How To:
Connect an RTS Intercom to TallyMan

Version History

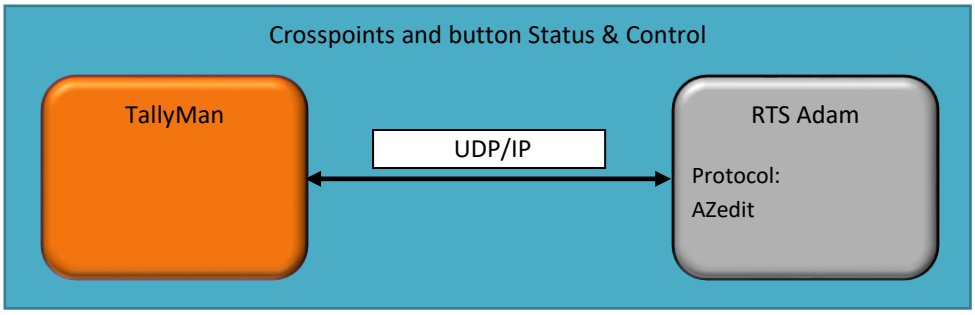
Issue	Date	Change Details
1	28/09/21	First Issue

Contents

Overview

Functions

- Crosspoints: read and control
  - Commonly used for routing audio using the frames additional IO. For communications additional setup will be required in the RTS to open mics etc.
- Keys: read and control Key states
  - Key reading and control are typically used to interact with UPL statements.
    - By having a UPL statement turn a key on or off, TallyMan can be notified of the change and use this as a trigger for its own logic.
    - By having TallyMan turn a key on or off, the key can be used to trigger UPL statements in the RTS Frame
  - Keys can be real keys on real panels or can be virtual and used just as a form of virtual GPIO over IP.
  - The ADAM frame will allow up to 127 Keys per port. A currently unused port can be configured such that the keys are available to TallyMan and UPL statements so for the loss of 1 port in the frame, 127 virtual GPIO can be created.



Comms

Protocol

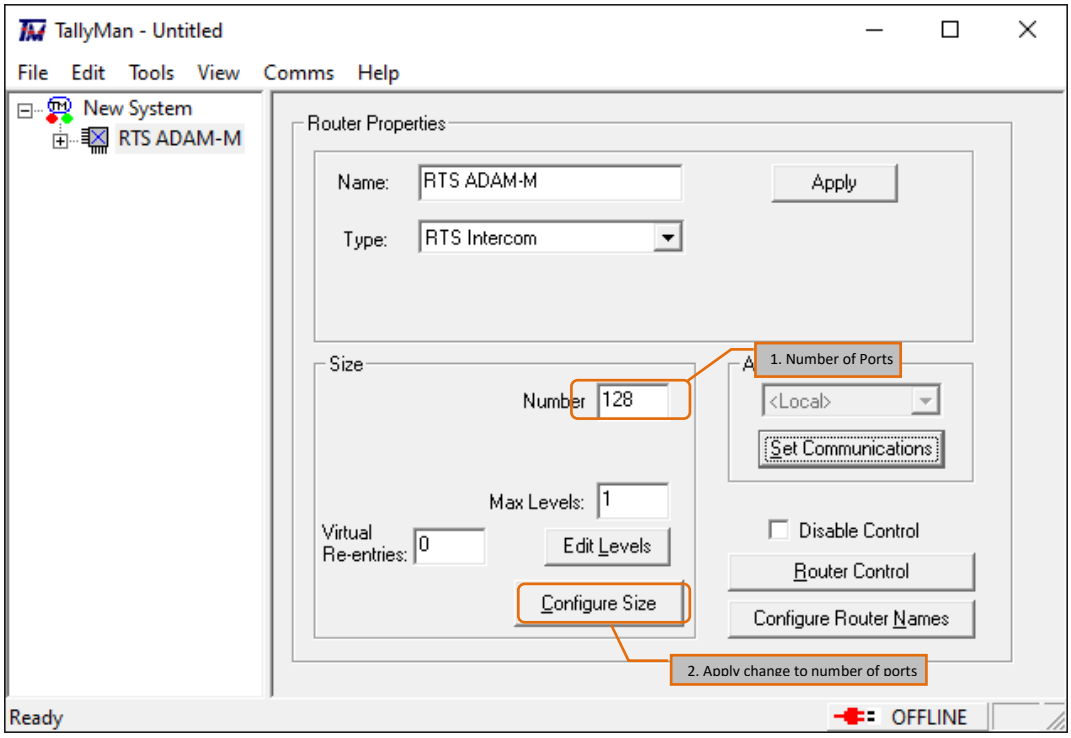
- Official protocol name: AZedit Protocol
- Protocol name in TallyMan: RTS Intercom

Connection

- Comms: UDP/IP
- Default Port: 27410
- Component Type in TallyMan: Router
- Third party interface required: None

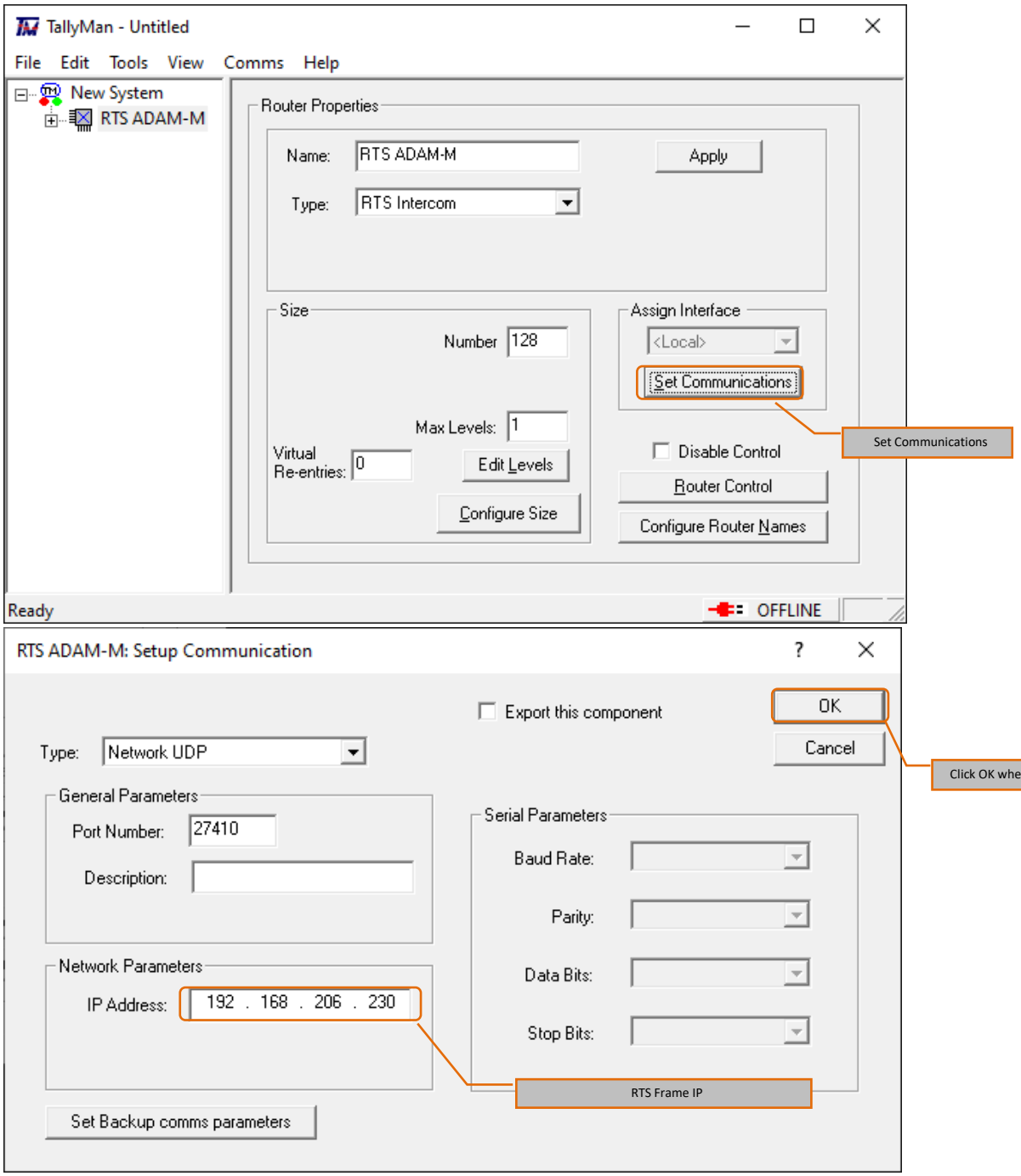
Connect to the frame (includes crosspoint control)

1. Add a router component in TallyMan and set it up as per the screenshots below.
2. Set the number of ports to match the frame, or the ports you are interested in.



TallyMan always starts from the first port but if you are not interested in crosspoint status and control of all the ports it can be advantageous to limit the number to the highest numbered port you are interested in. AZedit protocol is not asynchronous (it only provides data when requested) so must be polled for crosspoint data. Reducing the number of ports monitored will improve the update speed.

