

AC Series

Access Control System

Quick Start Programming Guide for AC Nio



ATTENTION:

This is an abbreviated programming manual addressing basic program settings for an AC Series system using AC Nio. A complete set of instructions can be found in AC Nio's left-hand side menu or downloaded from www.aiphone.com



AC NIO Quick Start Guide

Introduction

AC Nio is a web-based software for programming the AC Series access control system. AC Nio is used to monitor and administer the AC Series access control system. The software can be used for system partitioning and can have up to 100,000 users per installation. It can also be used to create different sites for buildings or areas, to create schedules for access times, to add multiple panels or over-door modules to the system, and to create access privilege groups. This guide will cover basic installation and does not include advanced features or the installation of AC-Nio software.

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Initial Setup

Open a web browser and enter `https://[AC-Nio host IP Address]:11001` in the URL bar. When loading the web GUI for the first time, the AC Nio initial setup page will be displayed. To begin setup, accept the EULA.

The screenshot shows the AC NIO v3.1.0.23 Setup interface. At the top, there's a language dropdown set to 'English'. Below is a progress bar with four steps: EULA (selected), Customer, Server Address, and Administrator. Each step is represented by an icon and a label.

After accepting the EULA, fill out the customer and dealer information on the next page. It is highly recommended to also setup email for the purpose of password recovery.

This block contains two side-by-side form panels. The left panel is titled 'Customer Configuration' and includes fields for 'Name' (with placeholder 'Customer Name'), 'Description' (with placeholder 'Customer Description'), and 'Initial Site Schedule' (with a dropdown menu showing '(UTC-08:00) Pacific Time (US & Canada)'). The right panel is titled 'Dealer Information' and includes a 'Note' stating 'Dealer Information is optional but recommended'. It contains fields for 'Dealer Name', 'Dealer Phone Number', 'Dealer Website' (with placeholder 'Dealer Website URL'), and 'Dealer Email' (with placeholder 'Dealer Support Email').

In the Server Address section of the AC Nio initial setup, select the network interface the software will listen on. This interface requires a static address or a DHCP reservation.

The screenshot shows the 'Server Address' configuration screen. It includes a 'How to Choose' section with three bullet points: 'If all panels are on the same network as the server, select Ethernet Adapter or Computer Name.', 'If panels are connecting over the internet, select Public IP Address', and 'If you're using a domain name or dynamic DNS, select DNS Name'. Below this is a table with two columns: 'Type' and 'Address'. The table has one row with 'Ethernet' as the type and '192.168.1.49' as the address.

Type	Address
Ethernet	192.168.1.49

At least one administrator account must be created for the purpose of programming and managing the system. Additional administrator accounts can be added later. Permissions can be assigned to each administrator to delegate system management. Complete the initial administrator form and click **Create Customer** when finished. Login with the initial administrator's email address and password at the login page.

The screenshot shows the 'Initial Administrator' form. It includes fields for 'Email Address' (placeholder 'Administrator Email'), 'Username' (placeholder 'Administrator Username (Can be the same as admin email.)'), 'First Name' (placeholder 'Administrator First Name'), 'Last Name' (placeholder 'Administrator Last Name'), 'System Language' (dropdown menu with placeholder 'Administrator's Preferred Language'), 'Password' (masked with dots), and 'Confirm Password' (masked with dots). A blue button labeled 'Create Customer' is at the bottom right.



Create Partitions (Optional)

Partitions are a way to separate buildings or areas in a system. Administrators can be assigned to specific partitions to delegate system management. Partitions can be created by going to the **System** section on the left-hand side menu and selecting **Partitions**. The default partition can be edited by selecting the cog wheel next to the default partition. New partitions can be added by clicking **+Add**.



Give the partition a **Name** and **Description**. If **Auto Panel Update** is checked, any panel that is added to the partition will automatically be updated 15 minutes after changes are made. Click **+Create** to finish adding the partition to AC Nio.

