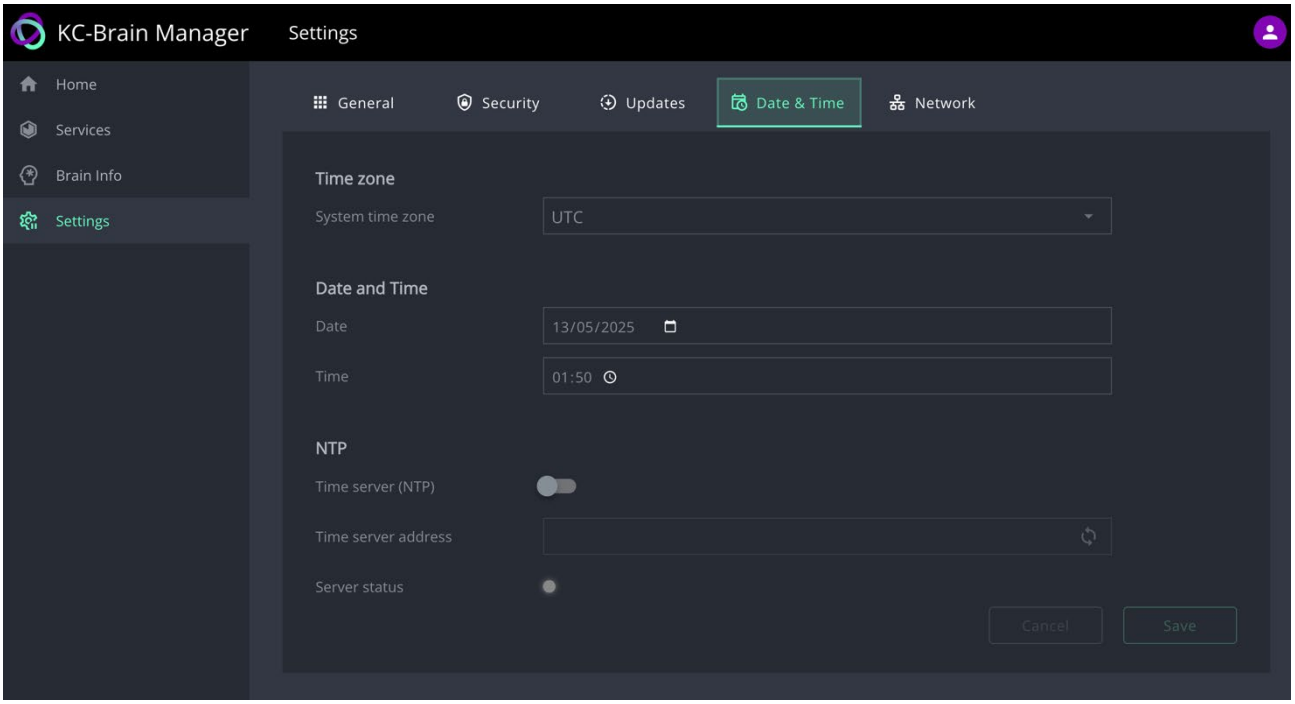


Figure 5: The Settings > Date & Time page.

6.4 Initializing the Services

Kramer Brain run inside a dedicated service. KC-Virtual Brain 1 (Gen2) supports a single running service. The Service instance is a Docker software container (a virtual computer) capable of running a Kramer Control Brain. The service is installed at once.

When you first run KC-Virtual Brain 1 (Gen2), the message “Missing required service” will be shown on the screen until you initialize the service.

6.4.1.1 To initialize the missing Service (Brains):

1. Navigate to the **Services** option in the left menu. The Services screen opens.
2. If the Service has not been installed, the Services page will show an **Install** button at the top right of the screen (in green).

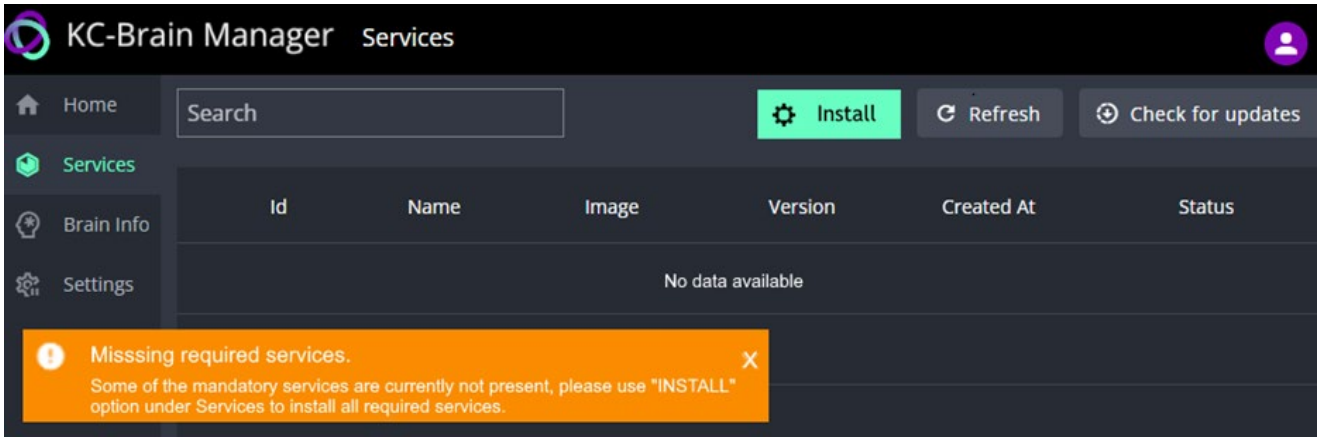


Figure 6: The Services page before installation of the service.

3. Click **Install** and the system will install and activate the Service.
   If connected to the Internet, KC-Virtual Brain 1 (Gen2) will download the latest Kramer Control version from the Kramer AWS ENV (Amazon Web Services Environment) as part of the provisioning process.

   If not connected to the internet, KC-Virtual Brain 1 (Gen2) will run the factory installed version of Kramer Control.

The **Services** page will show the service running after the install.

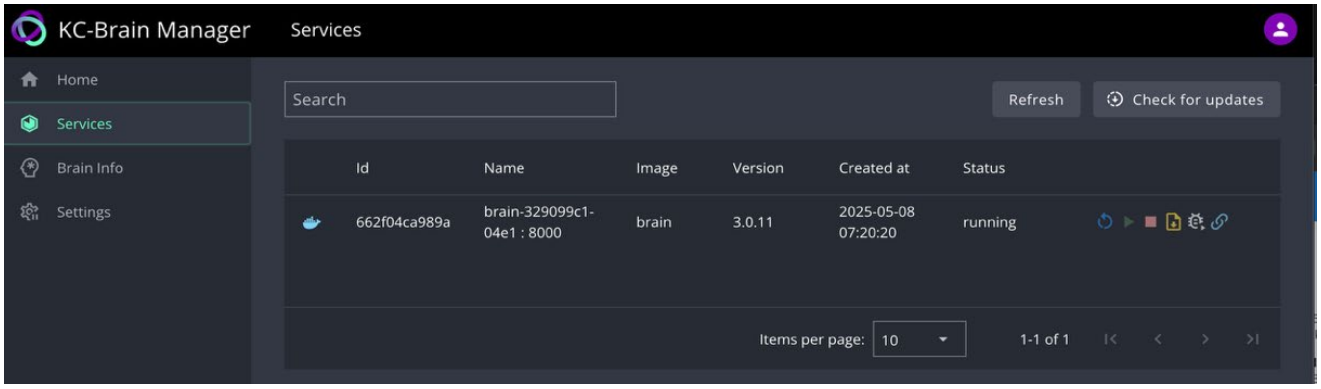


Figure 7: The Services page with services installed.

