

Rodent Detection System - Simple User Guide

What Is This System?

This is an **automatic rat detector** that watches your camera 24/7 and sends you a text message when it sees a rat. Think of it like a security system, but for rats!

How it works:

1. 📹 Your camera records video
 2. 🤖 The computer checks the video for rats
 3. 📱 You get a text message if a rat is found
-

Getting Started (15 Minutes)

What You Need:

- ✅ The black box (Raspberry Pi computer)
 - ✅ Your Wyze camera
 - ✅ A Twilio account (for sending text messages)
 - ✅ Internet connection
-

Step 1: Get Your Twilio Account (5 minutes)

Twilio is the service that sends text messages to your phone.

A. Sign Up for Twilio

1. **Go to:** www.twilio.com
2. **Click:** "Sign up" (red button)
3. **Enter:**

- Your email - Create a password - Your phone number

1. **Verify:** Check your email and click the link

B. Get Your Free Phone Number

1. **After signing in,** you'll see "Get a Trial Number"
2. **Click:** "Get a Trial Number"
3. **Write down** this number (looks like: +1-234-567-8900)

C. Find Your Account Information

1. **Go to:** Console (top menu)
2. **Look for** these two things and **copy them:**



Account SID: (starts with AC...)

Example: ACa1b2c3d4e5f6g7h8i9j0k1l2m3n4o5p6



Auth Token: (click to reveal, then copy)

Example: 1234567890abcdef1234567890abcdef

Save these three things:

- Your Twilio phone number
 - Account SID
 - Auth Token
-

Step 2: Set Up the Black Box (5 minutes)

A. Connect Everything

1. **Plug in** the black box (Raspberry Pi) to power
2. **Connect** to your WiFi or ethernet cable
3. **Insert** the SD card from your Wyze camera

B. Add Your Twilio Information

You need to tell the system your Twilio account details.

On your computer:

1. **Open** a text editor (Notepad on Windows, TextEdit on Mac)
2. **Copy** this template:

```
TWILIO_ACCOUNT_SID=paste_your_account_sid_here  
TWILIO_AUTH_TOKEN=paste_your_auth_token_here  
TWILIO_FROM_NUMBER=paste_your_twilio_number_here  
ALERT_PHONE_NUMBER=your_personal_phone_number
```

1. **Replace** with your actual information:

- Replace `paste_your_account_sid_here` with your Account SID - Replace
`paste_your_auth_token_here` with your Auth Token - Replace

`paste_your_twilio_number_here` with your Twilio phone (+1234567890) - Replace
`your_personal_phone_number` with your cell phone (+1987654321)

1. **Save** this file as `.env` (yes, with the dot in front)
 2. **Copy** this file to the black box
-

Step 3: Start the System (2 minutes)

Turn It On

1. **Power on** the black box
2. **Wait** 2 minutes for it to start
3. The system starts automatically!

Test If It's Working

Send yourself a test message:

1. **Press** the test button (if available)
2. **OR** wait for the first detection
3. You should get a text message like:







RODENT ALERT!

Rat detected at 3:45 PM

with 85% confidence.

Daily Use

What Happens Automatically:

-  **Watches 24/7** - Never stops monitoring
-  **Sends alerts** - Texts you when rats appear
-  **Saves pictures** - Keeps photos of detections
-  **Prevents spam** - Waits 10 minutes between alerts

What You'll See:

Normal Text Alert:



RODENT ALERT!

Norway Rat detected at 3:45 PM
with 85% confidence.

What the message means:

- **"Norway Rat"** or **"Roof Rat"** = Type of rat (not always accurate)
- **Time** = When it was seen
- **Confidence** = How sure the system is (higher is better)

Understanding Rat Types:

- **Norway Rat** = Larger, ground-dwelling rat (system is 77% accurate)
- **Roof Rat** = Smaller, climbing rat (system is only 15% accurate)
- **Important:** The system is good at detecting "a rat is there" but may confuse which type

Common Questions

Q: I'm not getting text messages

Check these things:

1. **Is the black box on?** (green light should be on)
2. **Is your phone number correct?** (must have +1 at the start)
3. **Do you have Twilio credits?** (free trial gives you \$15)
4. **Is the camera recording?** (check Wyze app)

Q: I'm getting too many messages

The system waits 10 minutes between alerts. If you want to change this:

- Contact support to adjust the "cooldown time"

Q: The system says "Roof Rat" but it looks like a Norway Rat

This is normal. The system is still learning the difference. It's better at detecting "there's a rat" than identifying which type.

Q: How do I turn it off?




Simply unplug the black box. Plug it back in to restart.

Q: How do I see the pictures?




