



# **Remote Cloud Access Setup Guide**

version 1.0

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## Overview

Easy, Secure Remote Access to Your Equipment.

The eKeypad Remote Cloud Service solution provides seamless, secure connectivity to your equipment over the internet—with no port forwarding, no public IP address purchases, and no Dynamic DNS service. A primary design feature of the eKeypad Remote Cloud Service is to overcome the challenges of Carrier-Grade NAT (CGNAT) and Double NAT used by many internet providers. The eKeypad Remote Cloud Service secure remote access in complex network environments like satellite or cellular networks.

## Key Features

### 1. Equipment Ownership and Control

- The cloud server connecting to your system and is owned and controlled by you.
- No third-party servers have access to your equipment. You retain complete control over your infrastructure.

### 2. No Port Forwarding, Public IPs, or Dynamic DNS

- No need to expose devices to the internet or set up paid services.
- Reduces exposure to external cyber attacks by keeping your network hidden.

### 3. CGNAT and Double NAT Solution

- Fully solution for internet providers that block incoming connections.
- Ideal for satellite and cellular internet where port forwarding methods do not work.

### 3. End-to-End Encryption

- All data transmitted between the client and server is encrypted.
- The eKeypad relay server only facilitates data transfer and has no access to the contents.

### 4. Advanced Security Features

- **Random, Strong Encryption Keys:** Secure keys are generated during setup and used to protect data from unauthorized access or tampering.
- **SSL Encrypted Connections:** Both the local server and client devices communicate SSL-encrypted connections for maximum data security.
- **Proximity-Based Pairing:** Device setup requires physical proximity. Only you can pair new devices, authorizing them to connect to your cloud server.
- **One-Time Setup Codes:** Wireless pairing with single-use codes simplifies configuration while enhancing security.

## Why Choose eKeypad Remote Cloud Access?

This service combines robust security, user-friendly setup, and network adaptability to deliver an exceptional remote access experience. Whether you're managing critical systems in high-security environments or navigating the challenges of modern networking, eKeypad ensures your devices remain accessible, private, and secure.

## Cost Overview

Setting up Remote Cloud Access for eKeypad requires two key components in addition to the iPhone and iPad devices you use daily:

### 1. Hardware Requirement:

You must purchase a dedicated device that will connect to your home network using a wired ethernet cable and run continuously as your Personal Cloud Server. This server will manage security, handle encrypted connections, and maintain seamless communication between your equipment and the iOS devices you carry with you.

**Note:** For more details and options for the dedicated Cloud Server device, please get in touch with eKeypad Support.

### 2. Monthly Service Fee:

- **eKeypad Relay Server access:** This internet server facilitates secure location and connection from the iOS devices you carry and your Personal Cloud Server.
- **Data Transfer:** Ensures encrypted communication between your devices and your Cloud Server, safeguarding your data while maintaining performance and reliability.

### Remote Cloud Access Setup Costs

Service	Hardware		
<b>Monthly</b>	Apple Wifi iPad	\$349	<a href="#">Link</a>
\$29.99 / month (Recurring)	Belkin USB-C to Ethernet + Charge Adapter	\$35	<a href="#">Link</a>

## Getting Started

This guide provides detailed instructions for configuring the hardware and software components required for eKeypad Remote Cloud Access.

**Following each step** ensures a reliable, secure, and fully functional setup.

If you have any questions or need further assistance, don't hesitate to contact eKeypad Support—we're here to help!

# Hardware and Licensing Requirements

## Hardware

The **Cloud Server** is a dedicated iOS device running a copy of eKeypad Pro. Its primary role is to connect locally to your equipment and securely encrypt all data transmissions. Once setups complete, direct interaction with this device is rarely requires, aside from periodic maintenance.

For optimal performance, we recommend using an **Apple iPad** as the Cloud Server, though an **iPhone** that meets the technical specifications is also compatible.