 Partition

Name

Partition Name

Description

Partition Description

Auto Panel Update

☒

+ Create

Create Sites

If a new partition was created, a site must be added. In the **System** section in the left-hand side menu, select **Sites and Areas**. Click **+Add** to add a new site to the system. Give the site a **Name**, **Description**, **Time Zone** and assign the site to a **Partition**. Click **+Create** when finished.

 Site

Name

Site Name

Description

Site Description

Time Zone

(UTC-08:00) Pacific Time (US & Canada)

Partition

Partition Name

+ Create

Create Areas (optional, required for anti-passback/user tracking)

After a site has been created, Areas are created and assigned to doors so the system knows which readers grant access to areas of a building or campus. Areas are primarily used for anti-passback and user tracking via a Muster Report. To add a new area, click on the cogwheel icon, then click on the **Areas** tab. For the first area, rename the field labeled **No Area**. If adding more than one area, enter in the name and click **Add**.



 Areas

 Areas

Add

Area

No Area



Create Schedules

Schedules can be created for **Doors**, **Floors**, **Inputs**, **Outputs**, and **Users**. When scanning a card, a user may be denied access if any of these schedules are set to deny for the current time.

To create a schedule, select **Schedules** from the left-hand side menu under Scheduling section.

Door Schedule: Will grant or restrict access to a door based on the set time.

Floor Schedule: Will grant or restrict access to a floor based on the set time.

Input Schedule: Will enable or disable an input based on a set time.

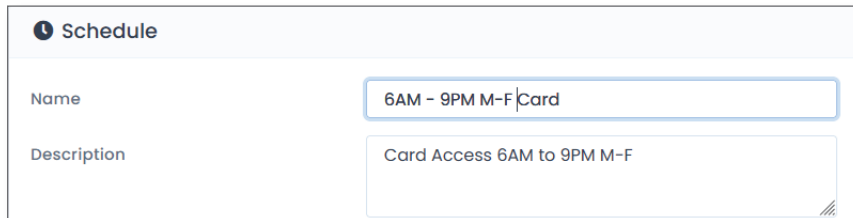
Output Schedule: Will enable or disable an output based on a set time.

User Schedule: Will grant or restrict access to specified users based on the set time.

Note: When creating **Access Privilege Groups**, the **User Schedule** will be used to restrict access to users. Access Privilege Groups are covered on page nine of this document.

Click the tab the corresponds to the type of schedule to be created, then click **+Add**.

Give the schedule a **Name** and a detailed **Description**.

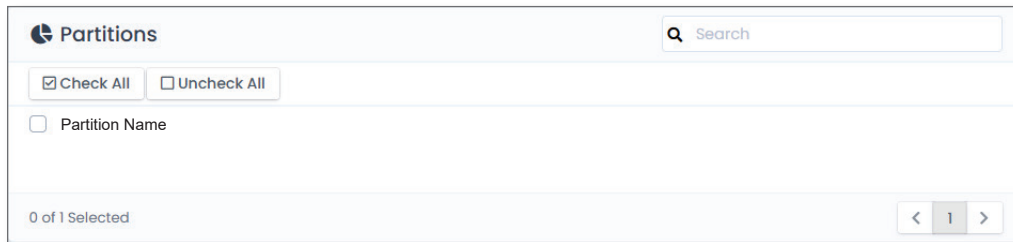


Schedule

Name: 6AM - 9PM M-F Card

Description: Card Access 6AM to 9PM M-F

Select the **Partition(s)** the schedule will used for.