KC-Virtual Brain 1 (Gen2) is shipped with a license installed and the Service is configured to ensure that during initialization the license is automatically activated.

6.5 Checking for updates

After the service is installed (see the previous section), it is possible to check for updates.

1. (Recommended) Click **Check for updates** (top right of screen).
2. If the system finds updates, an **Upgrade all** button (not shown) will appear next to Check for updates and an **Upgrade** button will appear at the end of each individual service's line in the display.
3. Click **Upgrade all** to implement the upgrade on all services or click **Upgrade** to limit it to an individual service.

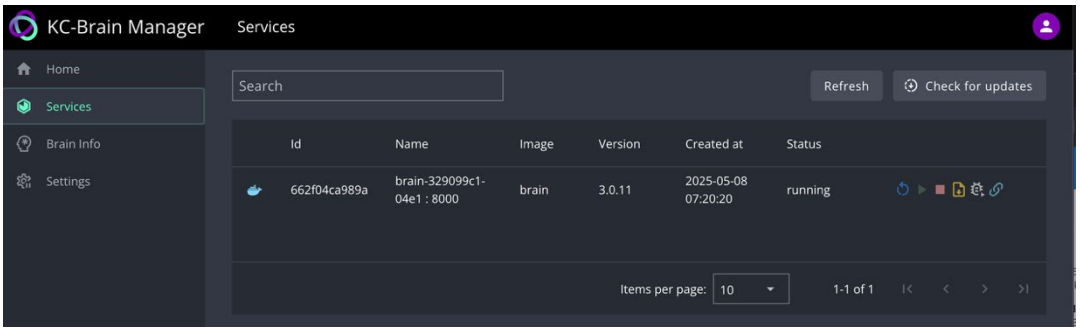


Figure 8: The Services page with the service installed.

6.6 Provisioning the Brains

Brains must be provisioned before they can control a meeting space touch panel or management device. Each Brain controls a single Kramer Control instance (and one touch panel) – the Kramer Control instance to which it was provisioned. Kramer Control instances must be unprovisioned before they can be connected to another Brain.

Provisioning a Brain – Securely connects the Brain to a single Kramer Control activation (such as a touch panel). No other Brain can be connected until it is unprovisioned.

Unprovisioning a Brain – Ends the connection between the Brain and the Kramer Control activation, so that a different Brain can be connected.

	Brain Online	Brain Offline
Provisioning	Get a code from the Kramer Control Manager and enter it in the Brain.	Download a “provisioning file” from the Kramer Control Manager and upload it to the Brain.
Unprovisioning (Brain provisioned online).	Unprovision in the Kramer Control Manager. The Brain is unprovisioned automatically.	Unprovision in the Kramer Control Manager. The Brain remains provisioned until it connects to the Internet.
Unprovisioning (Brain provisioned offline)	Get a code from the Kramer Control Manager and enter it in the Brain.	Get a code from the Kramer Control Manager and enter it in the Brain.

6.6.1.1 To provision one of the Brains:

1. Get an online provisioning code or an offline provisioning file from the **Kramer Control** portal for the Brain (meeting space or room) you are connecting.
2. Navigate to **Brain Info** in the left menu, the available Brain Services are listed (see the image below).
3. Select the Brain service you want to provision: If running, the Brain ID turns green and the **General tab** opens, showing **Brain Information**, including the Brain State, which will be Unprovisioned and will indicate if the Brain is online (it will be green if online, red if offline).

   The **Brain State** field is green if the Brain is already provisioned and red if it is not.

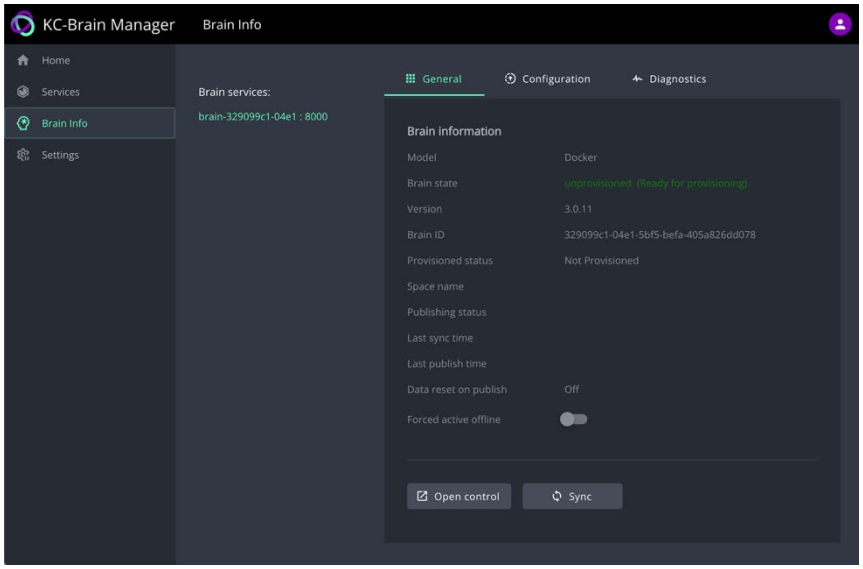


Figure 9: The Brain Info page’s General tab

4. Select the **Configuration tab** and upload the provisioning file you downloaded from Kramer Control (if the Brain is offline) or enter the Kramer Control code if it is online.

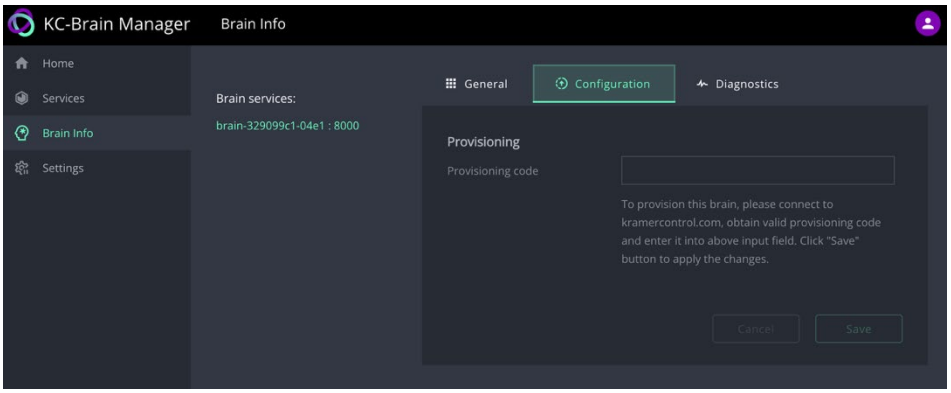


Figure 10: The Brain Info page's Configuration tab

5. After a provisioning file's details are entered, the **Save** button is enabled.

   Select the **Diagnostics tab** to view the live logs and events for the

   Brain.

6. After the Brain is provisioned, select the **General tab and then click Open Control to connect with Kramer Control.**

6.7 Activating Auto-Update

Auto-update performs an automated daily check for new versions of the Kramer Control agent and/or services. When a new version is available, Auto-Update downloads and installs the package.

1. Navigate to **Settings** and select the **Updates tab.**
2. Slide the **Kramer Software Updates** slider to the right, it turns green.
3. You can also use this screen to manually upload update packages:
   - **Agent Package** – An update package for the Docker Services (that run the Kramer Control Brain).
   - **Kramer Control Package** – An offline update for the Kramer Control Brain (that runs inside a Docker Service).