Minimum Requirements: **iOS Version:** iOS 12 or later (iOS 18 or higher is recommended for enhanced stability and performance).

## Key Setup Requirements

- 1. Continuous Power Supply:**  
The Cloud Server must remain powered at all times for uninterrupted operation. To protect against power surges and outages:
  - Use an **Uninterruptible Power Supply (UPS)** to maintain power and safeguard the device from disruptions.
- 2. Stable Network Connection:**  
Although iOS devices typically connect via Wi-Fi, Wi-Fi can introduce reliability issues for continuous operation.
  - **A wired Ethernet connection is required** for stable and reliable communications.
  - Refer to the "Wired Ethernet Connection" section for detailed setup instructions on configuring your iOS device for Ethernet connectivity.
- 3. Application Locking for Reliability:**  
To ensure long-term reliability and minimize downtime, routine maintenance is automated using the iOS **Guided Access** feature.
  - Guided Access locks the eKeypad Pro application to prevent interruptions and maintain consistent operation over time.

**Important:**

Always perform a full reset of the iOS device before starting the setup of the Cloud Server. In the iOS Settings application, navigate to the "General" -> "Transfer or Reset iPhone/iPad" screen. Tap on "Reset" and select the "Reset All Settings" option.

## Licensing

### Client Device Compatibility

Both the **eKeypad** and **eKeypad Pro** applications can act as clients to access equipment connected through a Cloud Server. Client access functionality is included in the cost of the applications.

### Cloud Server Requirements

The **Cloud Server** feature is exclusively available in the **eKeypad Pro** application.

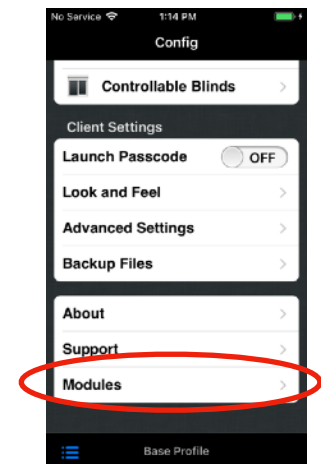
If you have a legacy eKeypad application you can upgrade to eKeypad Pro at a discounted price, you can purchase the **eKeypad Pro Upgrade Bundle** via the Apple App Store:

1. Open the **App Store**.
2. Search for "**eKeypad Pro Upgrade Bundle**".
3. Follow the prompts to complete your upgrade.

To activate Cloud Server functionality in eKeypad Pro, you'll need to purchase the **Monthly Cloud Access** subscription module:

1. Open the **eKeypad Pro** application.
2. Navigate to the **Config** screen (accessible from the main menu).
3. Scroll to the bottom and select the **Modules** section.
4. Locate and subscribe to the **Monthly Cloud Access** module.

This subscription enables secure, remote access to your equipment via the Cloud Server.



# Cloud Server Configuration

## iOS Configuration

All iOS settings can be found in the iOS **Settings** app. This document outlines where these settings are located in iOS 16. However, note that Apple may change the placement of items in future updates. If you have difficulty locating a specific setting, you can use the search function in the **Settings** app. To do this, simply pull down on the main **Settings** screen to reveal the search bar and type in the title as listed in this document.



### Software Updates

To disable automatic iOS software updates:

1. Go to the main **Settings** screen and tap **General**.
2. Select **Software Update**.
3. Tap **Automatic Updates**.
4. Turn off all the switches on this screen.



Software Update  
General

### Automatic Downloads

To disable Turn **OFF** automatic application updates. Open the "App Store" link on the main settings screen. Turn off all switches in the "Automatic Downloads" sections.



Automatic Downloads  
App Store

### iCloud Services

To set up the Cloud Server device, an Apple ID is required. However, it's recommended to disable most unused services. Follow these steps:

1. Open the **Settings** app on your iOS device.
2. Tap your **Apple ID account** at the top of the main settings screen.
3. Select **iCloud**.
4. In the **Apps Using iCloud** section, turn **OFF** all entries.
5. Expand the **Show All** link and turn **OFF** all additional items.



iCloud  
Apple ID

This ensures that only essential services remain active.