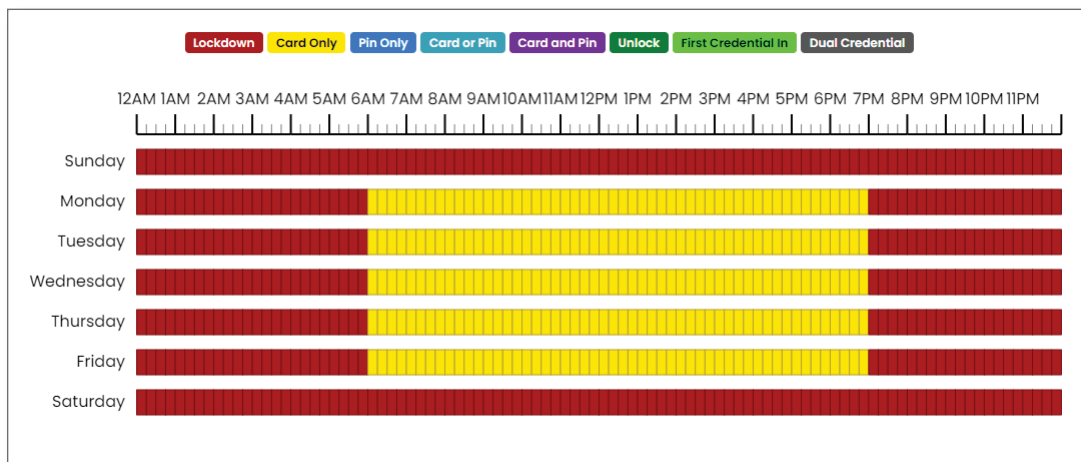
Partitions Search

☒ Check All ☐ Uncheck All

☐ Partition Name

0 of 1 Selected

Select the access to schedule. Click and drag the mouse over the date and time access is being set for.



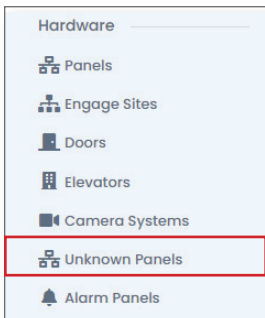
Add Panels

Enter the setup on the panel by holding down the enter key until it asks for the pin. Once the pin is entered click the **Esc** button to enter the settings menu. The default pin for the panel is **0000**. For security purposes, it is highly recommended to change the setup pin. The server IP address will be set to the IP address of AC Nio. The server port will not need to be changed unless the AC Nio is setup with a different communication port.



Setup the panel with a static IP address or use DHCP to give the panel an address. Select whether the panel will use DHCP or a static IP address by using the menu option **Panel Comm Mode**. If set to static, the **Panel IP Address**, **Panel Subnet Mask**, **Panel Gateway**, and **Panel DNS** must be set manually. On the left-hand side menu of AC Nio select "Unknown Panels".

Add the panel to the system and select which partition it belongs to. Set the name for the AC-2DM or Panel.



Unknown panels that are reporting to AC Nio will show up in the **Unknown Panels** list. Click the **+** icon to add the panel to the system.

Name	MAC	IP Address	Type	Firmware	First Attempt	Last Attempt	
 PRS-MASTER	E8EB1BFEE3AA	192.168.1.55	PRSMaster	12/19/2022	01/19/2023 8:27:02 AM	01/19/2023 8:27:02 AM	

Select the **Panel Model** and give it a **Name** and **Description**. Assign the panel to a **Site** created earlier in the guide. It is highly recommended that the **Panel Password** is changed for security purposes. For the **Expanders** option, enter the number of AC-2DE expander boards connected to the master door controller. If using the **Auto Add Doors** option, one of the inputs will be assigned to the **Door Contact** function. If there is not a door contact connected to the input, the door will be seen by the system as forced open and door release will not function. Click **+Create** when finished.

Panel

Panel Model

Panel Type

PRS Master Door Panel

Name

Panel Name

Description

Panel Description

Site

Site Name

MAC Address

E8EB1BFEE3AA

Panel Password

0000

Installed

☒

Tamper Sensor

☒

Door Contacts

☒

Auto Add Doors

☒

Expanders

1

+ Create



Add Panels Continued

After clicking **+Create**, a pop-up will show asking if door contacts are being used. If **Use Door Contacts** is checked, and a door contact is not connected to the panel, the panel will report the door as being forced open. By default, the controller will relock the door strike once the door opens. This means when the door reports Open, the door strike will not unlock. Click **Save** when finished.