3. Set the Communications



TallyMan connects to Intercom frame's IP address

4. Write the configuration to the TallyMan system

   The system will now connect to the RTS Intercom and monitor crosspoints, control can be configured as per any router connected to TallyMan using software and hardware control panels and events.

   By connecting to the TallyMan system, you can see the current crosspoints in the destinations list of the RTS ADAM-M component.

   If you do not require Keys, setup is complete

Keys – RTS Frame Initial Setup

Keys in the RTS system are managed by the frame. The frame only monitors and controls Keys that are currently being used by the system.

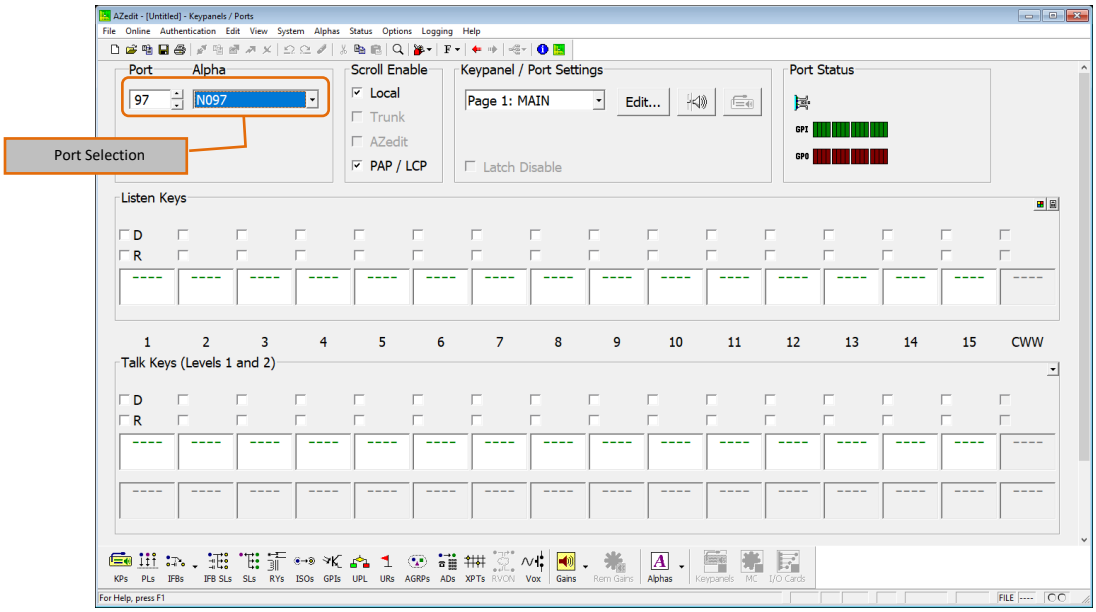
Real Keys (Keys that exist on a real panel and are on a page that is actively shown when control is needed) no further setup is required and you can proceed to the next step: Keys - TallyMan Initial Setup.

Virtual Keys (Virtual GPIO) (Keys that only exist virtually, TallyMan will monitor and control these to act as virtual GPIO). To enable this functionality some setup is required in the RTS Frame using the AZedit software.

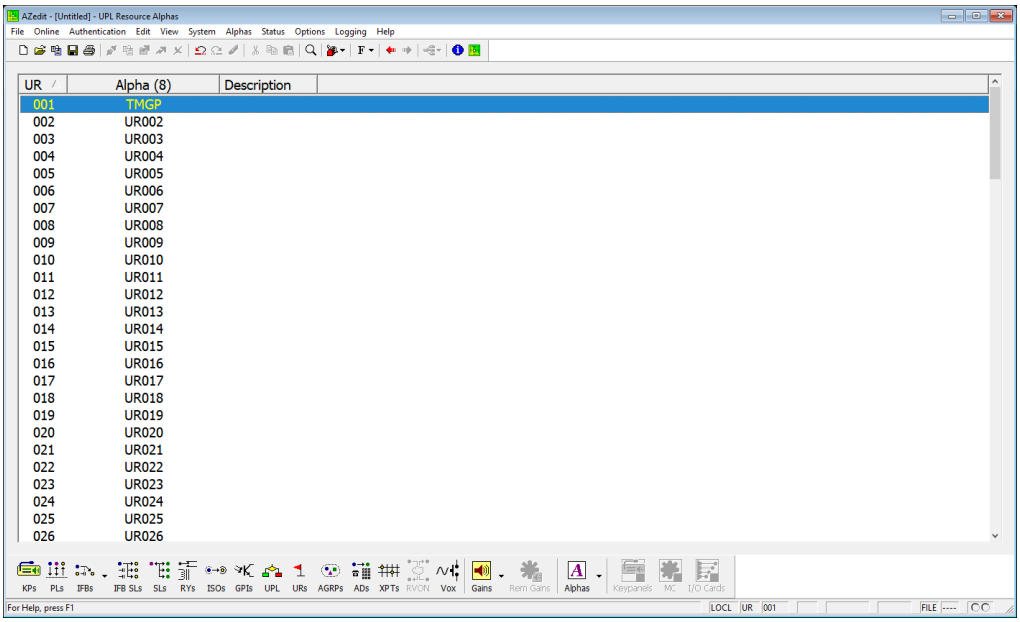
Adding 127 Virtual Keys to the RTS system

Setting up the first 15 virtual Keys

1. Choose a port that isn't currently in use. In this example I will be using port 97. This port is currently empty and there is no real panel assigned to it.

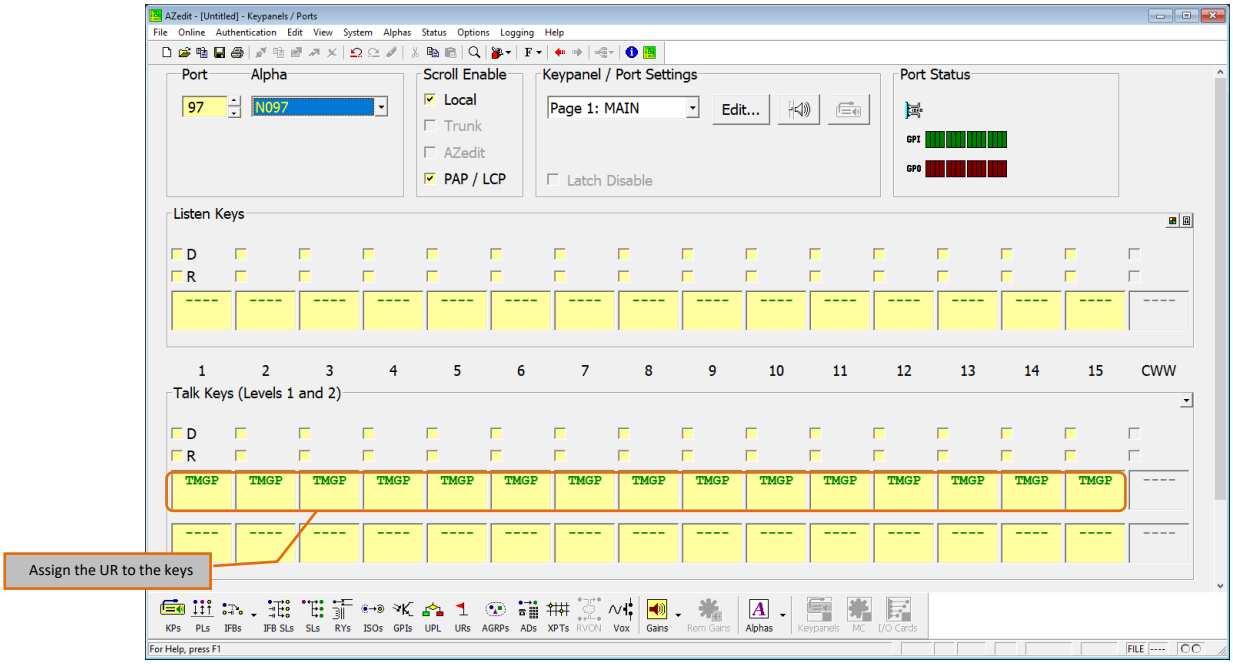


2. To force the RTS system to monitor and calculate the states of these keys they must have an assignment, we can use an unused UPL Resource (UR) to do this.
   I have renamed UR1 to “TMGP”
   (In the navigation bar go to Alphas->UPL Resource, in the list double-click on a resource and name it).
   We only need 1 UR for this purpose, it will be assigned to all the Keys and used purely to cause the frame to calculate the Key states for this port.



