

Tode Manual

Users Guide

Setup and Operation Guide

by TGit-Tech [<http://www.tgit-tech.com>]

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1. Introduction

The Tode System

- Tode-RC = Handheld Remote Control Models
 - Model #AMP Arduino Mega Pro (No RF Module)
 - Model #AMPE32T30 Arduino Mega Pro + Ebyte E32-433T30D (1W/30dbm) RF module
 - Model #AMPE32T20 Arduino Mega Pro + Ebyte E32-433T20D (250mW/20dbm) RF module
 - Model #AMPXBEE Arduino Mega Pro + Digi XBee RF Module
- Tode-SideIO = Input/Output Stations
 - Model #TSIOST Tode SideIO with Screw Terminals
 - Model #TSIOAP Tode SideIO with Aviation Plugs

Manuals

- Manual – Users Guide Operator Instructions including Setup and Wiring
- Hardware Development How to build the hardware including detailed circuit diagrams
- Firmware Development How to adjust and create firmware for the Tode

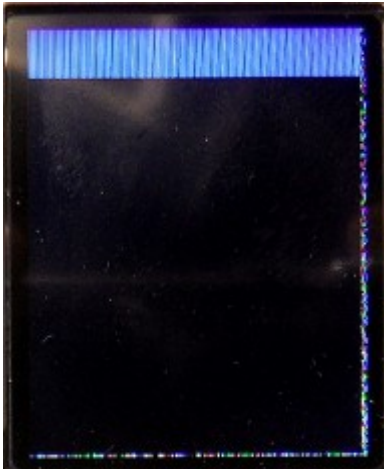

The Tode System is liscensed under the MIT Liscense. It's hosted on Github.com at:

<https://github.com/TGit-Tech/Tode-RC>

2. THIS-TODE

2.1 Name This Tode





2.1.1 Turn the Power ON

<p>1st Screen THIS TODE</p> <p>This screen is blank because this Tode hasn't been configured yet. Press ↵</p> 	<p>2nd Screen SETUP</p> <p>Where all configuration is done Press ↵</p> 	<p>3rd Screen NEXT TODE</p> <p>Remote Tode's</p> <p>Screen doesn't change because there are NO other Tode's at this Time.</p>
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2.1.2 Enter Name

<p>SETUP</p> <p>Press ↵ to the blank [NAME] field. Press SET</p> 	<p>SETUP – 'Set Name'</p> <p>The 'Set Name' Screen appears Press ↵</p> 	<p>SETUP – 'Set Name' – Entry Field</p> <p>Text Entry field highlights (Blue) Character Position highlights (White) ↵↵ to change character position.</p> 
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SETUP – 'Set Name' – Enter Name

Use     to select a character
Press **SET** to put character at position.
Repeat until Name is entered.

Use the 'Entry Field' (Under 'Set Name') to highlight (White) unwanted character; then pick the blank character (Under Exit before !) **SET** to clear it.

**SETUP – 'Set Name' – SAVE & EXIT**

Once desired Name is Entered (RC1 in picture). Highlight **SAVE** and press **SET**

Then highlight **EXIT**
press **SET**





*Note: On Setup the **SET** can often be correlated as the 'OKAY' button.*

**SETUP**

SETUP screen should now show the [NAME] just entered.





2.2 Radio Settings

- ✓ Radio Settings that **must be identical** for Tode Communication.
 - SecNet - This is a Security Code selected by you (0x01 to 0x7F) that prevents unauthorized access.
 - Frequency - This is the radio frequency the Tode Communication will operate on
- ✓ Radio Setting that **must be Unique**
 - Address - This is a Unique Address selected by you of the Radio (0x0001 to 0xFFFF) do not use 0000 or FFFF.
- ✓ Other Radio Settings
 - Tx Power - This is the POWER of transmission. Run lower to preserve power, run higher for longer distance.
 - PC Connex - This option when set to ON will allow the Radio to be connected to a PC via the USB Port.
- ✓ Name → Value Pair Settings
 - All Settings on the Radio Screen are set by going to the Value, changing the Value and then **SET**-ing it.
 - **SecNet** and **Address** Value is set PER-DIGIT using  and 
 - All other settings are simply incremental by using just  or 