Door Contact Warning

Warning

Door Contacts will be added to this panel, please verify that you have door contacts connected to this panel.

Leaving door contacts enabled without being connected will result in the panel reporting the door(s) as Open.

By default, the controller will relock the door strike once the door opens.

This means when the door reports Open, the door strike will not unlock.

This can be disabled under Edit Door->Options->Lock After Door Open.

Use Door Contacts ☒

Hide Warning ☐

Cancel Save

Add Doors/Elevators

After the panel has been added, doors must be added to the panel, or renamed if added automatically. To begin adding or renaming doors, select **Doors** in the **Hardware** section on the left-hand side menu. To add a new door click **+Add**. If renaming an automatically added door, click the **cogwheel** icon.



If a door has a reader, **Managed** will be selected for the door type. Give the door a **Name** and detailed **Description**. Select which **Panel** the door will connect to and select door **Port on Panel**. Select a reader **Schedule** to use.

Name

Door Name

Description

Detailed Description

Panel

Panel for Door

Port on Panel

Port for Relay Output.

Schedule

Door Schedule

Holiday Group

Door Holiday Schedule

In the reader section, give the reader a **Name** and detailed **Description**. Select the Wiegand port the door's card reader will be wired to from in the **Port on Panel** field.

 Reader 1

Name

Reader Name

Description

Reader Description

Port on Panel

Wiegand Port the card reader is wired up to.



Inputs and Outputs

Once the door is configured, inputs and outputs for the door must be programmed. To program inputs and outputs, select **Panels** from the left-hand side menu under the sub section labeled **Hardware**. Then click on the **cogwheel** icon for the panel with the inputs and outputs to be programmed. Click the **I/O** tab. Select the **I/O Expander** board to be edited.



Specific input and output functions can be found on the last two pages of this document.

Note: If door contact is selected as an input and no connection is made, the door will always read open and will not perform an unlock function. This is because by default, the door is set to automatically lock when the door is open.

Creating Access Privilege Groups

Access Privilege Groups are a way to delegate access for an entire group. Users can be added to Access Privilege Groups for easy management. For example, an access group can be created for different departments in a company based on the access or restrictions required for those specific employees. Under the **Users** section, select **Access Privilege Groups**, then click **+Add**.

Give the Access Group a **Name**, Enter a detailed **Description** of the group, and assign the group to a **Partition**. If needed, apply a **Holiday Group** schedule. A **Start** and **End** date can be set for the group (*optional*). Once the group expires, the group will no longer grant access.

A screenshot of the 'Access Group' creation form. It includes fields for 'Group Type' (set to 'Local'), 'Name' (placeholder: 'Access Group Name'), 'Description' (placeholder: 'Optional Description'), 'Partition' (placeholder: 'Access Group Partition'), and 'Holiday Group' (set to 'No Holidays'). There is also a 'Note' section with text: 'Starts On and Expires On only work with PRS controllers and are accurate to within 10 minutes.' Below this are input fields for 'Starts On' and 'Expires On'.

Select any existing users to be added to the group. Users can also be added when they are added to the system.

A screenshot of the 'Users' selection interface. It features a search bar, checkboxes for 'Check All' and 'Uncheck All', and a list of users. One user, 'John Smith', is listed with an unchecked checkbox. At the bottom, it shows '0 of 1 Selected' and navigation arrows.

Select readers and floors users part of this group will have access to and apply a **User Schedule**. Click **+Create** when finished creating the Access Group.