## Bluetooth

The Cloud Server device requires the Bluetooth function. Make sure Bluetooth is turned **ON** under the "Bluetooth" link found on the main iOS Settings screen.



## Wi-Fi

The Cloud Server requires a wired ethernet connection to maintain reliable operation. Open the iOS Settings application and tap on the "Wi-Fi" link on the main settings screen. Turn **OFF** Wi-Fi.



## Auto-Lock

The Cloud Server must remain running to work correctly. The auto-lock function of iOS must be disabled. Open the iOS Settings application and tap on the "Display & Brightness" link on the main settings screen. Turn **OFF** this functionality.



## Configure Guided Access

The Cloud Server must remain running at all times. If eKeypad is not visible on the screen, it is not running. The "Guided Access" functionality if iOS must be used.



Before using Guided Access, it must be enabled and configured. Open the iOS Settings application and tap on the "Accessibility" link. Scroll to the bottom of the screen and tap on the "Guided Access" link.

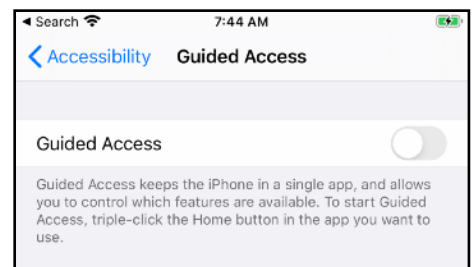
If you have trouble locating the accessibility screen, scroll to the top of the main iOS Settings screen and search for "Accessibility".

The accessibility screen is located in different places depending on the version of iOS you are using.

- On iOS 13 and higher, the accessibility screen is located on the main settings screen.
- Prior to iOS 13 the accessibility screen was located under the General link.

Once you have located the the Guided Access screen:

1. Turn the "Guided Access" switch to ON
2. Setup a Guided Access Passcode
3. Leave all of the Time Limits settings OFF
4. Leave the the Accessibility Shortcut setting OFF
5. Disable the "Display Auto-Lock" setting.
  - On iOS 13 and later, change the setting to Never.
  - Prior to iOS 13, turn "Mirror Display Auto-Lock" ON





## eKeypad Configuration

To begin, refer to the “Best Practices” document for your equipment available on the eKeypad website. All eKeypad documentation can be accessed on the **Downloads** page: <https://www.ekeypad.net/downloads/>.

When using the Cloud Server Device, certain best practice recommendations need to be adjusted due to its unique functionality. To streamline the setup and minimize potential issues, review the following topics:

1. **Failover Configurations**
  - Cloud Server devices are designed to operate exclusively on the local network, eliminating the need for failover functionality. Ensure this feature remains disabled.
2. **Dynamic DNS Hostname (DDNS)**
  - DDNS hostnames are only required for remote access. Instead, use the internal IP address of the equipment for setup.
3. **Encrypted Equipment Ports**
  - Encryption is unnecessary for connections secured by the Cloud Server on the local network. Use unencrypted ports to enhance responsiveness and enable faster communication.
4. **Ignore Errors**
  - The Cloud Server should always attempt to reconnect in case of network disruptions. In the **eKeypad Config -> Advanced** settings, toggle the “Ignore Errors” switch to **ON**.
5. **Allow Sleep**
  - For continuous operation, the Cloud Server must not allow the device to enter sleep mode. In the **eKeypad Config -> Advanced** settings, toggle the “Allow Sleep” switch to **ON**.