3. Go back to the to the Keypanel setup using the KPs button 

and set the assignment of each Talk key to the UR specified (in this example UR1 “TMGP”)



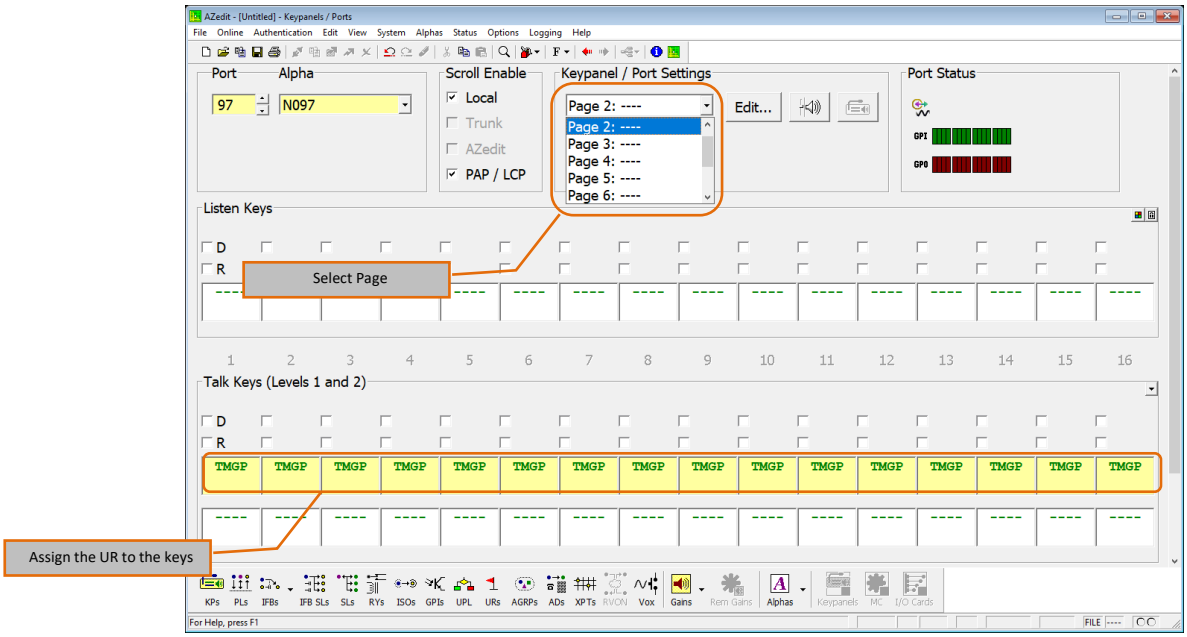
These 15 keys are now ready to be controlled and monitored from TallyMan. Key 16 on the first page is reserved and won’t be used.

4. Push these configuration changes to the frame.

Setting up the rest of the virtual Keys (up to 127 per port)

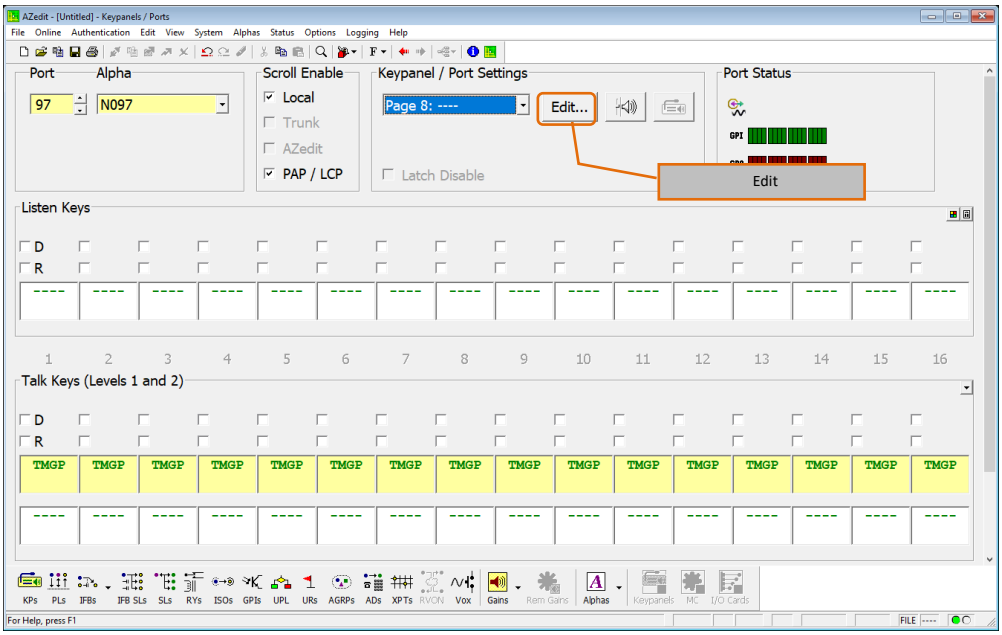
To setup more than the first 15 keys we must configure the other pages of this port.

1. Navigate to page 2

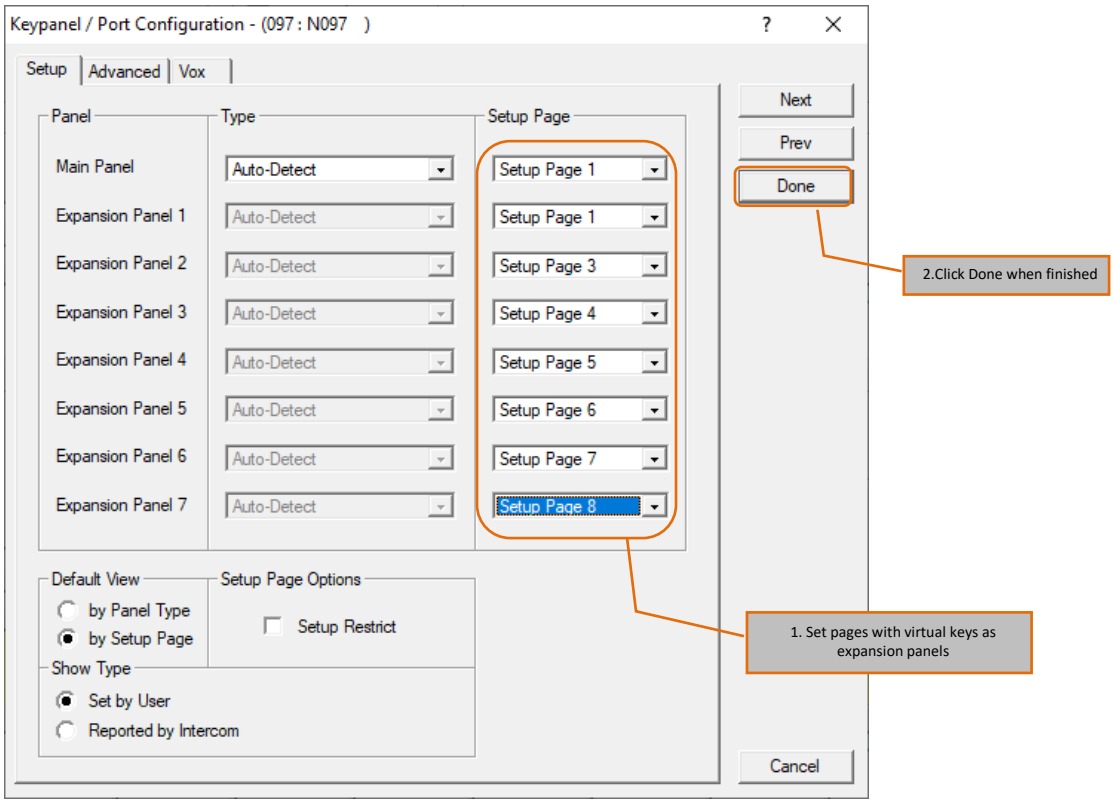


2. Repeat for the other pages until enough keys have been configured. Only 8 pages maximum can be used per port.

3. Once enough keys have been configured, we must force the frame to calculate the key states for these other pages (the frame will only calculate keys that are on an active page).
   Click the "Edit…" button to open the Keypanel/Port configuration



4. We will inform the frame that all the pages we are using are being actively shown on expansion panels. Up to 8 pages can be set to be in use by expansion panels. In this example I have specified all 8.

