LATCH

Latch // Runbook
v.1.1 August 2023

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Product Overview

Thoughtfully designed to be easy to use and durable enough for all weather conditions, the Latch Intercom is the gateway to LatchOS for new developments and retrofits alike. Flexible connectivity options make it affordable and easy to install, and integration with our full-building ecosystem delivers an all-in-one access solution. From making delivery management easier to making guest access as simple as a single tap, the Latch Intercom always lets the right people in.

Latch Intercom - webpage

Latch Intercom - Installation guide

Latch Intercom - Spec Sheet

Best Practices and Field Notes

Best Practices

1. Use Provided Hardware
    a. Use mounting screws provided where possible. If using different mounting screws, use #6 flat-head screws.
2. Preparation is Key!
    a. Drill the correctly sized hole and necessary depth for wires to avoid mounting difficulties.
3. Don't Force It
    a. Use care when mounting the reader on the backplate to avoid damage. 4. Handle With Care
    b. Avoid letting the intercom hang vertically by the tether while working on it. Hanging the unit from the tether may result in it swinging free and damaging the exterior.

Field Notes

1. The most common issues experienced with the camera and intercom units are:
    a. Firewall blocking port traffic.
    b. Insufficient bandwidth allocation.
2. If the paired R is not connected to the internet directly - then it must be manually updated using the Latch App or Manager App in order to ensure the user ledger is updated. If the user ledger is not updated, then the Intercom cannot unlock it.
3. The network must provide at least 2Mb/s download and upload speeds for the intercom to function properly.
4. Currently, the intercom does not support connecting to hidden WiFi networks.
5. Intercom Internet Connectivity Status in the Manager App can be a bit confusing since R's can be internet connection as well.

For Install and Service

1. **Tools**
    a. Phillips #2 Screwdriver
    b. Torx T-20 Security Screwdriver/Bit
    c. 1.5” drill bit (for cable routing hole)
    d. Multimeter
    e. RJ-45 Cable Tester
        i. Basic Cable Tester
        ii. Advanced Cable Verifier

2. **Permissions (Confirm Access)**
    a. Confirm user has the correct access permissions
        i. Latch Manager App
        ii. Device Management Permissions
        iii. Unit Unlock Access (This is needed to perform a test call on the unit - note PM will have to set this up)
        iv. Latch App (iOS and Android)

Onboarding

Pairing the intercom with a door

- The Latch Intercom uses the Latch R to unlock doors and cannot unlock a door directly. To pair an Intercom with a door, you must use the Manager App and follow the below steps:
    - Once the intercom has been mounted and powered on, you may scan the QR code that shows on the display using the Manager App.
    - Scan the QR code located on the intercom or on the packaging and select the correct location.
    - After setting the location, you will have the option to pair the intercom with the doors that Latch Operations has designated as ‘Intercom Doors.’
    - Once paired, you can connect the intercom to the internet.

Configuring networking for the Latch Intercom

- Once you have selected the location of the Intercom and paired it with a door, you can configure the intercom for Wi-Fi by following the steps in the Manager

App. For Ethernet, simply plug in the Ethernet cable and the Latch Intercom will automatically connect to the internet.

The Latch Intercom and cellular

- All Latch Intercoms ship with a built-in SIM card that enables a backup cellular connection in case your Wi-Fi or Ethernet goes down. Cellular backup is free. In some rare cases, cellular may be turned off in your building due to usage limitations. Contact Latch Support for more information on your cellular plan.

Troubleshooting Workflow

1. **Confirm User device is functioning properly**
    a. Confirm that the device being used to interface with the Latch device
        i. Is compatible with Latch (supported models here)
        ii. Has strong and reliable cellular or WiFi service
            1. Without adequate cellular or wifi service to the user's device, Updates and Firmware Upgrades will fail
        iii. Has Bluetooth enabled
        iv. Isn't in a protective case that may interfere with the performance

2. **Update and Firmware Upgrade**
    a. Ensure the Latch device has been updated with the Latch App (instead of the Latch Manager App).
    b. Ensure that the Latch Device has been upgraded to the latest version of the firmware.