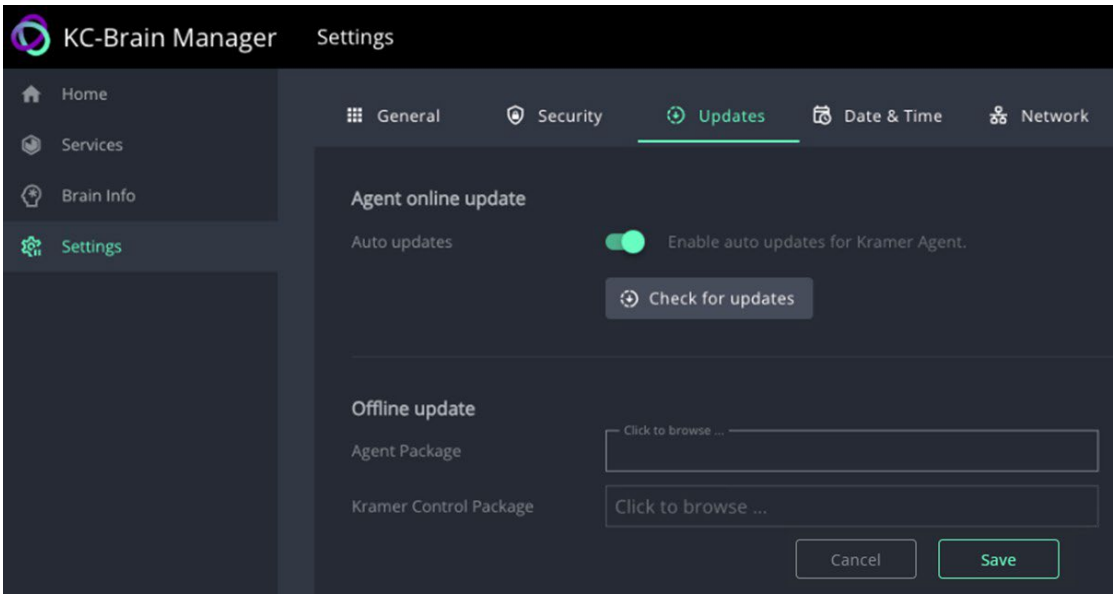


Figure 11: The Settings > Updates page.

6.8 Activating Kramer remote support

Kramer remote support uses a TCP secured tunnel that connects securely to the Kramer AWS system and enables Kramer support staff to connect to the device. The service is active by default.

Use of this service requires sharing of a unique Remote Support ID to be provided to Kramer Support similar to “teamviewer” or other remote support services

6.8.1.1 To de-activate Kramer remote support:

1. Navigate to **Settings** and open the **General** tab.
2. Move the Kramer Remote Support slider to the left (it turns grey).

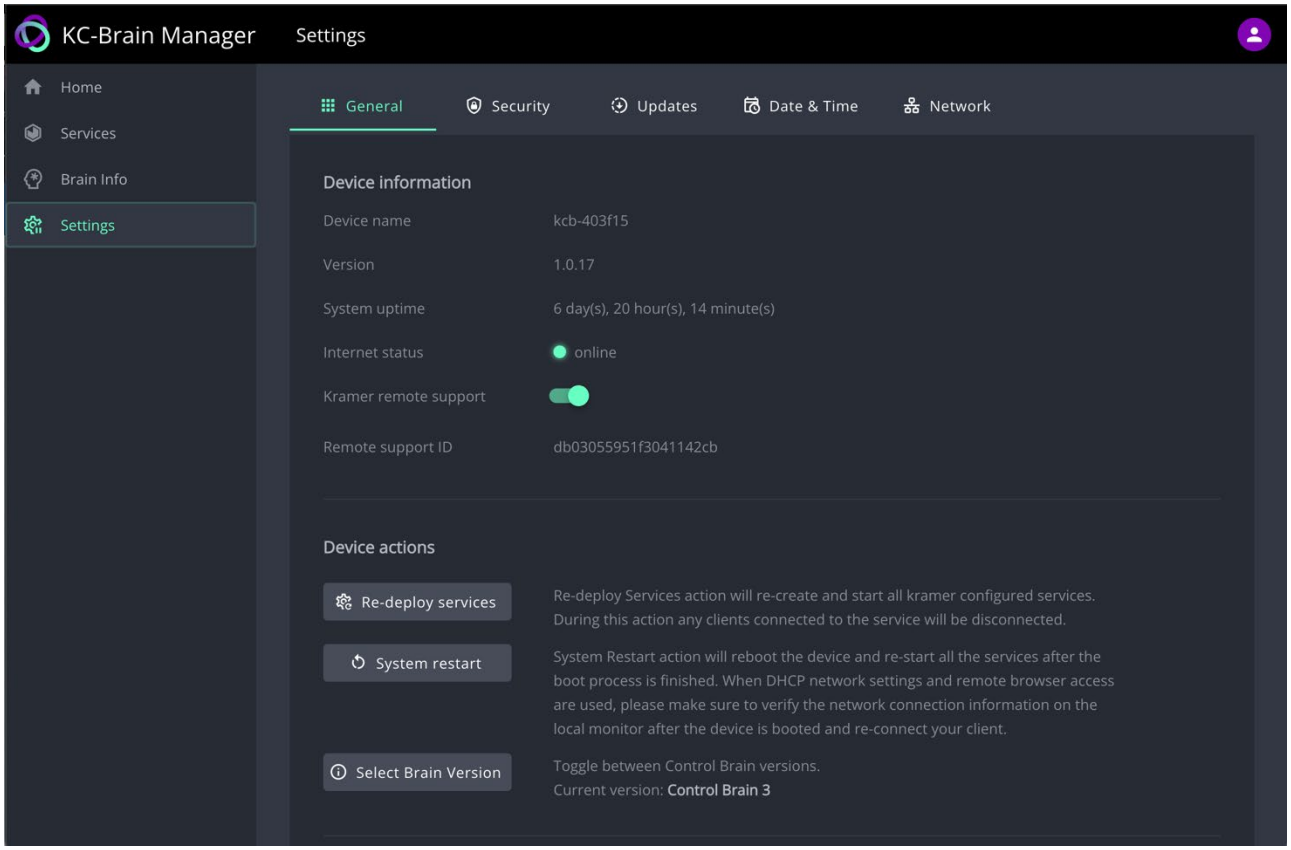


Figure 12: The Settings > General page.

7. The Management Pages

For Management pages' access instructions, see Logging in to the Management pages.

7.1 The Home Page

After you log in, the **Home** menu page opens automatically, showing a dashboard overview of the device. The Home page is display-only: No updates can be made from this page.

- **System Information**
  - **Hostname** - The name used to identify the KC-Virtual Brain 1 (Gen2) in the network.
  - **Last boot time** – The time KC-Virtual Brain 1 (Gen2) last rebooted.
  - **Kernel** – The OS running inside the KC-Virtual Brain 1 (Gen2).
  - **Agent release** - SW release version of the KC-Virtual Brain 1 (Gen2).
  - **Docker services** (visual) – The left number is the number of active services and the right number the maximum possible number of active services.
  - **Usage-Disk** – % Usage of the KC-Virtual Brain 1 (Gen2)'s built-in HD.
  - **Usage-Memory** – % Usage of the KC-Virtual Brain 1 (Gen2)'s RAM.
  - **Usage-Swap** – % Usage of the KC-Virtual Brain 1 (Gen2)'s Swap Memory. Swap Memory is RAM that is temporarily loaded into the HD.
- **Network** – An overview of the device's network status. If DHCP is enabled, KC-Virtual Brain 1 (Gen2)'s network IP is provided by the network's DHCP server.
- **Kramer Control licenses** – The Kramer Control license stored in the device. KC-Virtual Brain 1 (Gen2) holds a single license.

Note: At first run, a "**Missing required services**" message warns that the Docker service is not initialized. The Brain cannot be started until the Docker service is installed. See Initializing the Services.