** Below Demonstrates the procedure for changing the **SecNet** **

** other settings are changed in the same manner **

SETUP - RADIO

Press  to select **Radio**.
Press 


**SETUP - RADIO - SecNet**

Press  to select **SecNet**





**SETUP - RADIO - SecNet**

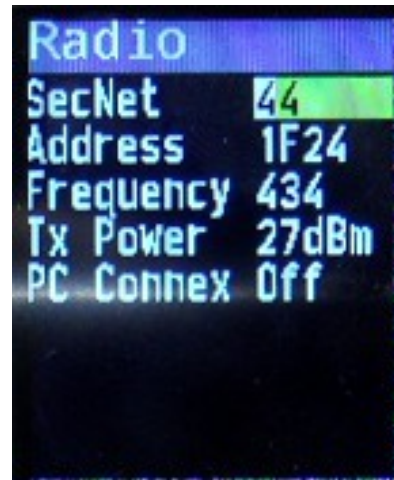
Press  to select Value '23'


**SETUP - RADIO - SecNet**

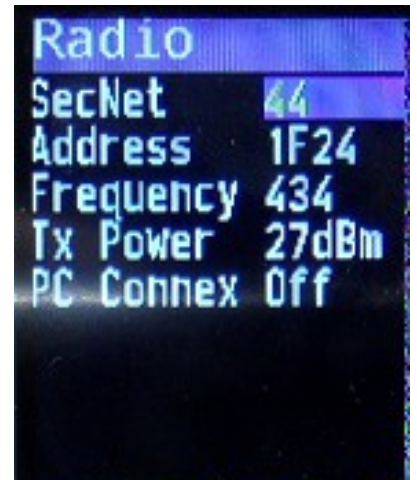
Press  to set a Value
The Value field turns (Yellow) with
ONE-DIGIT '4' (White).



**SETUP - RADIO - SecNet**

Use   to change digit Up/Down.
Use   to move digit (White)
Left/Right.

**SETUP - RADIO - SecNet - SET**

Once the Value is where you want it.
Press  to SET the Value.







✓ To return to the SETUP screen press  then again 

2.3 IO HDW & Add Devices


- The Tode must know what IO attachment ability it has. At the time of this writing the only option is a 'Side-IO' Plug (SIO).
 - Set the IO HDW attachment ability as shown
 - Add an 'OnOff' Device as shown

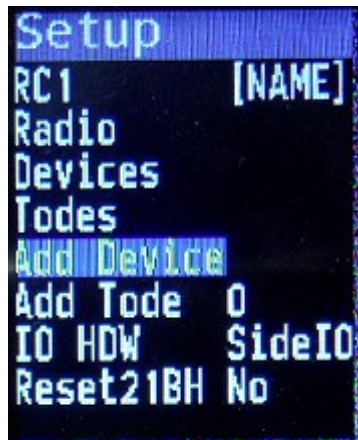
SETUP - IO HDW

Press  to select **IO HDW**.
 Press  to select Value 'NotSet'
 Use   to change to 'SideIO'
 Press **SET** to set the Value




SETUP - Add Device

Press  to select **Add Device**
 Press **GET**





SETUP - Add Device - OnOff

Press  to select 'OnOff'
 Press **GET**
 Only Press once; nothing changes but the selected device was added.




- Name the 'OnOff' Device just added.

SETUP - DEVICES

Press  to return to **SETUP**.
 Press  and select **Devices**
 Press **GET**



SETUP - DEVICES - NAME?