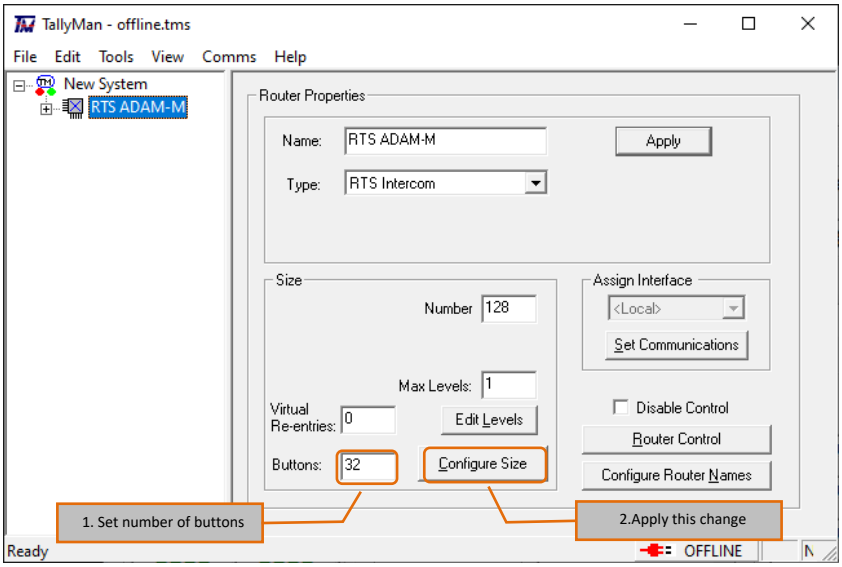


5. Push these configuration changes to the frame.

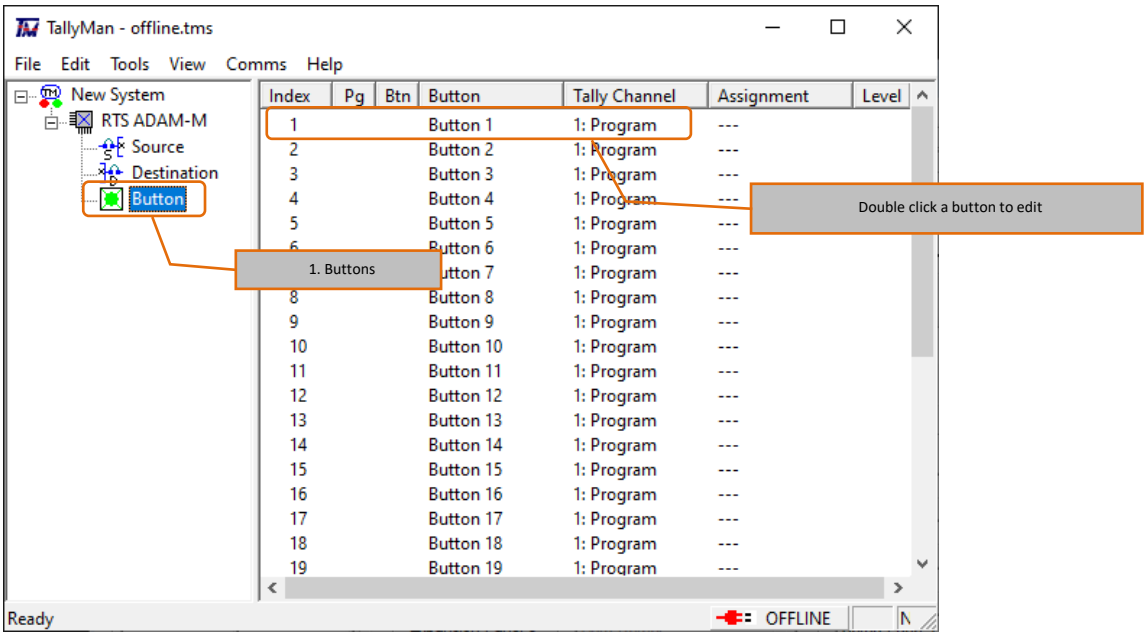
Keys – TallyMan Initial Setup

Adding keys in The TallyMan's RTS interface.

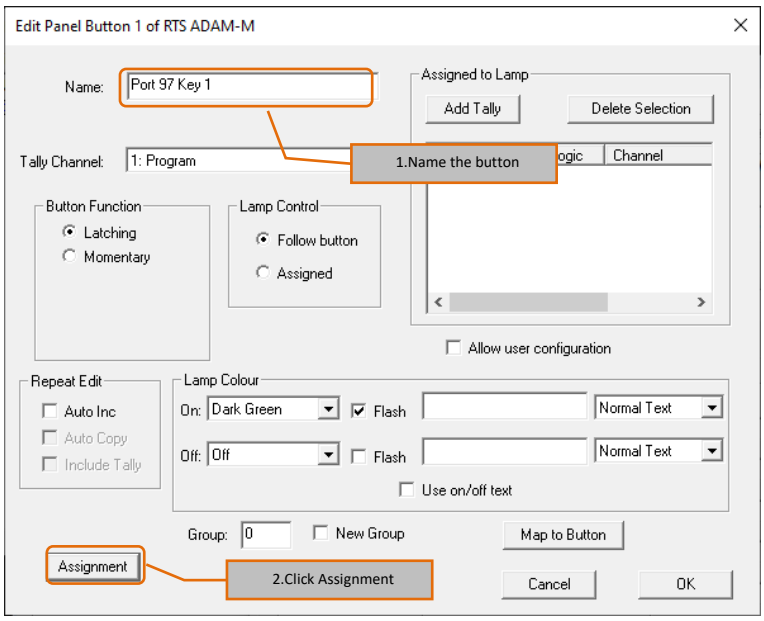
1. Set the number of buttons on the RTS Intercom component and hit 'Configure Size'.



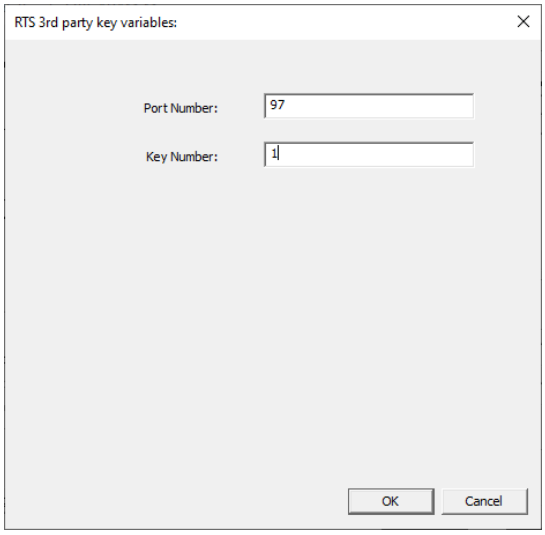
2. You will now have a set of buttons in the Tree. Click the button object in the tree then double click one of the buttons in the list to edit it.



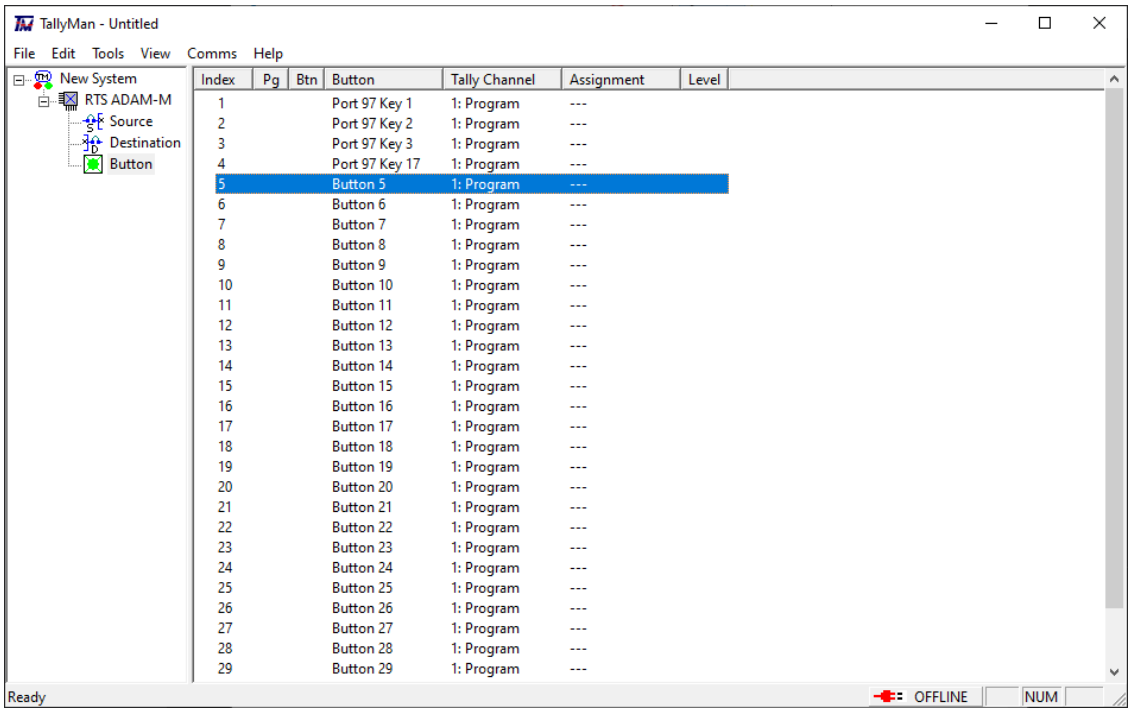
3. Each of these buttons can be any key in the RTS frame. To set the button in TallyMan to monitor/control a key in the RTS, name the button and click 'Assignment' to set the port and key numbers

4. 

Set the port and key number you wish to monitor/control. Then click ok in both windows to close them and apply the changes.