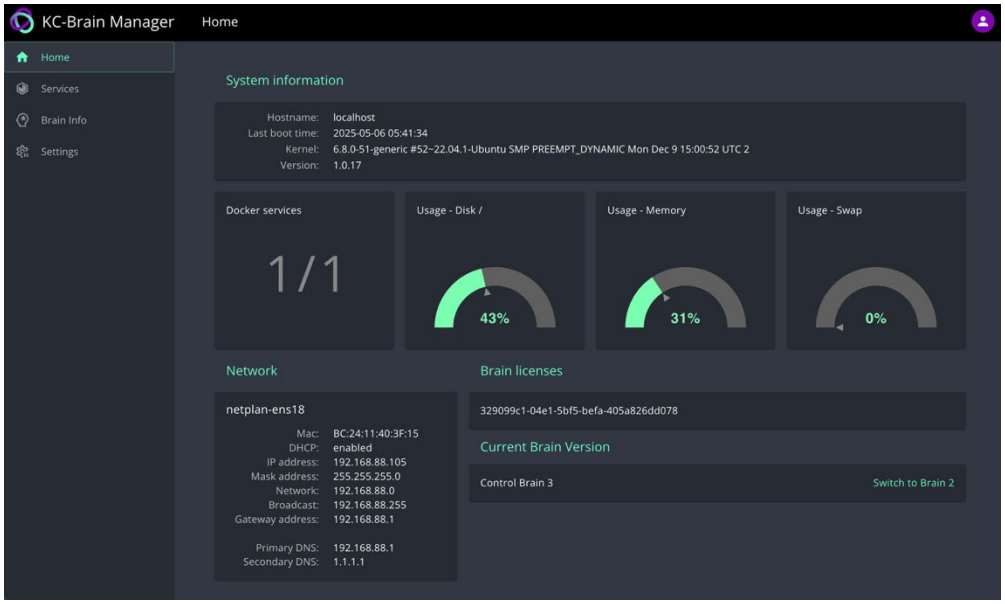


Figure 13: The Home page

7.2 The Services Page

Kramer Control Brains run inside Services. Each Service is a Docker container capable of running a single Kramer Control Brain. KC-Virtual Brain 1 (Gen2) runs a single service.

On devices that run multiple Services, each service and the Brain it runs is isolated and independent from the other Services.

The Services Page lists the available Services (Docker containers) and is used to initialize, upgrade, run, stop and troubleshoot the services.

Note: If no Services have been installed, a "**Missing required services**" message warns that the Services are not initialized. Please do Initializing the Services.

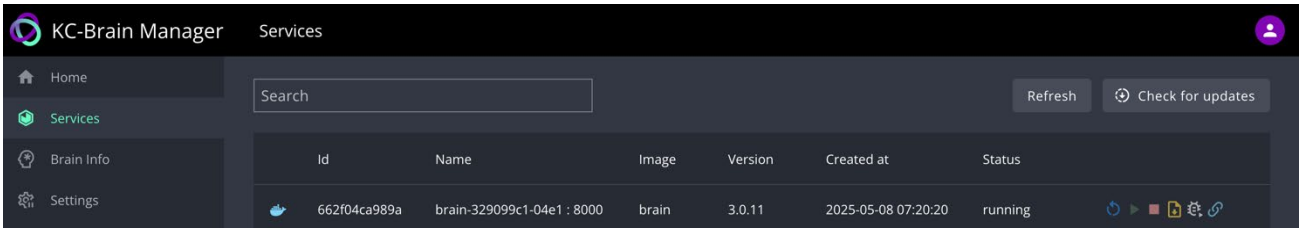


Figure 14: The Services page with services installed.

If no service is active: The Service table will be empty and the Install button visible (top right in green). See Initializing the Services.

If a Service is active: The Services table shows the following:

- **ID** – The Docker ID of the Service.
- **Name** – The Docker container's name.
- **Image** – Name of the Docker image that was used to create the container.
- **Version** – The version number of the Brain running inside the Docker container.
- **Created At** – The time the Docker Container was initialized.
- **Status** - Status of the Docker container (running, stopped, initializing).

Action icons: Click an icon to perform the action. The following actions are available (some require the service to be running):

- Restart the service.

- Start the service.

- Stop the service.

- Download the logs (downloads a Zip file). To view a "live" display of the logs, see Brain Info – Diagnostics (select a Brain and then click Diagnostics).

- Enable Debug logs

- Opens the **Brain Info** page for this service (opens in a separate window). Brain Info can also be opened by navigating to the **Brain Info** menu option.

Checking for updates: See Checking for updates.

7.3 The Brain Info Page

Brain Info shows Brain specific information for a user-selected Brain. Brain Info can be accessed directly from the Services page (it opens directly on the selected Brain) or by selecting a Brain in the Brain Info's Brain Services list. The selected Brain will be green if it is running, red if it is not.

The Brain Info page has 3 tabs:

1. General – Displays **Brain Information** and can be used to connect to the **Kramer Control Manager.**
2. Configuration – The **Provisioning** tab. Use to provision the Brain with codes or files downloaded from Kramer Control Manager.
3. Diagnostics – The Diagnostics tab can be used to view or download the Brain's logs and events.

7.3.1 Brain Info – General tab

Brain Information displayed by the General tab.

In the **Brain Info** page, the Brain must be selected in the **Brain Services** column before the tabs are displayed.

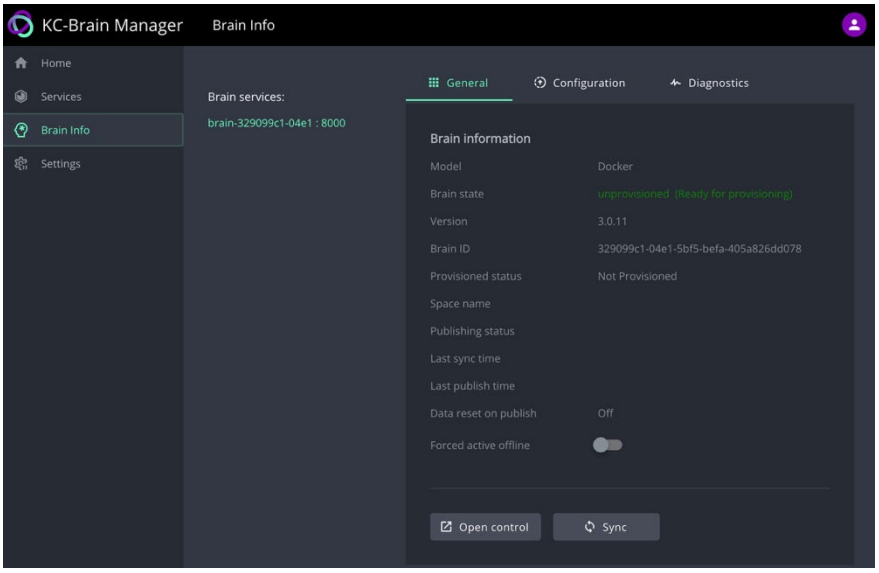


Figure 15: Brain Info page, General tab

- **Model –** "Docker".
- **Brain State** –
  - Active_Online (All gateways and devices are connected)
  - Active_Online (No gateways are connected)
  - Active_Offline
  - Unprovisioned (Ready for provisioning)
  - Unprovisioned (Not connected to server)
- **Version –** Software version of the Brain.

- **Brain ID –** The Docker container's name and ID.
- **Provisioned Status –** Provisioned or Unprovisioned.
- **Space Name –** Name of the meeting room in which the Brain is interfacing with a control device.
- **Publishing Status –** Status of the latest Kramer Control Interface definitions that were published to the room device.
- **Last Sync Time –** Time of the last sync between the Brain and the room device.
- **Last Publish Time –** Last time that interface definitions were sent to the room device.
- **Forced Active Offline –** User controlled slider, when on, the Brain will disconnect from the room device, even if a connection is available.
- **Buttons:**
  - **Open Control –** If the Brain is online, will open the Kramer Control Manager in a separate page.
  - **Sync –** If the Brain is online, will connect to the Kramer Control Manager to download the latest room interface settings.