Press  to select **NAME?**.
 Press **SET**














SETUP - DEVICES - Name the Device

Use the same procedure to Enter Name for the Device.
 Select **SAVE** and press **SET** then **EXIT**













3. Set the IO Pin for the 'OnOff' Device just added.

<p>SETUP - DEVICES</p> <p>Press  to select RELAY1 just named Press </p> 	<p>SETUP - DEVICES - PIN</p> <p>Press  to select PIN. Press  to select <u>Value</u> 'NotSet' Press </p> 	<p>SETUP - DEVICES - Set IO Pin #</p> <p>Use   to change <u>Value</u> to 33. Press  <i>Check IO HDW if value won't change</i></p> 
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4. To return to the SETUP screen press  then again  then again 

5. Test the new device as shown below

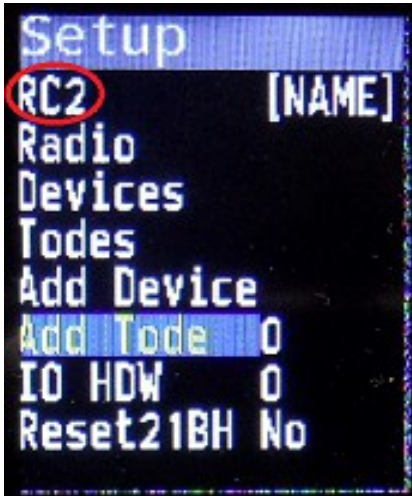
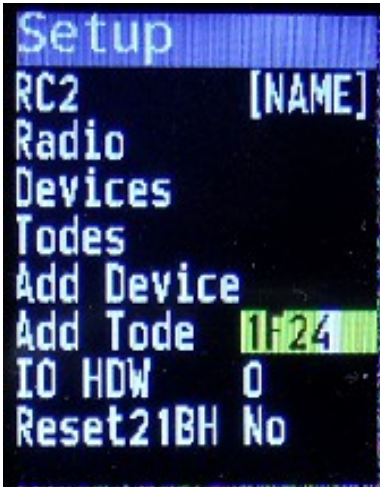

<p>SETUP</p> <p>From the SETUP screen press  to return to THIS TODE</p> 	<p>THIS TODE</p> <p>Press  to select RELAY1. Press  to select <u>Value</u> 'Off' Press </p> 	<p>THIS TODE - DEVICE CONTROL</p> <p>Use   to change <u>Value</u> to 'On'. Press  Relay1 on pin 33 should activate.</p> 
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6. NOTE: To READ the Devices on a Tode Screen (one's with '?' as their value) press 

3. REMOTE TODE'S

3.1 Add Tode

- ✓ To Remotely Control another Tode's Devices. That "Remote" Tode must be added to THIS-TODE as shown
 - In this Example we have setup a 2nd Tode with the Name 'RC2'
 - Check Radio settings **SecNet**, **Frequency** and **Address** of 'RC1' (shown as pictured in [#2.2.Radio Settings|outline.](#))
 - SecNet = 44
 - Frequency = 434 MHz
 - Address = **1F24**
 - Set 'RC2' Tode Radio Settings for SecNet and Frequency exactly the same as 'RC1'
 - Add 'RC1' Device Controls to 'RC2' as shown below

SETUP	Add Tode by Radio-Address	Check Tode Add Success.
Press ↵ to select Add Tode	Press ⇨ to select <u>Value</u> Change to 1F24 (RC1 – Address) Press SET	Press ⇨ again for Next-Tode See #2.1.1.Turn the Power ON for screen order.
		

- ✓ If the Add Tode was successful it will have a screen for it. If there is no Screen for it try to Add it again closer to the other RC.
 - **Add Tode** gets the Name and Devices from it's Target Tode as Configured.
 - Once Successful use **GET** to retrieve Remote Tode's Device Readings or Select a Devices Value and **SET**

4. Deleting Todes & Devices

As of this writing the firmware only allows the 'Reset' option which will erase all Todes and Devices. You will have to re-configure from the beginning to erase a Device or Tode.

Reset is the last item on the **SETUP** menu – Set the Value to YES and press **SET**

NOTE; The four digits after 'Reset' on the menu is the current firmware version. As shown above the Tode has firmware version 21BH loaded on it.