5. Repeat for the rest of the keys you wish to monitor/control.



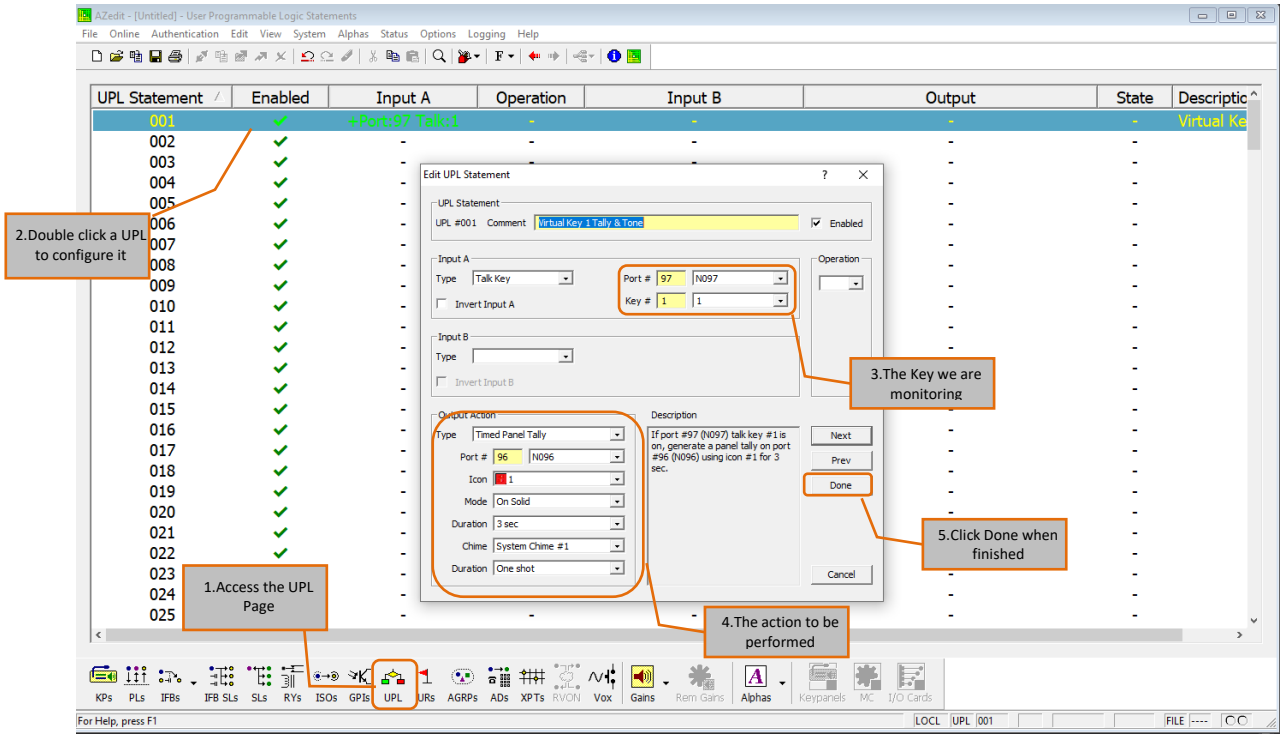
We can see here that the buttons are freely configurable, you can use any button to represent any key in the RTS system. In my examples below I will be using Port 97 - Key 1 (assigned to Button 1 in TallyMan) to send a trigger to the RTS and using Port 97 - Key 17 (Button 4 in TallyMan) to receive a trigger from the RTS.

Keys – Using TallyMan to trigger a UPL statement

1. Configure a UPL statement in the RTS with a key as an input.

1. Start by navigating to the UPLs screen 

2. Configure a UPL Statement using a key as a trigger.



In this case Key 1 of Port 97 has been specified as the trigger.

If TallyMan triggers a keypress for this button, it will trigger the specified action.

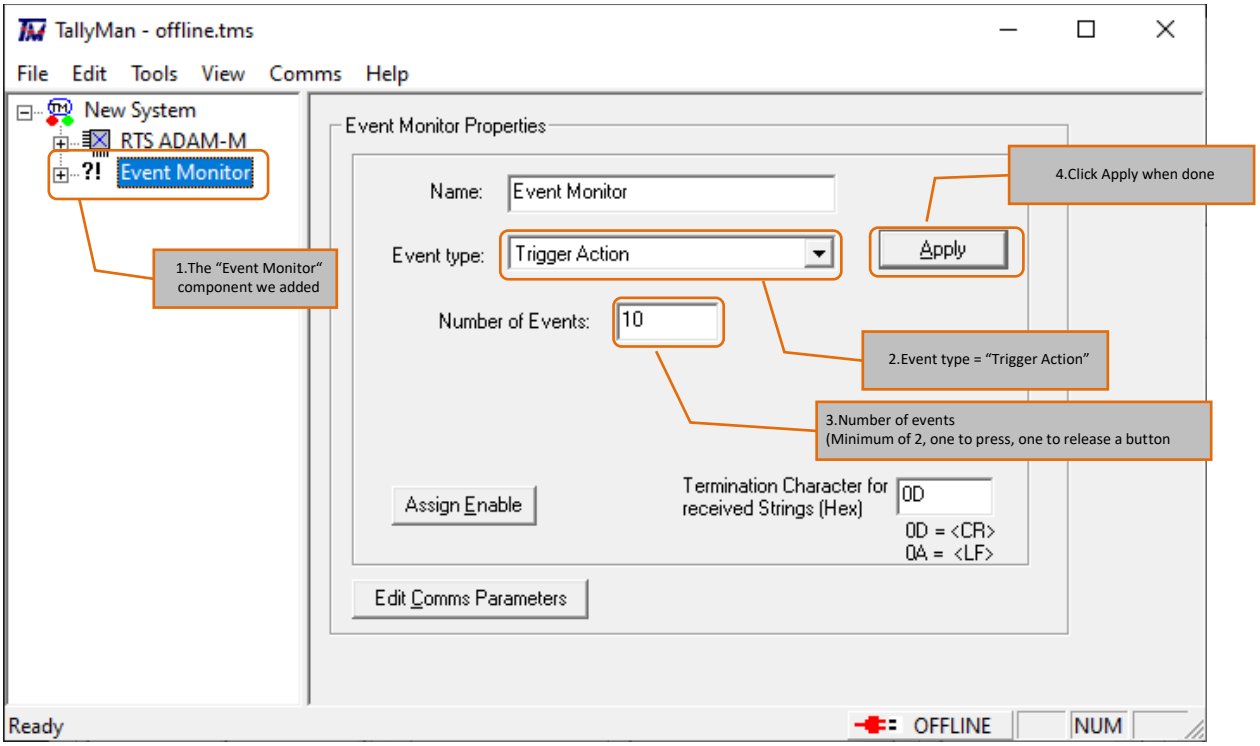
(Port 97 is the empty port we chose to use for our virtual keys in the RTS setup section above)

This UPL triggers an 'On Air' Icon to appear on one of our real RTS panels (panel 96) and causes it to play a chime.