7.3.2 Brain Info – Configuration tab

The **Configuration tab** is used to upload provisioning files (if the Brain is offline) or enter provisioning codes (if the Brain is online) received from Kramer Control.

In the **Brain Info** page, a Brain must be selected in the **Brain Services** column before the tabs are displayed.

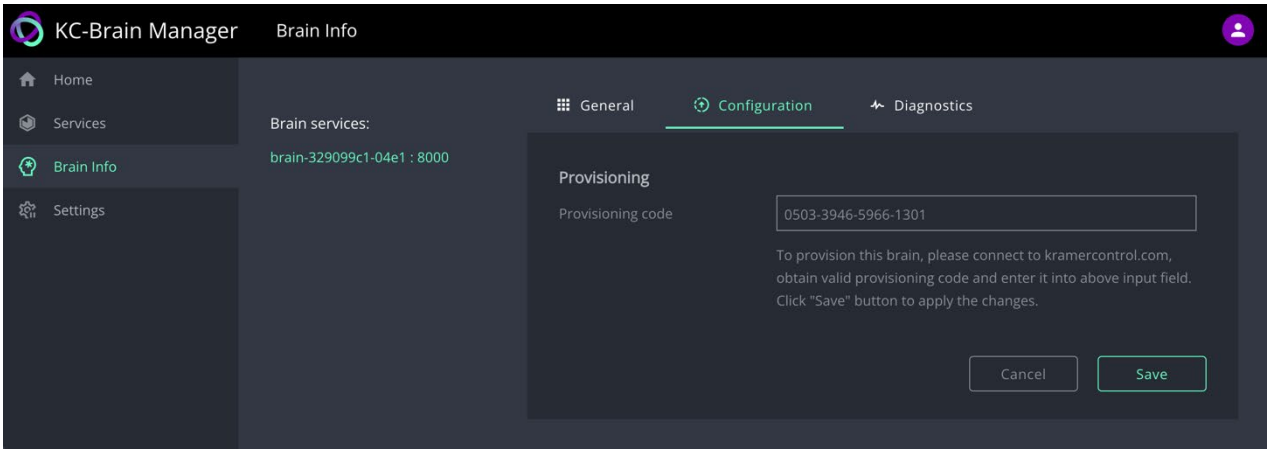


Figure 16: The Brain Info page's Configuration tab

Save only appears if a value is entered in the file/code entry field.

7.3.3 Brain Info – Diagnostics tab

The Diagnostics tab can be used to view the Brain's logs and the events that it has handled.

In the **Brain Info** page, a Brain must be selected in the **Brain Services** column before the tabs are displayed.

To view the logs offline, go to the Services page and click the logs download icon .
For more information see The Services page.

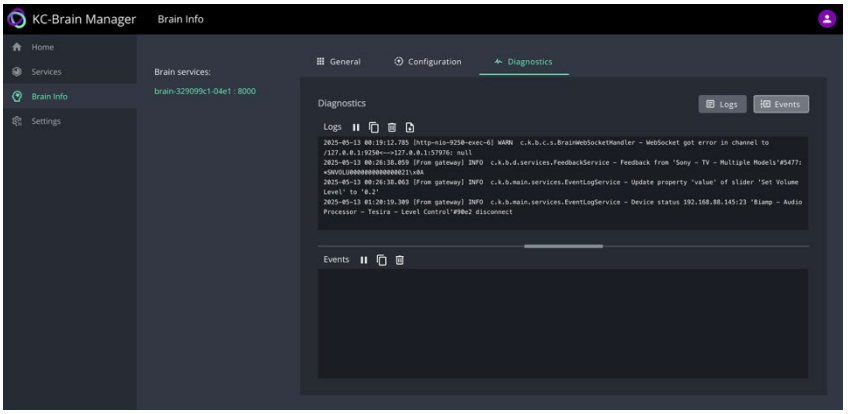


Figure 17: The Brain Info page's Diagnostics tab

Action icons: Click an icon to perform the action. The following actions are available (some require the service to be running):

- Start/Pause the log/events Listener
- Copy the log/events content to clipboard.
- Clean the logs/events
- Download the logs

7.4 The Settings Page

The Settings page has 5 tabs:

1. General – Opens by default when the **Settings** page opens. Provides device information and restart actions.
2. Security – Password change and SSL settings.
3. Updates – Software updates and automated updates.
4. Date & Time – Set the timezone, date time or connect an NTP server. Network - Set the Hostname, enable/disable DHCP and view or set the device IP address.

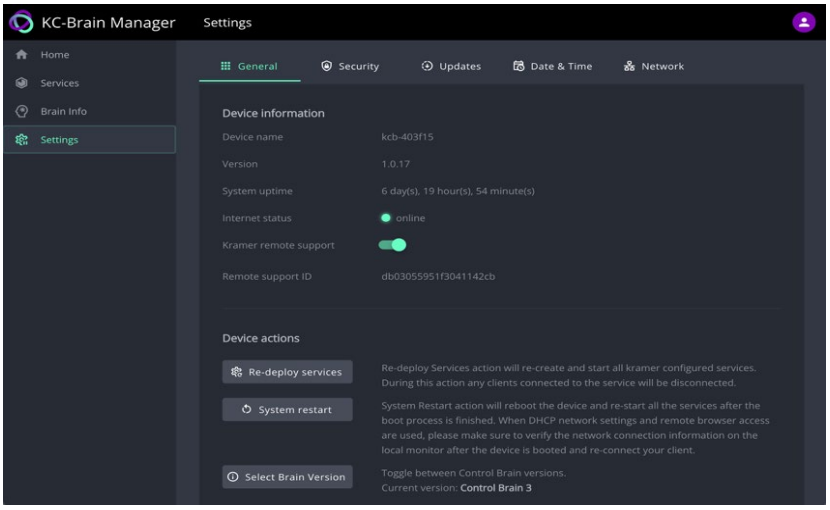


Figure 18: The Settings page's General tab

7.4.1 Settings – General tab

7.4.1.1 Device Information:

- **Device name –** The type of device (KC-Virtual Brain 1 (Gen2)).
- **Version–** The software version of KC-Brain Manager
- **System uptime –** Amount of time that the device has been running.
- **Internet status –** Offline or online.
- **Kramer Remote Support –** Slide to the right to enable Kramer Remote Support. When necessary, Kramer Remote Support personnel can set up a TCP secured tunnel to the customer's Kramer Control system. Requires the customer to share their unique Remote Support ID with the Kramer Support person.
- **Remote Support ID –** A code which is unique to the customer and enables Kramer Support to connect securely to the customer's Kramer Control Manager.

Device Actions:

- **Re-deploy Services –** The device reinstalls and then restarts the services.
- **System Restart –** The device will shut down the services, reboot itself and then restart the services. If DHCP is active, verify that the device IP is unchanged.
- **Select Brain Version –** Allows the device to be switched between Brain2 and Brain3
  Brain3 Supports enhanced authentication method

7.4.2 Settings – Security

The Security tab has 3 pages

1. Credentials – allows the password to be changed
2. Security – Allows Custom SSL Certificates to be uploaded.
3. 802.1x – Allows 802.1x settings to be configured