3. **Issues with the Latch App or Latch Manager App**
    a. Check for any updates that may be available for your Latch App (iOS and Android) and Latch Manager App
    b. Toggle the mobile device's Bluetooth settings off, and then back on.
    c. Power cycle the mobile device (turn it off, wait for 30 seconds, and restart the device).
        i. If Android device, perform the Bluetooth cache clear and location services toggle.
    d. Log out of and back into the Latch App.
    e. Delete and reinstall the Latch App.
    f. Ensure your phone's Bluetooth and Location settings are on, as well as the Latch App Bluetooth and location settings.

4. Check Network and Power

a. Network
   i. Ethernet: 10/100/1000
   ii. Bluetooth: BLE 4.2 (iOS and Android compatible)
   iii. Wi-Fi: 2.4Ghz/5Ghz 802.11 a/b/g/n/ac
   iv. Cellular LTE Cat 1
   v. DHCP or Static IP

b. Power
   i. Class 2 Isolated, UL-Listed Power Supply
   ii. 2 Wire Supply Voltage: 12VDC to 24VDC
   iii. Power over Ethernet: 802.3bt (50W+)
   iv. Operating Power: 20W-50W (4A @12VDC, 2A @24VDC)

5. The intercom shows 'Could not connect to Latch'

a. When you see an error message that says "Could not connect to Latch" on the intercom interface, it means that the intercom is most likely having difficulty connecting to the internet. Check your Wi-Fi or Ethernet connection. Usually, the Latch Intercom will fall back to cellular, but if there is a poor cellular signal or if cellular has been disabled for your building, you will need to check your Wi-Fi or Ethernet and reconfigure them using the Manager App.

6. Check for broken hardware / environmental impacts

a. Check for overall damage to the device
   i. Are there any signs of force or any noticeable scratches, cracks, or breakage

RMA Process

Overview

In order to replace a defective device, receive a replacement unit, and return the defective unit to our QA team for evaluation, an RMA will need to be submitted through our RMA process.

Process Overview

1. Contact Latch Support with RMA details:
    a. support@latch.com
    b. +1 (888) 808-0670
2. Required Details
    a. Device Serial
    b. Associated Property Name
    c. Associated Door Name
    d. Issue Description / Symptoms
    e. Troubleshooting Steps Attempted
    f. Shipping Address (for a new device)
    g. Shipping Contact Name
    h. Shipping Contact Email
    i. Shipping Contact Phone Number

Advanced Technical Support Guide

NOTE: If the below troubleshooting steps do not resolve your issue, please reach out to Support@latch.com and our Support Team will be happy to assist you.

Latch Intercom - Intercom Requirements

Pairing the Intercom with a Door

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    - Once the intercom has been mounted and powered on, you may scan the QR code that shows on the display using the Manager App.
    - Scan the QR code located on the intercom or on the packaging and select the correct location.
    - After setting the location, you will have the option to pair the intercom with the doors that Latch Operations has designated as 'Intercom Doors.'
    - Once paired, you can connect the intercom to the internet.

Power Requirements

Note: Latch does not recommend directly using PoE switches with less than 50W per port with the intercom. If a PoE switch with less than 50W per port is being used, then PoE should be disabled for the port or the connection should be moved. Using both 2-wire and PoE concurrently for redundancy is still okay if the PoE port can support 50W.

- Detailed specifications around PoE / connecting the intercom by ethernet are as follows:
    - Latch recommends using 24V instead of 12V whenever possible. If the installer is only able to use 12V, they must ensure the wire length and gauge are correct per the chart in the installation guide (also shown below).

Minimum wiring recommendations

Distance		< 25ft	< 50ft	< 100ft	< 200ft
Power	12V	22 AWG	18 AWG	16 AWG	—
	24V	24 AWG	22 AWG	18 AWG	16 AWG

- Amperage is 4A @ 12V or 2A @ 24V
- The power supply must be a Class 2 Isolated, UL Listed DC Power Supply

Network Requirements

- Ethernet switch with PoE ports
  - The intercom should NOT be connected to any PoE-enabled port other than a dedicated PoE injector. If connecting to a PoE port, not an injector, see the below bullets for detailed specifications.
    - The ethernet switch must be a PoE++ switch that supports the 802.3bt IEEE standard. This will ensure that 50W is available at each port.
      - Example: this Netgear GS516UP has eight PoE++ ports
    - If a PoE switch with less than 50W per port is being used, then PoE should be disabled for the port or the connection should be moved.