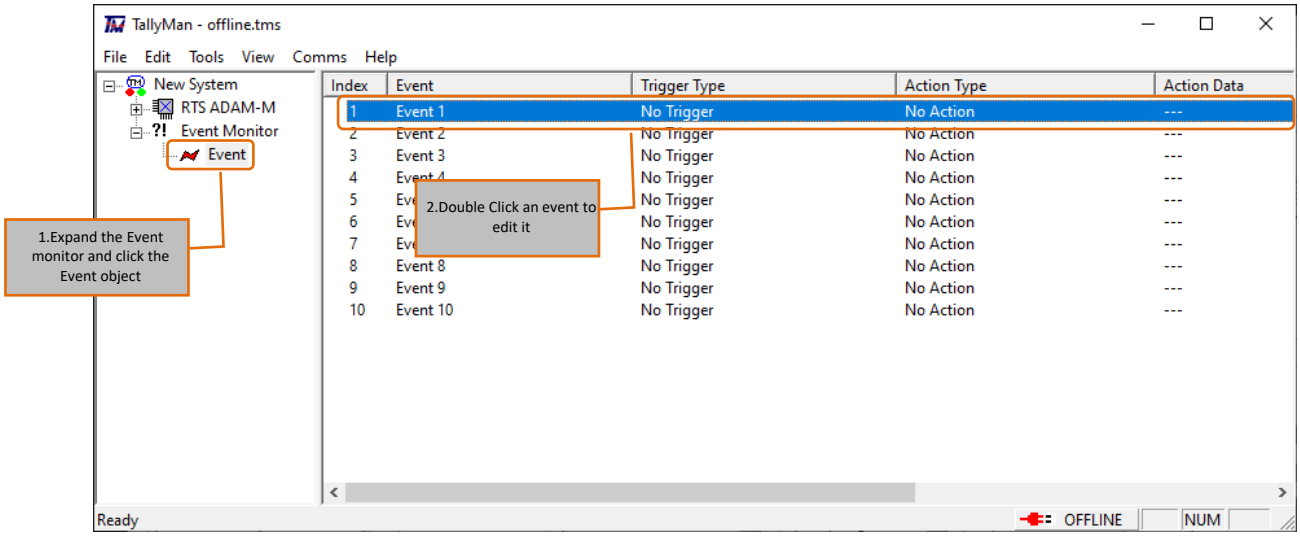
3. *Push these changes to the frame*

2. Configure an Event in TallyMan to press and release the Key

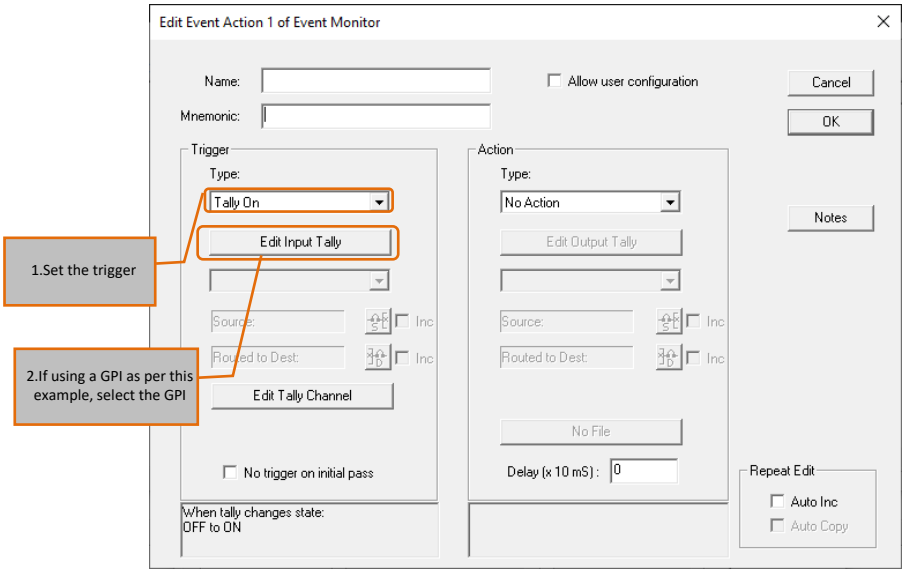
1. Add an Event Monitor Component in the TallyMan configuration
2. Set the type to “Trigger Action”
3. Set the number of Events (I have set 10 here, 2 are needed to press and release a button and I have set more for future use)

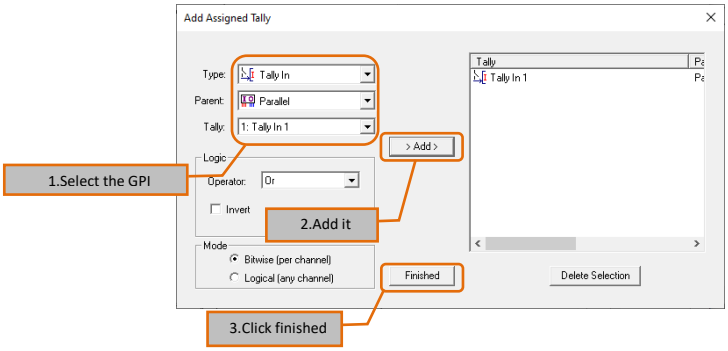


4. Begin configuring the events by expanding the Event Monitor and clicking “Events” to show the Event list.
5. Double click the first event to edit it

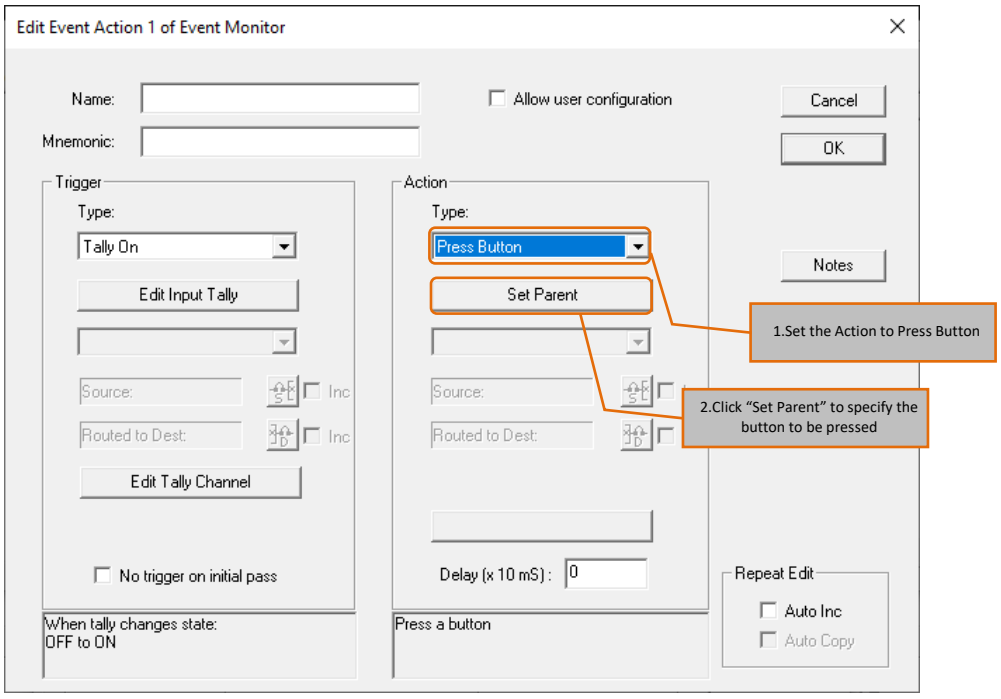


6. The Edit Event window will open
7. Set the trigger to whatever you want to use to trigger the button press.
   In this case I will use a GPI on the TallyMan

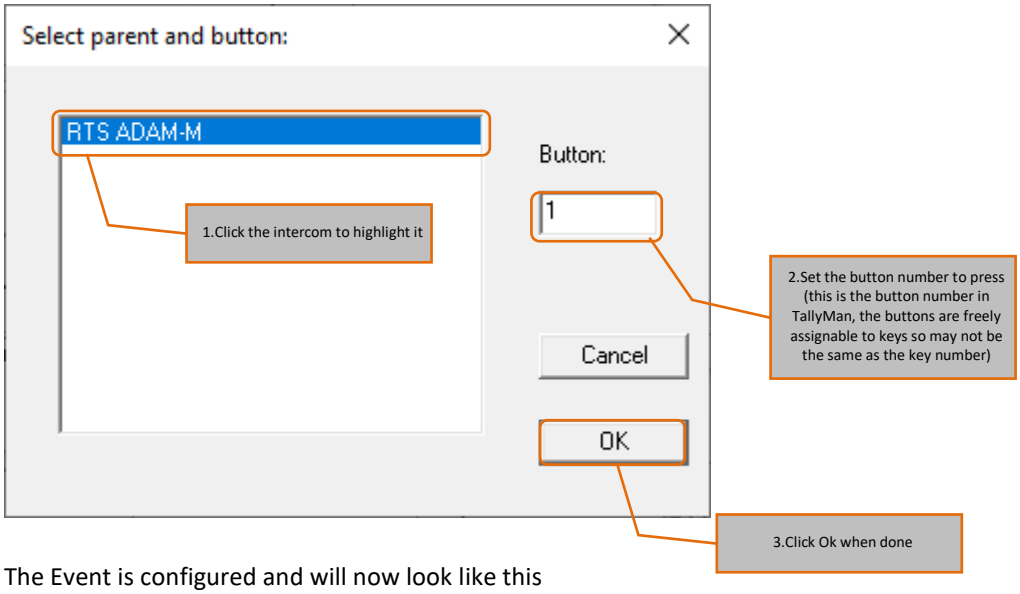




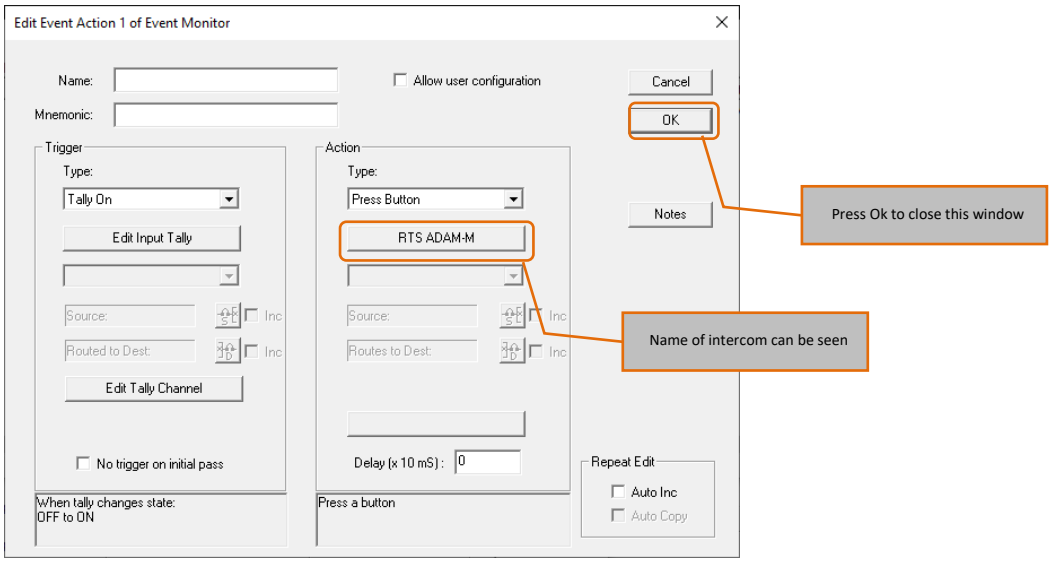
8. Set the Action to “Press Button”