7.4.2.1 Credentials

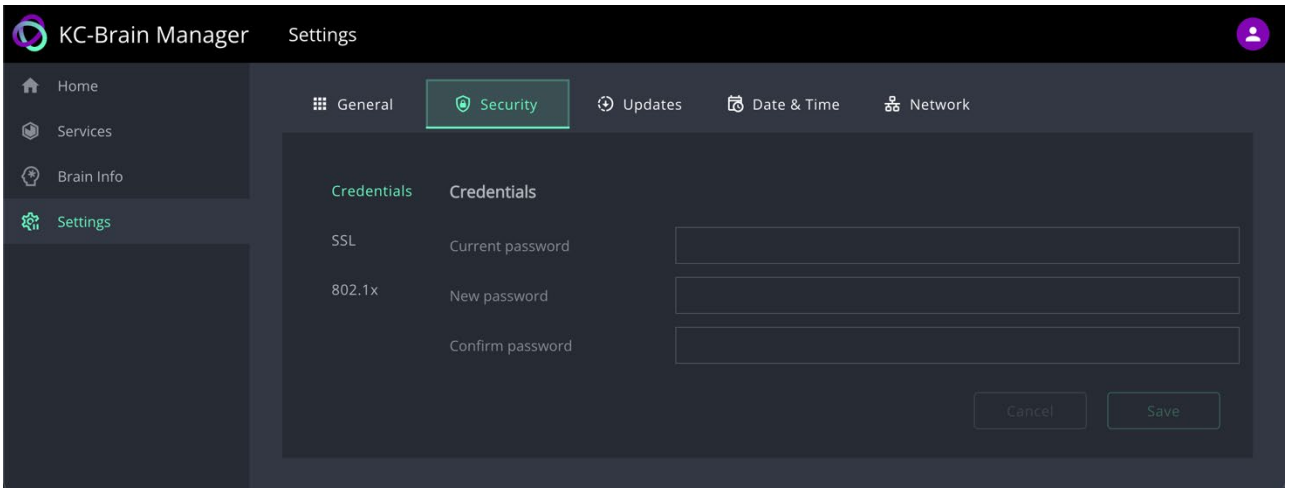


Figure 19: The Settings page's Credentials section

This section allows you to update the password for the selected credential type.

Required Fields:

Current password: Enter your existing password

New password: Enter your desired new password

Confirm password: Re-enter the new password to verify accuracy

Once all the field are completed and the new password and confirmation match the save button will be enabled

Click **Save** to update the password.

7.4.2.2 Uploading SSL Certificates

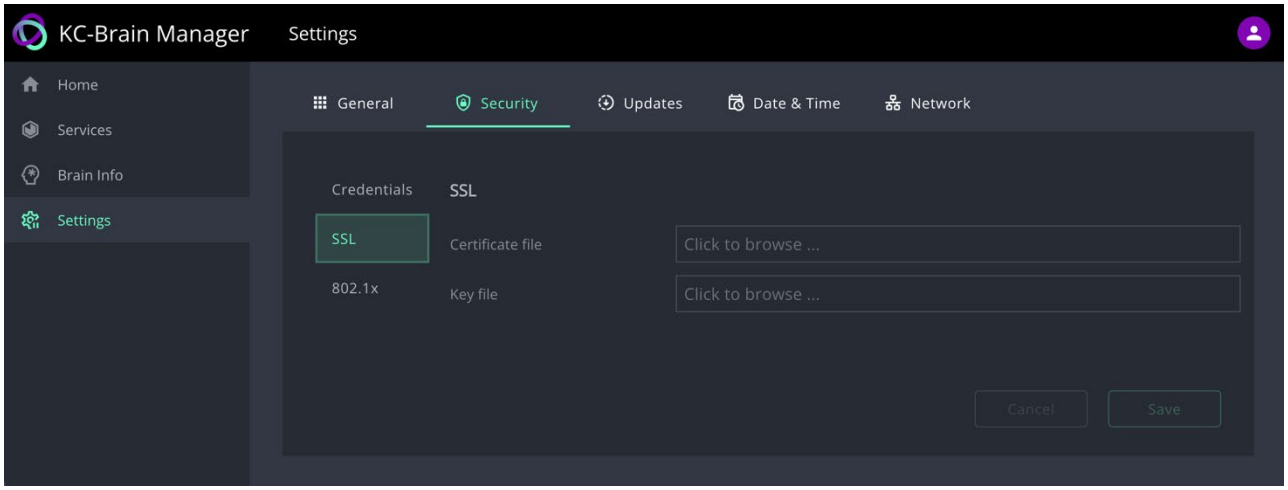


Figure 20: The Settings page's SSL tab

SSL Certificate Setup
This section allows you to configure SSL certificates for secure communications.

Certificate File

- Click "Click to browse..." to select your SSL certificate file
- Supported formats: .crt, .pem, .cer

Key File

- Click "Click to browse..." to select your private key file
- Supported format: .key
- Must match the uploaded certificate

Actions:

- **Cancel**: Discard changes without saving
- **Save**: Apply the SSL configuration

Important:

- Both certificate and key files are required
- Files must be valid and properly formatted
- The private key must correspond to the certificate
- Changes take effect after saving and require a system restart

-

7.4.2.3 802.1x Network Authentication

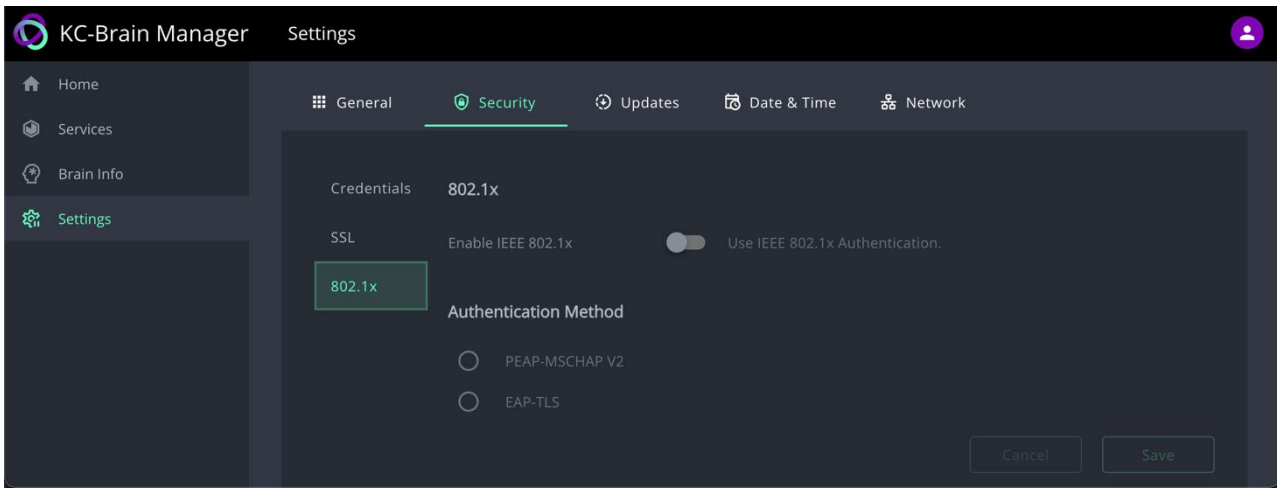


Figure 21: The Settings page's 802.1x section

802.1x Network Authentication Setup
This section allows you to configure 802.1x authentication for secure network authentication.