A screenshot of the 'Readers' and 'Floors' selection interface. The 'Readers' section shows a search bar, checkboxes for 'Check All' and 'Uncheck All', a time range '6:00 AM - 7:00 PM' with a 'Set' button, and a list of readers. Two readers are listed: 'Alphone Redmond 1 Door 1 Reader' and 'Alphone Redmond 1 Door 2 Reader', both with 'Always Access' status. Below this, it shows '0 of 2 Selected'. The 'Floors' section is partially visible at the bottom, also with a search bar and checkboxes. A blue '+ Create' button is located to the right of the 'Floors' section.

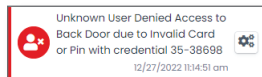
Updating Panels

No changes will be in effect until the panel is updated. Click **Update Panels** at the top of the page to send the programming to each panel. If AC Nio goes offline for any reason, the panels will continue functioning with the programming that was last updated.

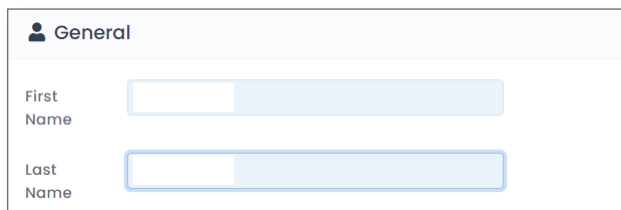


Add Users/Credentials

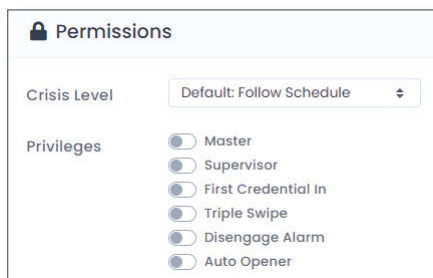
Scan unknown cards to add unknown credentials to the system. On the right-hand notification log, click on the message "Unknown User Denied Access to [Door] due to Invalid Card or Pin."



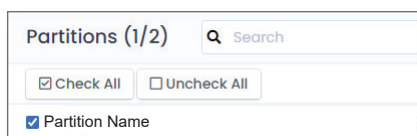
After clicking on the "Unknown user Denied Access" message, a page will load to add new user. The credentials are already input. Complete the **First** and **Last Name** fields.

A form titled "General" with a user icon. It contains two text input fields: "First Name" and "Last Name".

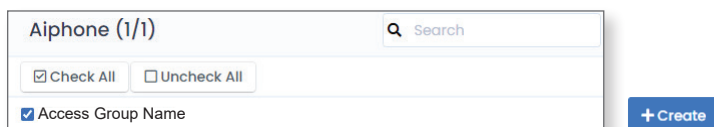
Assign the user card **Permissions**.

A form titled "Permissions" with a lock icon. It includes a "Crisis Level" dropdown menu set to "Default: Follow Schedule". Below is a "Privileges" section with several toggle switches: Master, Supervisor, First Credential In, Triple Swipe, Disengage Alarm, and Auto Opener.

Add the user to at least one partition.

A form titled "Partitions (1/2)" with a search bar. It contains two buttons: "Check All" and "Uncheck All". Below is a checkbox labeled "Partition Name" which is checked.

Add the user to an Access Privilege Group. The user will have the same permissions as anyone else in the group. Click **+Create** when finished.

A form titled "Aiphone (1/1)" with a search bar. It contains two buttons: "Check All" and "Uncheck All". Below is a checkbox labeled "Access Group Name" which is checked. To the right of the form is a blue button labeled "+ Create".

Users and card credentials can also be imported into the system via a CSV file. This is ideal if several cards are being added to the system. For a complete guide on creating and importing a .CSV file, refer to the AC Nio settings manual.

Updating Panels

No changes will be in effect until the panel is updated. Click **Update Panels** at the top of the page to send the programming to each panel. If AC Nio goes offline for any reason the panels will continue functioning with the programming that was last updated.