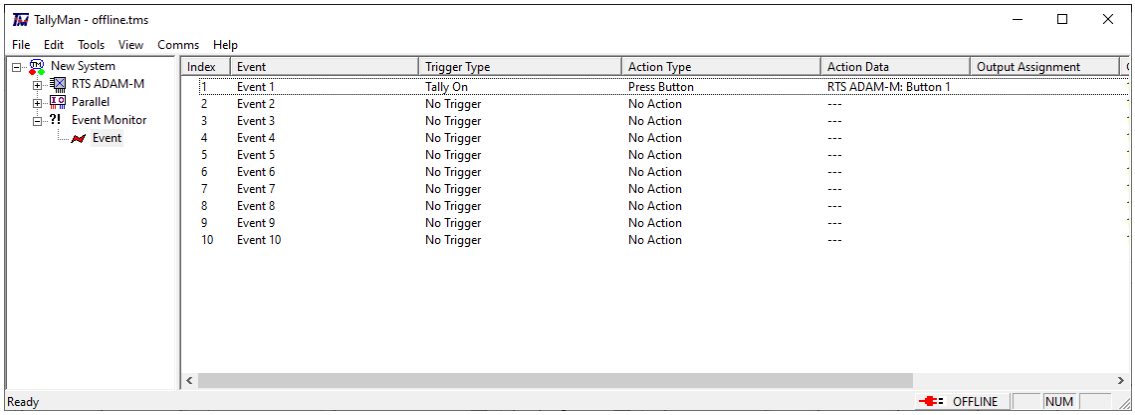
9. Set the button to press



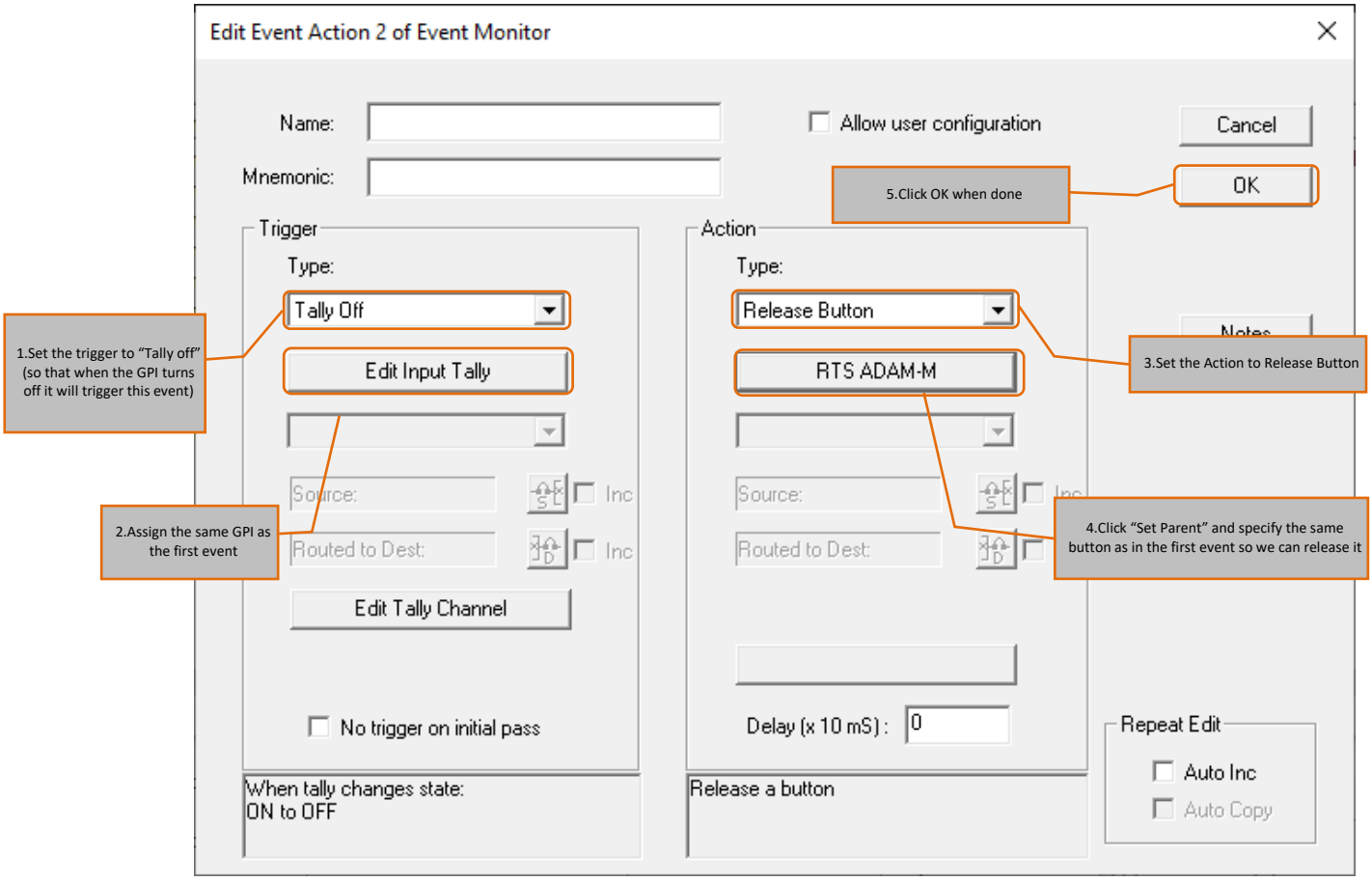
10. The Event is configured and will now look like this



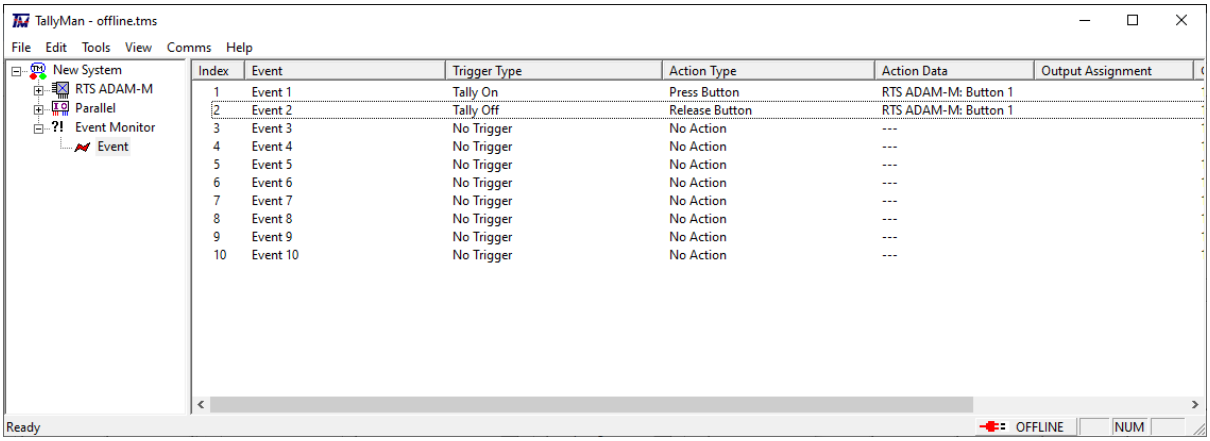
11. After clicking OK you will return to the events list and will be able to see the setup of the first event



12. Now that we have an event to press the button we will also need to be able to release it so that it can be pressed again next time. Double click the second event in the list to open the Edit Event window and begin configuring it.



13. You will now return to the Events list and see the 2 events configured

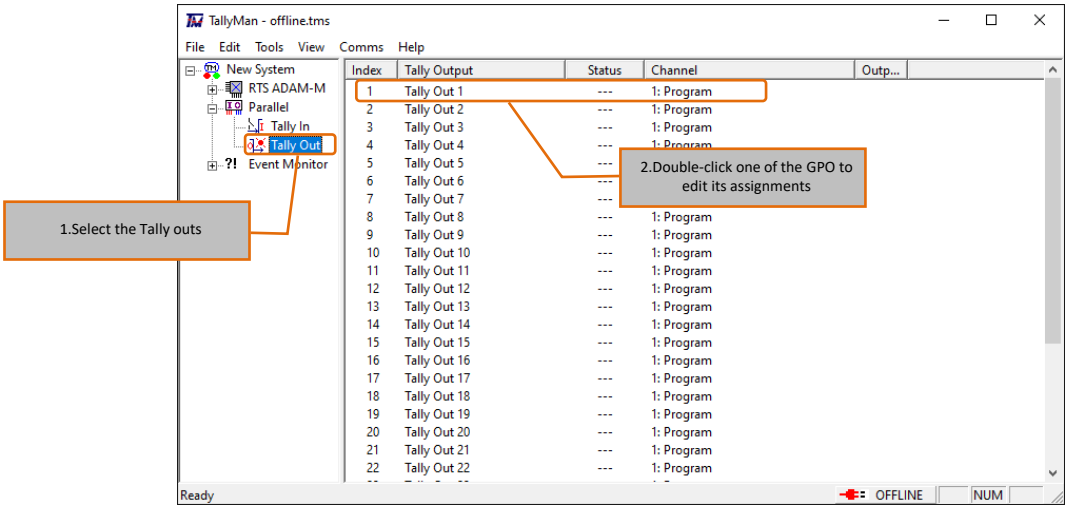


14. Write this configuration to the TallyMan system.
15. You can now test this functionality by triggering GPI1 on the TallyMan system (this can be done virtually with Tally Mimic while online). This will press the key in the RTS system and trigger the UPL statement defined in the previous section.