802.1x Network authentication is disabled by default

To enable 802.1x Network authentication

- Slide the Toggle switch to the right
- Status: Shows current state (enabled = green disabled = Grey)

Authentication Method: Choose between two authentication protocols:

7.4.2.3.1 PEAP-MSCHAP V2 (Password-based)

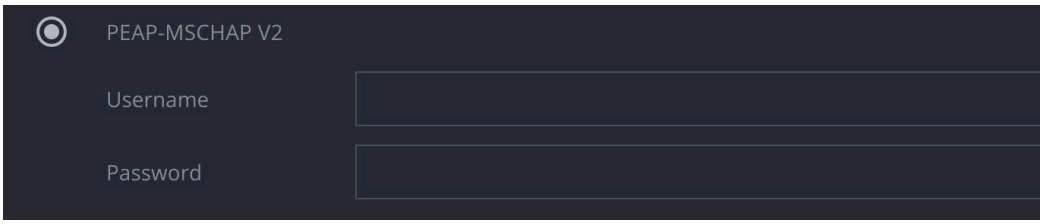


Figure 22: PEAP-MSCHAP Selected

When selected, displays:

Username: Enter your network username
Password: Enter your network password

7.4.2.3.2 EAP-TLS (Certificate-based)

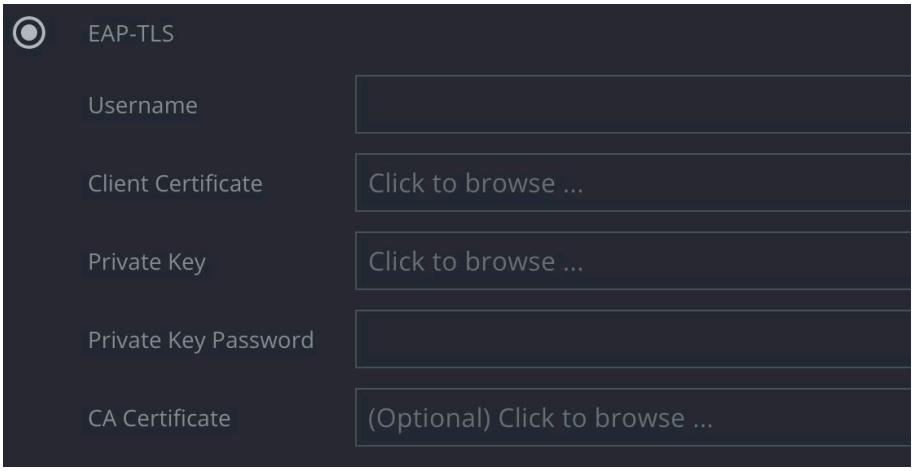


Figure 23: EAP-TLS Selected

When selected, displays:

Username: Enter your network username
Client Certificate: Click "Click to browse..." to upload client certificate
Private Key: Click "Click to browse..." to upload private key file
Private Key Password: Enter password for encrypted private key
CA Certificate: (Optional) Click to upload Certificate Authority file

Actions:

- **Cancel**: Discard changes without saving
- **Save**: Apply the SSL configuration

Important:

- Authentication fields change based on selected method
- PEAP-MSCHAP V2 requires only username/password
- EAP-TLS requires certificates and is more secure
- Ensure all required fields are completed before saving

7.4.3 Settings – Updates

Auto-update performs an automated daily check for new versions of the Kramer Control agent and/or services. When a new version is available, Auto-Update downloads and installs the package.

Offline - If you prefer to manually download updates, then download the update packages from the Kramer website:

- **Manager Package** – Offline KC-Brain Manager Update Package (for future use)
- **Brain Package** – An offline update for the Kramer Control Brain (that runs inside a Docker Service).

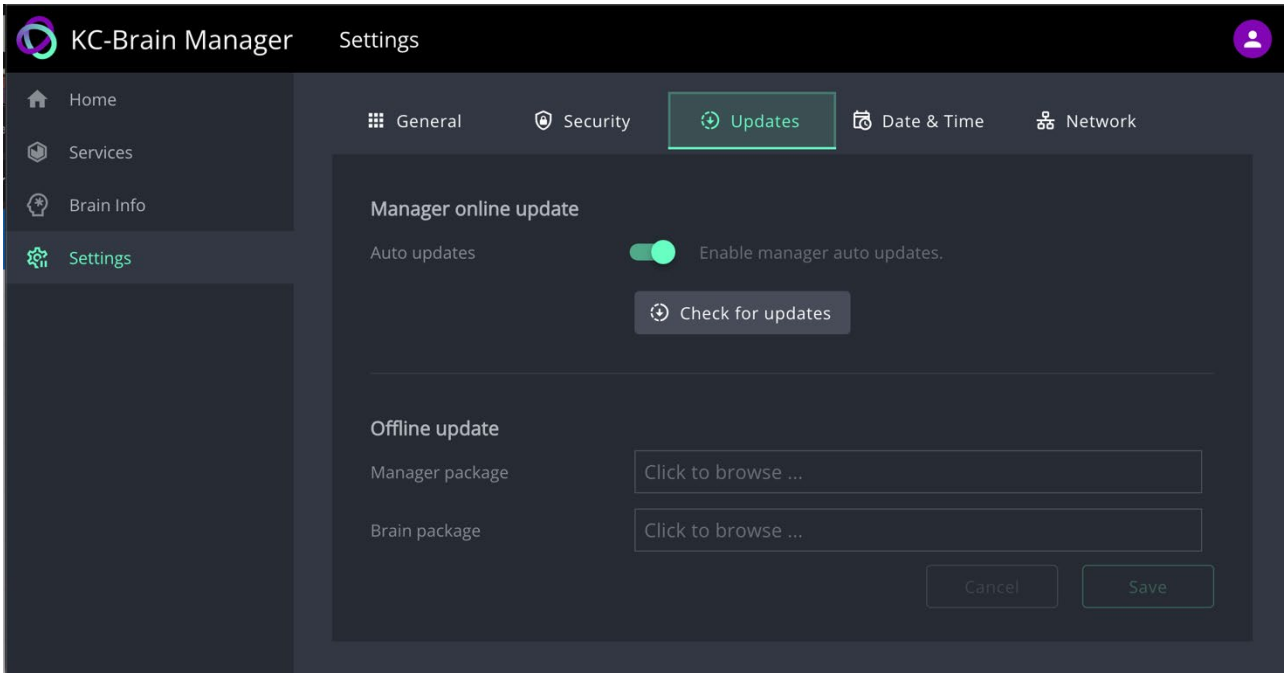


Figure 24: The Settings page's Updates tab

7.4.4 Settings – Date & Time

Make sure you enter the correct time zone. If an NTP (Network Time Protocol) server is used, the date and time cannot be manually entered.

Date and time synchronization improves device and application reliability and contributes to efficient system operation. An NTP server is recommended.

For more information see Setting the time.