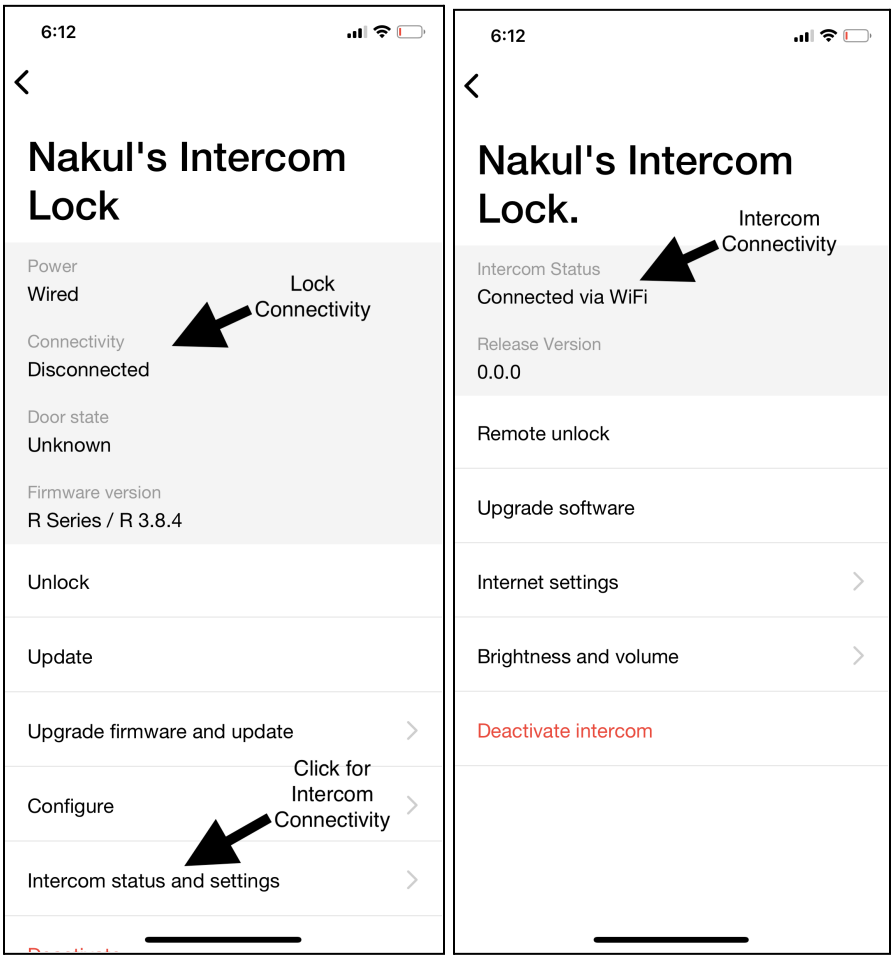
- Switch with multiple configurations/combination camera + intercom setups
  - Using PoE power and 2-wire concurrently
    - Using both 2-wire and PoE concurrently for redundancy is still okay if the PoE port can support 50W (see below).
  - Switch that has some PoE ports and some non-PoE ports
    - A camera and an intercom could be connected to the same PoE switch but with each port configured with different settings. For example, a camera could be connected to a switch port with 802.3at power (<50W available) with the intercom on a non-PoE port that satisfies the 50W power requirement.
  - Switch that has different types of PoE ports (some PoE+ ports and some PoE++ ports)
    - The camera could be connected to a switch port with 802.3at power (<50W available) with the intercom on an 802.3bt power (>50W available) PoE++ port.

- Switch that has all PoE ports but has SW control to disable PoE per port
  - It is very important for installers to disable PoE for Intercom's port to ensure they don't end up with an underrated PoE source.

Latch Intercom - Network Troubleshooting

Note: The network must provide at least 2Mb/s download and upload speeds for the intercom to function properly.

Also, Intercom Internet Connectivity Status in the Manager App can be a bit confusing since R's can be internet connection as well. See the images below for clarification.