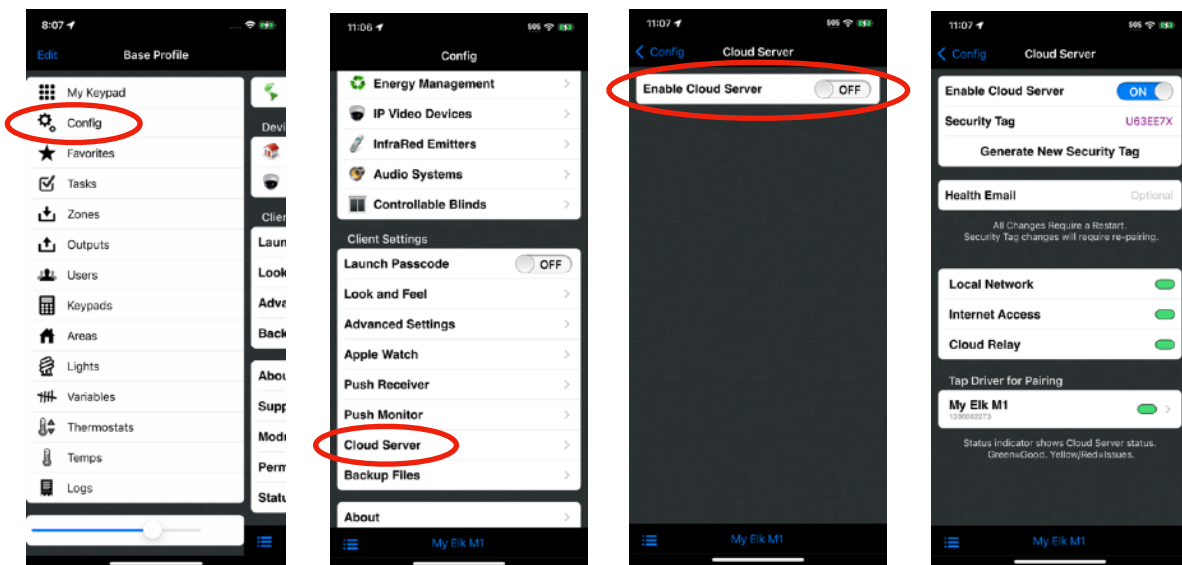
## Turning on Cloud Server

For eKeypad Pro, if a Cloud Server subscription is not active the configuration screens described below will not be available.

- Open the Config screen in eKeypad
- Touch on the Cloud Server link
- Turn the “Enable Cloud Server” switch to ON

**Troubleshooting:**  
If you do not see a “Cloud Server” row, the subscription is not active.

A random security tag will automatically be generated for you. Optionally, you can request a new “Security Tag” to be generated.



Additional Server functionality can also be enabled on this screen.

- **Health Email.** This feature will enable automatic email messages to be sent if the Cloud Server detects issues that impact the reliability or availability of Remote Access.
- **Generate New Security Tag.** This function allows you to change the security tag used to secure your remote access connections. This is not normally necessary. Changing your security tag will **require** all devices using remote access to be reconfigured and **can not** be undone.

**Important:**  
A restart is required after making changes to the Cloud Server settings.

## Cloud Server Device Security

The last activity to be performed on a Cloud Server Device is to secure the configuration to prevent unauthorized access.

Please see the [Security Considerations](#) section below for more detail and a walkthrough of the recommended security settings for Monitoring Devices.