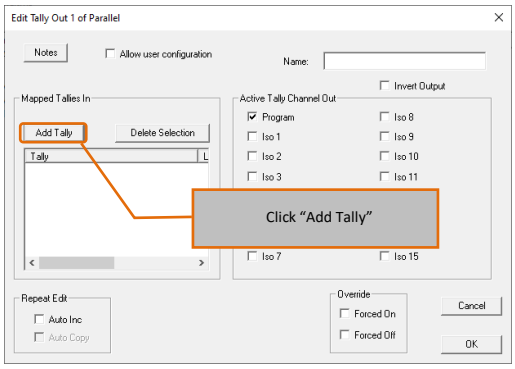
Keys – Using a Key as a Trigger in TallyMan

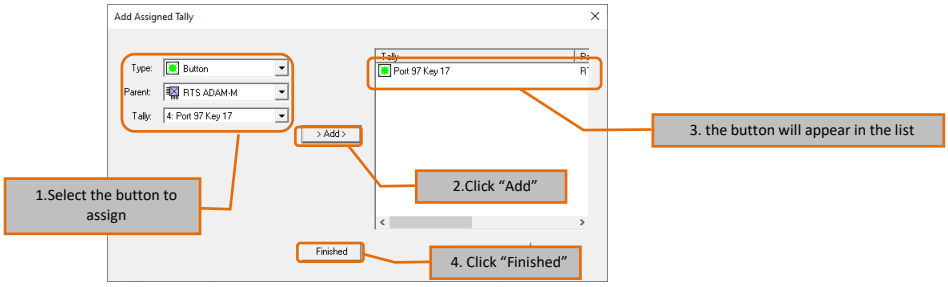
The button on/off state can be used as a trigger for many things in TallyMan exactly as if it was a button on a TallyMan Control Panel, in this example we will control a GPO.

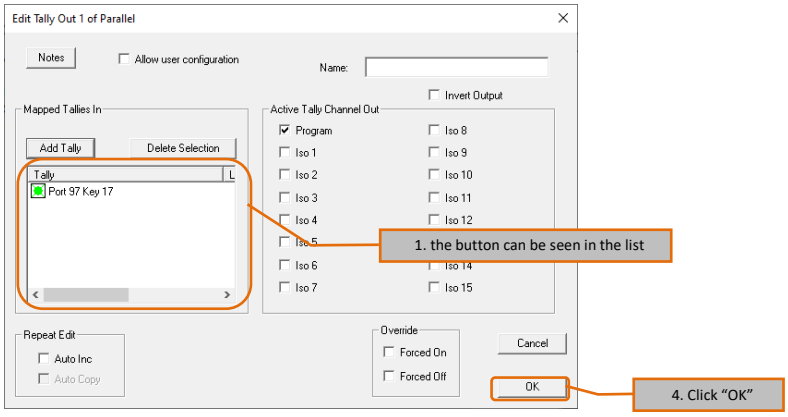
1. Navigate to the physical GPO of the TallyMan and open a GPO to edit it's assignments.



2. Add the button we wish the GPO to follow into the "Mapped Tallies in"







3. If you are using real buttons then this configuration can be written to the TallyMan and tested. If you are using virtual buttons (configured as shown in the Keys -RTS Frame Initial Setup section) then you will need to virtually press these buttons using UPL statements in the RTS frame, this is explained in the next section.

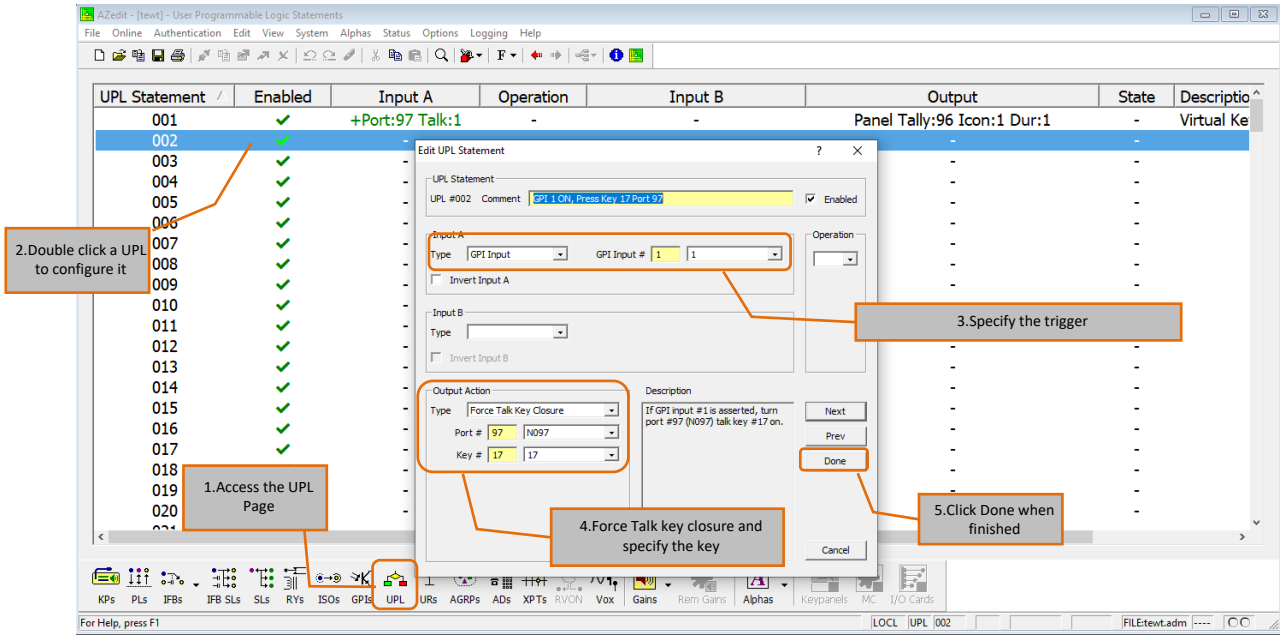
Keys – Using UPL Statements to control virtual Keys.

To control a virtual key with UPL statements, we will need 2 UPL statements, one to press the key and one to release it.

In this example we will use a GPI on the frame to control the virtual key state.

1. Start by navigating to the UPLs screen 

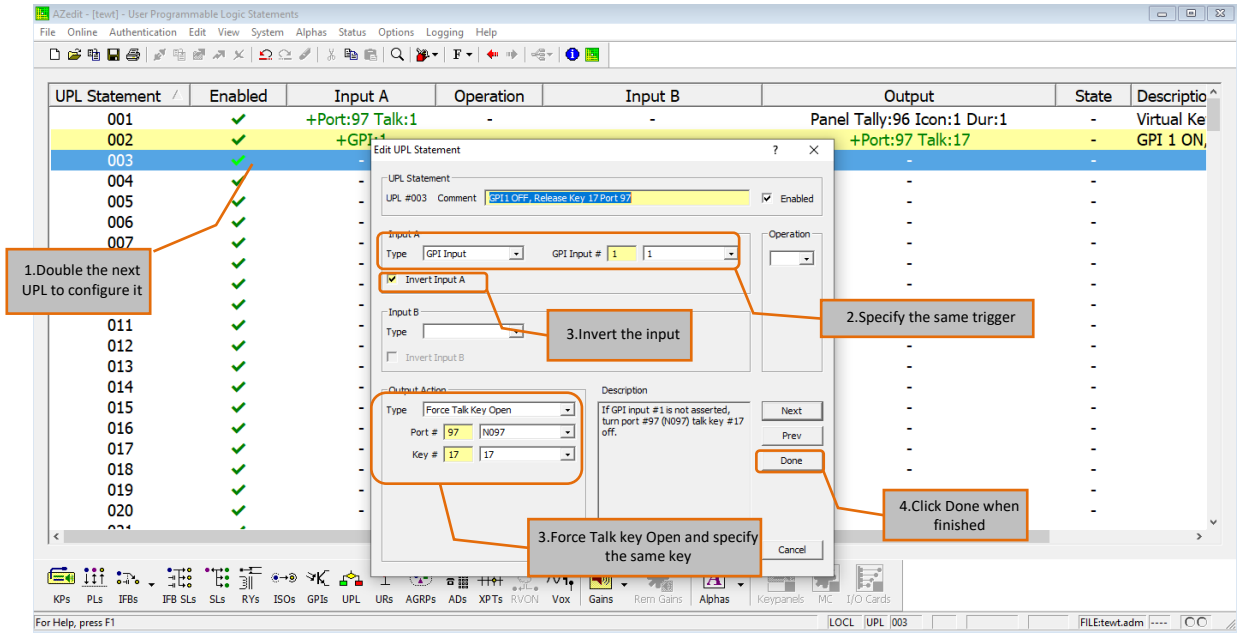
2. Configure a UPL Statement to Press the Key when the GPI turns ON.



We now have a UPL Statement to press the key when GPI 1 is ON

For correct operation we also need to release the Key when GPI1 turns off again.

3. Configure a UPL Statement to release the key when the GPI turns OFF



4. This can now be pushed to the frame and tested