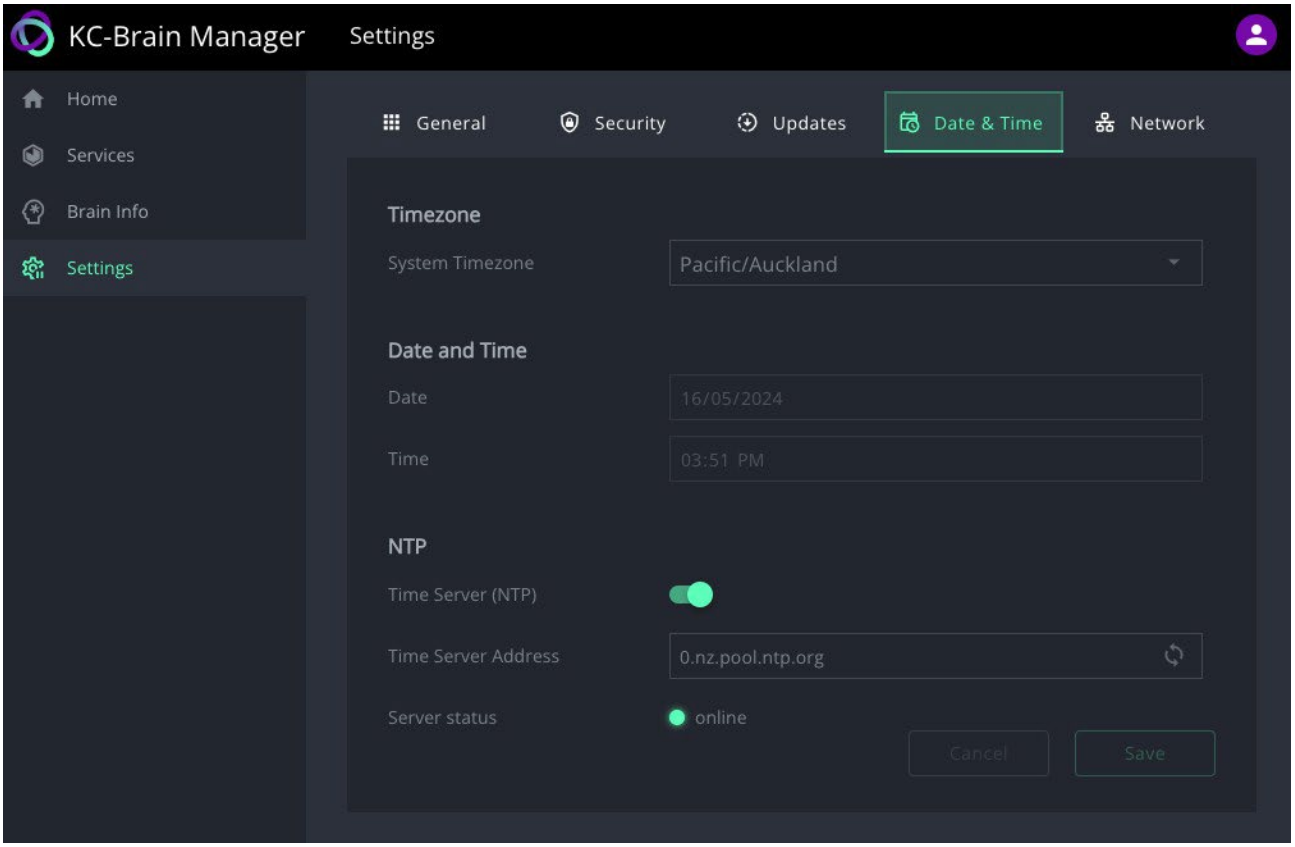


Figure 25: The Settings page's Date & Time tab

7.4.5 Settings – Network

The device must reboot to save changes to network settings. Incorrect settings may make the device inaccessible.

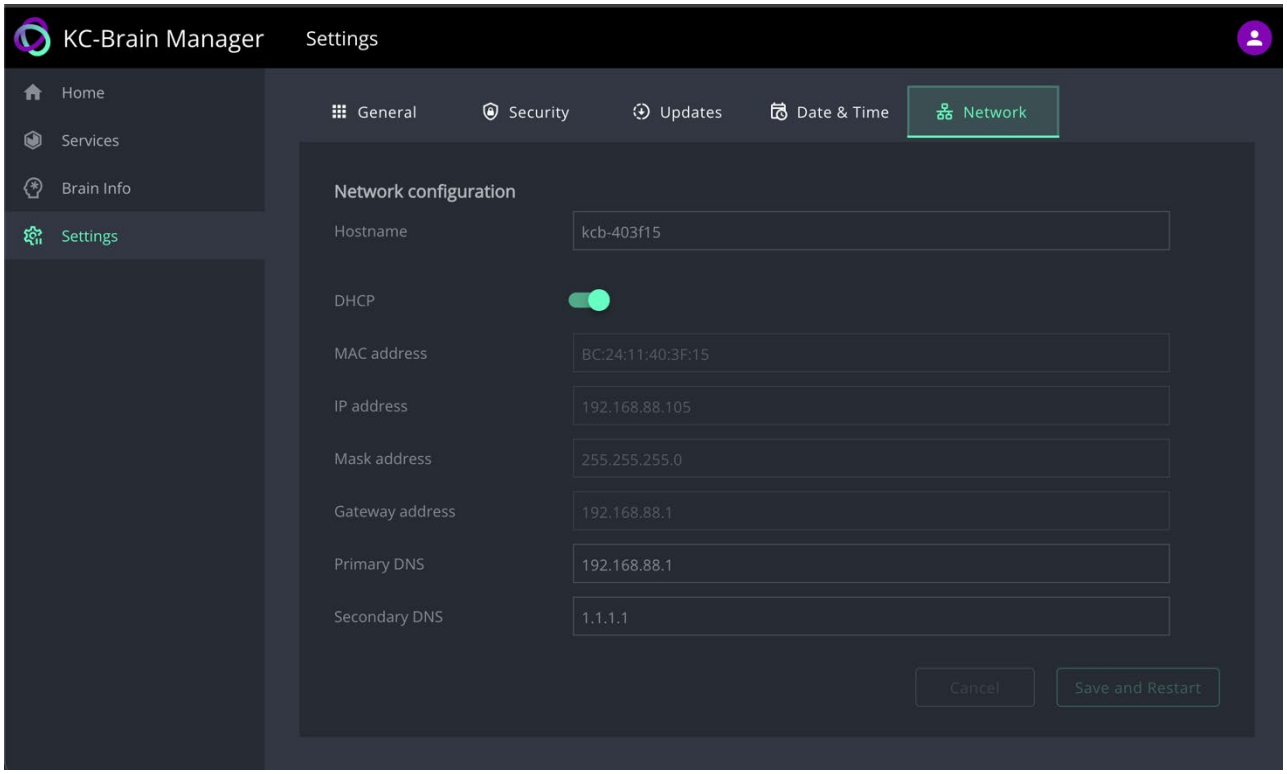


Figure 26: The Settings page's Network tab

To set a static IP: Disable DHCP, enter the desired IP address, then **Save and Restart**.

- **Hostname** – The network name allocated to the KC-Virtual Brain 1 (Gen2).
- **DHCP** – If enabled, then the device IP is allocated by the network's DHCP server. If disabled or no DHCP is available, the device will seek to obtain IP 192.168.1.39.
- **MAC** Address – The KC-Virtual Brain 1 (Gen2)'s permanent unique device identifier (not editable).

The following 3 fields can only be updated if DHCP is disabled:

  - **IP Address** – The KC-Virtual Brain 1 (Gen2)'s address on the local network. Enter the IP address in a browser to access the embedded web menu.
  - **Mask Address** – The network subnet to which the KC-Virtual Brain 1 (Gen2) belongs.
  - **Gateway Address** – Address of the router interface to which KC-Virtual Brain 1 (Gen2) is connected.

- **Primary DNS** – The IP address of the network's domain name server.
- **Secondary DNS** – The network address of the secondary/backup domain name server (if used).

8. Technical Specifications

Ports	1 Ethernet	On an RJ-45 connector
	3 USB 3.0	On a female USB type-A connector
Outputs	1 HDMI	On a female HDMI connector
Video	Max Resolution	4K
General	Processor	Intel® N100
	Main Memory	16GB DDR4
	Storage	128GB SSD
	Networking	1 x Gigabit LAN Wi–Fi 802.11 ac/b/g/n dual band & Bluetooth
	Operating System	Linux
Power	Source	12V DC
	Consumption	3.8A
Enclosure	Cooling	
Environmental Conditions	Operating Temperature	0° to +40°C (32° to 104°F)
	Storage Temperature	-40° to +70°C (-40° to 158°F)
	Humidity	10% to 90%, RHL non-condensing
Accessories	Included	Power adapter
Regulatory Compliance	Safety	CE FCC UKCA EAC
Physical	Product Dimensions	8.9cm x 8.9cm x 3.6cm 3.54" x 3.54" x 1.42") W, D, H
	Product Weight	0.4kg (0.9lbs) approx.
	Shipping Dimensions	16cm x 12.00cm x 11.50cm (6.3" x 4.72" x 4.53") W, D, H
	Shipping Weight	0.9kg (2.0lbs) approx.
Specifications are subject to change without notice at https://www.kramerav.com/product/KC-VirtualBrain 1 (Gen2) - Tab_Specification		

The following ports are not in use and are covered by rubber covers:

1. HDMI OUT 2.
2. USB-C.
3. Analog Audio.

P/N: 2900-301772 Rev: 1

For the latest information on our products and a list of Kramer distributors, visit our website where updates to this user manual may be found.

We welcome your questions, comments, and feedback.