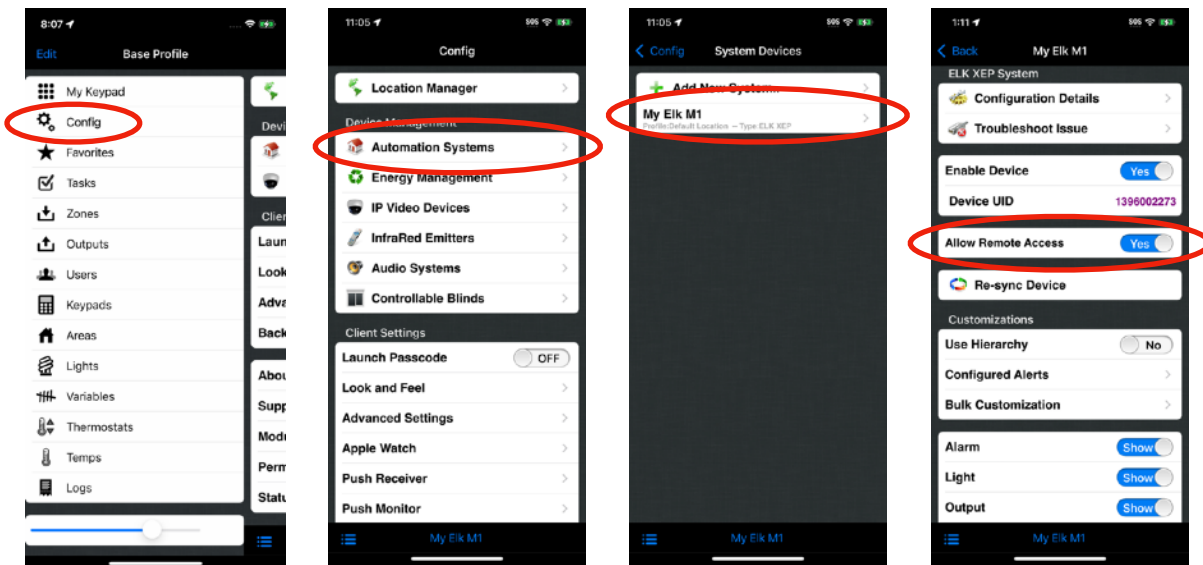
## Client Configuration

### Prepare Cloud Server

The setup of the eKeypad clients that will gain remote access through this Cloud Server will require the client device to be on the same Wi-Fi network to the Cloud Server device.

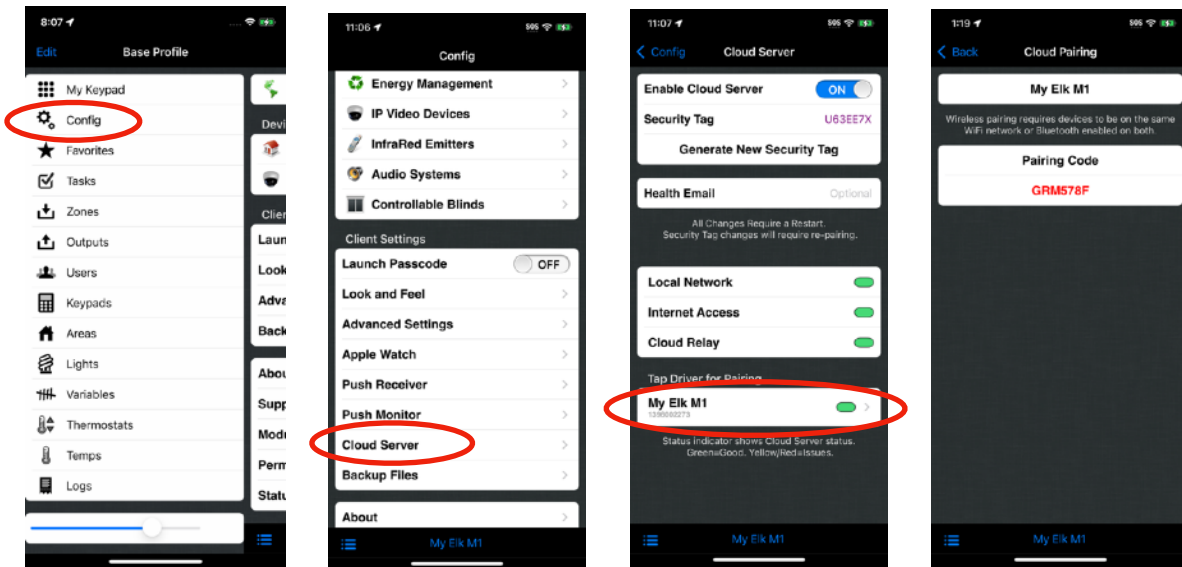
The first step is to enable remote access for the device driver.