The system saves pictures of detected rats. Ask your technician how to access them.

Troubleshooting



Problem: No Power / Won't Turn On

-  Check power cable is plugged in
-  Try a different outlet
-  Make sure power adapter is 5V 3A




Problem: Not Detecting Rats (but you saw one)

-  Make sure camera is recording
-  Check camera isn't blocked
-  Ensure good lighting (system needs to "see" the rat)

Problem: False Alarms (detecting things that aren't rats)

-  This can happen with shadows or other animals
-  Contact support to adjust sensitivity

Problem: Camera Not Working

-  Check Wyze app - can you see video there?
-  Make sure SD card is inserted properly
-  Try formatting SD card in Wyze app

Monthly Maintenance




Once a Month:

1. **Check** that you're still getting alerts (do a test)
2. **Clear** old pictures if storage is full
3. **Clean** camera lens with soft cloth
4. **Verify** Twilio account has credits

Every 3 Months:



1. **Restart** the system (unplug for 10 seconds, plug back in)
2. **Update** your phone number if changed
3. **Check** for software updates (ask technician)

What the Lights Mean



 **Green Light** = System is running normally  **Yellow Light** = Processing/Detecting something  **Red Light** = Error - check connections No lights = Not powered on

Cost Information

One-Time Costs:

-  System hardware: Already paid
-  Setup: Already done

Monthly Costs:

-  **Twilio texts:** About \$0.01 per text message
- 100 alerts = \$1.00 - 500 alerts = \$5.00
-  **Twilio phone number:** \$1.00/month

Free Trial:

- Twilio gives \$15 free credit to start
 - This is enough for ~1,500 text messages
-

Quick Reference Card

Important Information to Keep:

Item	Your Information
Twilio Account SID	AC_____
Twilio Phone Number	+1-____-____-____
Your Alert Phone	+1-____-____-____
System Location	_____
WiFi Name	_____
Support Contact	_____

Quick Commands:

To Do This	Do This
Start System	Plug in power
Stop System	Unplug power
Test Alert	Wait for detection
Check Status	Look for green light
Get Help	Contact support

Getting Help

Before Calling Support:

1. **Check** the power is on





2. **Verify** internet is working
3. **Confirm** camera is recording
4. **Note** what lights you see
5. **Know** when problem started

Information to Have Ready:





- Your Twilio account email
 - When you last received an alert
 - What lights are showing
 - Any error messages
-

Privacy & Security

What the System Does:

-  Processes video locally (on your premises)
-  Only sends text alerts (no video sent)
-  Saves pictures only on your device
-  Doesn't share data with anyone

What the System Doesn't Do:

-  Doesn't upload video to cloud
 -  Doesn't share your location
 -  Doesn't store personal information
 -  Doesn't work without your camera
-

Success Tips

For Best Detection:

1. **Good lighting** - System needs to see clearly
2. **Clear view** - Don't block the camera
3. **Stable camera** - Mount securely, avoid shaking
4. **Regular checks** - Test monthly
5. **Keep it simple** - Don't change settings unless needed

What to Expect:

- **First Week:** Might get more alerts as system adjusts
 - **After 2 Weeks:** Should stabilize with fewer false alarms
 - **Long Term:** Reliable detection with occasional updates needed
-

Summary

Your Rat Detection System:

- 🏠 Watches your camera 24/7
- 🤖 Uses AI to spot rats
- 📱 Texts you immediately
- 🛡️ Works automatically
- 💰 Costs pennies per alert

Remember:

- The system is **great at detecting rats** (67% accurate)
- It's **good at identifying Norway rats** (77% accurate)

- It's **not good at identifying Roof rats** (15% accurate)
- But it **will alert you when any rat appears!**

Three Main Steps:

1. **Set up Twilio** (one time)
 2. **Add your phone numbers** (one time)
 3. **Let it run** (automatic)
-

Contact Information

For Technical Support:

- Check this guide first
- Note error messages or unusual behavior
- Contact your installer

For Twilio Issues:

- Website: www.twilio.com/support
- Check your account balance
- Verify phone numbers are correct





For Camera Issues:

- Check Wyze app
 - Ensure SD card is working
 - Verify camera has power
-





System Version: 1.0 Last Updated: September 2024 Designed for: Automatic Rodent Detection

Quick Start Reminder

Every Day, Your System:

1.  Watches for rats
2.  Sends you texts
3.  Keeps you informed
4.  Works automatically

You Just Need To:

1.  Keep it plugged in
2.  Keep internet connected
3.  Keep Twilio account active
4.  Check your texts!

That's it! Your rat detection system is now protecting your property 24/7! 🛡️