Back Up Programming

1. Access the System Manager UI. [https://\[AC-Nio host IP address\]:11002](https://[AC-Nio host IP address]:11002)

- **Credentials**

Username: ac

Password: acaccess



For security purposes, change the default password for the management portal.

2. Click on '**Backup**' in the top menu.

3. Select the items to backup (default settings are recommended).

- **Database**

The AC Nio database (recommended).

- **Profile Pictures**

Images associated with users (cardholders) (recommended).

- **Maps**

Images associated with any graphical maps.

4. Select backup options (default settings are recommended).

- **Compress Backup**

Determines whether the backup file is compressed upon successful backup (recommended).

- **Remove Files Older than X Days**

Automatically removes .prbak files from the backup location if the age exceeds the number of days specified. Adjust to keep more backups or uncheck to keep all backups until they are manually deleted.

- **Encrypt Backup with Password**

Require a password to restore the backup.

5. Determine where the backup will be saved to. The backup can be saved to a local drive, USB drive or a network share.

6. Select a Backup Schedule.

- **Disabled:** No automatic schedule. Backup is initiated by hitting the **Save and Run Now** button.

- **Daily:** Backup occurs once a day at the time specified.

- **Weekly:** Backup occurs once a week on the day of week and time specified.

- **Monthly:** Backup occurs once a month on the day and time specified.

7. To immediately run the backup, click **Save and Run Now.** Alternatively, click **Save** to save the backup settings and run on the next scheduled time (if a backup schedule is set).

If folder or network permissions prevented the backup from being written, an error will be displayed.

When performing the first backup, browse to the output and verify the backup has been written. This may take several minutes for larger databases.



Inputs Functions

Disabled	Will not react to any input status changes on the selected input.
REX (Request to Exit)	Allows the input to be used as a REX. Dry contact input can be used to unlock the associated door via the input.
Door Contact	This input will track if the door is open or closed. Note: If there is nothing connected to this contact and it is enabled, the REX button will not work.
Door Opener to Exit	This input is generally used for handicapped operations for activating automatic door openers. Automatic Opener must be enabled in the Door Configuration Options.
Motion Sensor	This input function is used for external motion sensors. Unlock By Motion must be selected in the Door Configuration Options.
AUX Input	This input function has the most configurable options, including input actions such as pulsing outputs, overriding doors, activating alarms.
Emergency Alarm	This input function is used to receive commands from Emergency Alarm Systems. For example, this input can be set to unlock the door and play a buzzer when a fire alarm is triggered.
External Alarm Status	This input function is used to monitor an alarm system status. When the alarm is considered "Armed", Readers will not accept credentials unless the user associated with that credential has the "Disengage Alarm" user privilege set to on.
Door Opener to Enter	This type of input is generally used for handicapped operators for activating auto-door openers. Automatic opener must be enabled in the door configuration options.
Door Unlocked or Open/Prevent Unlock	Used in mantrap configurations. When the door is open or unlocked, this output will activate, is usually connected to an input on another panel controlling access to the same area. Connect to an input with the function "Door Prevent Unlock".



Output Functions

Disabled	The output is disabled and will not fire, even if instructed to by override.
Door Strike	Used to define an output as being connected to a door strike or mag lock. Note: Output 1 is the only wet contact, therefore door strikes on output 2 and 3 would require an external lock power supply.
Door Opener	Used to define an output that is connected to the trigger Input on an auto door opener device.
External Buzzer	Used for external speakers. Will activate relay when the door is forced or held open. Global buzzer option will allow all doors connected on the same panel to activate the same output.
Alarm Interface	This output is connected to an input on the alarm panel capable of arming the alarm system; the alarm can now be armed using a triple swipe command.
AUX Output	An output that can be triggered from input changes or through triple swipe commands.

Network Ports

The following ports are opened on the AC Nio server for programming AC series hardware.

9876 (TCP)	Hardware communication to AC Nio
11001 (TCP)	Web GUI for AC Nio.
11002 (TCP)	Web GUI for AC Nio Management.