- Open the Config screen in eKeypad.
- Tap the “Automation Systems” link.
- Select the device driver you want to make available via remote access.
- Turn the “Remote Access” switch to YES.



The second step is to share a pairing configuration from the Cloud Server.

- Open the Config screen in eKeypad.
- Tap the “Cloud Server” link.
- Select the device driver you want to pair clients with.
- Make note of the “Pairing Code” value displayed. This code is required to setup clients.
- Remain on the “Cloud Pairing” screen until all end-user devices has been paired.

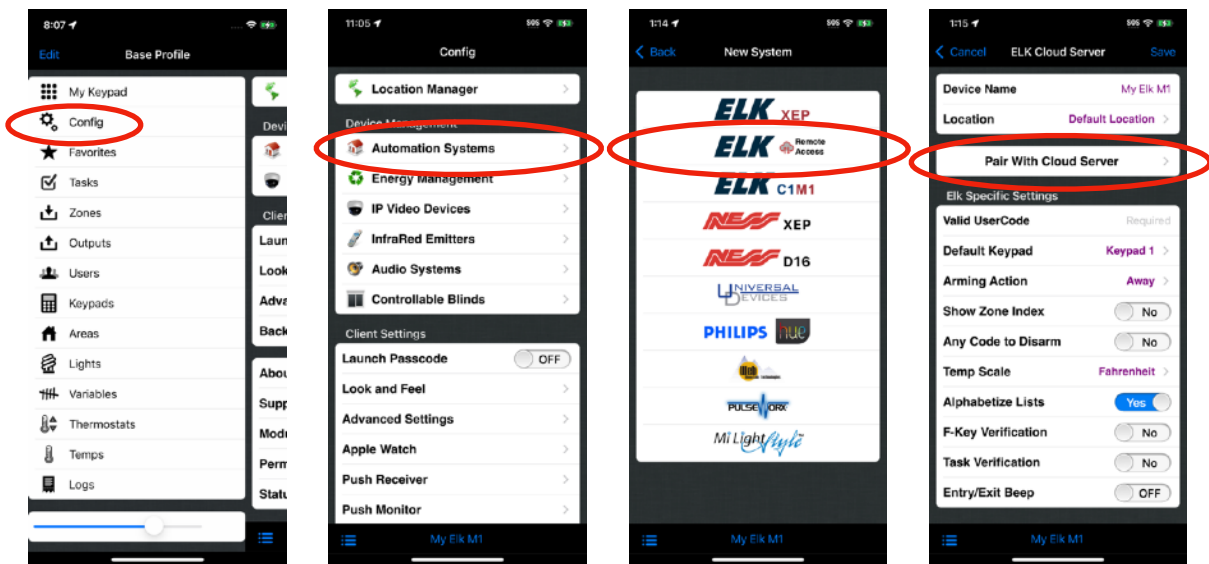


## Configure End-User Device

To enable remote access in an end-user copy of eKeypad, you must use a specific remote cloud access device driver. If the application currently connects to equipment using other methods, the existing driver should be removed and replaced.

### Supported Applications:

Only the **eKeypad** and **eKeypad Pro** applications support remote access drivers. If you're using an older version of eKeypad, an upgrade bundle is available in the Apple App Store. To find it, search for “**eKeypad Pro Upgrade Bundle**” in the App Store.



### Steps to Configure a Remote Access Driver:

1. **Open the Config Screen**  
Launch eKeypad and navigate to the configuration menu.
2. **Access Automation Systems**  
Tap on the “**Automation Systems**” link.
3. **Select a Remote Access Driver**  
Choose a driver labeled with the **Remote Access Icon** and label.
4. **Pair with the Cloud Server**  
Tap the “**Pair With Cloud Server**” link.