Symptoms

1. Calls via intercom are failing
2. Calls via intercom are breaking up

Troubleshooting Checklist

1. Confirm wiring distance is within range of specifications
2. Confirm ethernet connectors are terminated correctly (A or B configuration)
3. Check the wire and confirm all terminations are correct and securely terminated
    a. Look for loose wires
    b. Check for any exposed wiring from unused wires and/or shielding wire and other conductive surfaces or construction materials
4. Check wiring for any damage that may have occurred during the installation
    a. Cracked or broken wires
    b. Cut or skinned wire jacketing
    c. Check for moisture and water damage

Note: The intercom can revert to cellular if there is no WiFi or Ethernet connection.

The intercom shows ‘Could not connect to Latch’

- When you see an error message that says “Could not connect to Latch” on the intercom interface, it means that the intercom is most likely having difficulty connecting to the internet. Check your Wi-Fi or Ethernet connection. Usually, the Latch Intercom will fall back to cellular, but if there is a poor cellular signal or if cellular has been disabled for your building, you will need to check your Wi-Fi or Ethernet and reconfigure them using the Manager App.

Power Troubleshooting

Symptoms

1. The intercom screen does not display any images.
2. The intercom loses power when making a call.

Troubleshooting Checklist

1. Attempt power cycling unit using a soft reset.
    a. Hold the Up and Down buttons down at the same time until the device resets.
2. Check for sufficient voltage.
3. Confirm wiring distance is within range of specifications.
4. Confirm Intercom is not sharing the power supply and overloading the power source.
5. Check the wire and confirm all terminations are correct and securely terminated.
    a. Look for loose wires.
    b. Check for any exposed wiring from unused wires and/or shielding wire and other conductive surfaces or construction materials.
6. Check wiring for any damage that may have occurred during the installation
    a. Cracked or broken wires.
    b. Cut or skinned wire jacketing.

Latch Intercom - Unlock Failure Troubleshooting

Verify Device Assignment

1. Verify the Intercom and proper Reader are associated with each other via the Latch Manager App.
2. Verify User is logged in to the Latch App (iOS and Android) with the proper credentials.
3. If receiving calls directly to a phone, verify they're selecting '9' to unlock.

If the user is still experiencing issues with unlocking the door remotely, please contact Latch Support at support@latch.com.

Fanvil Standard Operating Procedure (SOP)

Fanvil i10D Configuration SOP - Version 1.1

Setup:

1. Please work with your Internet Service Provider to obtain a Static IP and configure your Property's Network to use Static IP. All Fanvil extensions must be connected to a network using Static IP. Please communicate this IP with Latch Support prior to proceeding to Step 2.

2. Connect the Fanvil to Latch's PBX Server

1. Unscrew the Fanvil top.
2. Connect the Fanvil to power and ethernet.
3. Rescrew the Fanvil top / Mount the device.
4. Press and hold the Call button on the Fanvil for approx 5 seconds.
5. Once a noise starts playing tap the Call button again.
6. The Fanvil will say its IP address.
7. While on the same network as that Fanvil, type the IP address into your laptop's browser.
8. Login with username and password both as "admin."
9. Now go to the Line section from the left menu and input the information generated from when you created the Extension in the FreePBX Console. The extension number is the username and the secret is the password. The Server Address is 38.39.190.43 and Server Port is 5060. The expected transport protocol is UDP. Click Apply.
10. If all of the information was correctly entered then you should see the Line Status become Registered after refreshing.
11. Go to Basic Settings and make sure Auto-Answering is OFF.
12. Go to the Function Key section in the left menu. Under Function Key Settings create a DSS Key that is of type DTMF, name it Unlock DTMF, set the value to 9, then click Apply.
13. Under Programmable Key Settings, set Key 2 to the DSS Key you just created (named Unlock DTMF) in the Desktop and Talking Column. Click Apply.

3. Ask Latch Support (support@latch.com) to assign this Fanvil's PBX Extension or SIP URI to the Unit. Alternatively, this can be done in Latch Manager if you have the right permissions.

Go into Manager Web and link the SIP URI to the desired unit. The SIP URI should be “sip:<EXTENSION>@38.39.190.43”. This is often referred to as the Indoor Intercom Number in our system.

This can also be done in bulk via a CSV import.