**5. Enter the Pairing Code**

Input the **Pairing Code** displayed on the Cloud Server device screen.

**6. Select the Cloud Server**

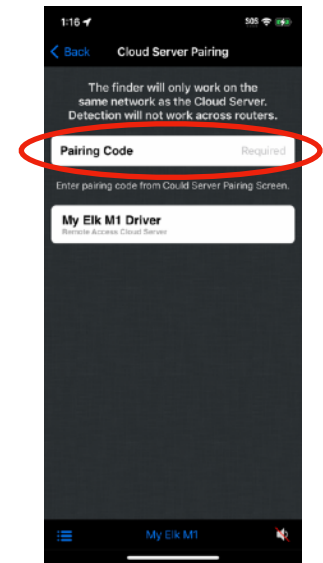
Choose the appropriate Cloud Server from the list.

**7. Complete Configuration**

Fill in the remaining configuration details as required.

**8. Save the Device Driver**

Save your settings to finalize the configuration.

**Troubleshooting:**

If the “Cloud Pairing” screen shows only “Searching...” instead of the name of your Cloud Server, check the following:

- Ensure both devices are connected to the same Wi-Fi network.
- Verify that Bluetooth is enabled on both devices.
- Make sure the devices are in close physical proximity to each other.

## Security Considerations

For security of your Cloud Server, it is important to limit physical access. Anyone with physical access to the cloud server can configure a device for remote access.

To prevent unauthorized access, **eKeypad** offers configuration settings designed to protect sensitive information.

For Cloud Server devices, we recommend enabling the following feature:

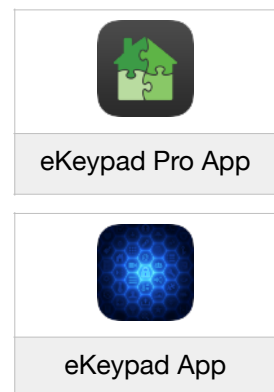
- **Configuration Passcode:** This feature secures the configuration screens in eKeypad with a passcode and/or biometrics. Without access to these screens, configuring a Remote Cloud Access client is not possible.

## Monitoring Device Options

This document outlines the recommended setup for using a dedicated iPad as the Cloud Server device. Although an iPad is the ideal choice, it is technically possible to use an iPhone, although this may not be cost-effective. The following are the technical requirements for Cloud Server devices. We can only provide support for devices that meet all of these requirements.

### Technical Requirements for Cloud Server Devices:

- **iOS Version**  
The device must run iOS version 12.0.0 or higher. For optimal performance, we recommend using devices with iOS version 18.0 or higher.
- **eKeypad Pro App Version**  
Cloud Servers requires version 4.0.0 or higher.  
Remote Cloud Access Drivers require version 4.0.0 or higher.
- **eKeypad App Version**  
Remote Cloud Access Drivers require version 2.0.0 or higher.
- **Wired Ethernet**  
Wi-Fi is not reliable and not supported for Cloud Server functionality. A wired Ethernet connection is required.
- **Dedicated Use**  
The Cloud Server device must be dedicated solely to this function. Other applications cannot be run on the device while it is serving as the Cloud Server.



## Document Change Log

Version	Notes
1.0	- Initial Version

## eKeypad Support

<b>Web Site:</b> <a href="https://www.ekeypad.net/">https://www.ekeypad.net/</a>	<b>Email Support:</b> <a href="mailto:support@ekeypad.net">support@ekeypad.net</a>
<b>Help Articles:</b> <a href="https://www.ekeypad.net/help/">https://www.ekeypad.net/help/</a>	<b>PhoneSupport:</b> +1 (214) 497-4232
<b>Document Downloads:</b> <a href="https://www.ekeypad.net/downloads/">https://www.ekeypad.net/downloads/</a>	M-F 8am - 6pm (CST) Sa By Appointment Su Closed