Portable Radio Programming Procedure

This document describes how-to program a TP9400 Tait Radio with all necessary radio frequencies, channels, and zones (as needed) for monitoring and transmission on two-way radio systems.

WARNING: DO NOT TRANSMIT ON ANY FREQUENCIES WITHOUT PRIOR AUTHORIZATION FROM THE LICENSEE. MAKE SURE TO OBTAIN PROPER PERMISSIONS FROM PUBLIC SAFETY AGENCIES BEFORE ANY TESTING THAT REQUIRES TRANSMISSION FROM A PORTABLE RADIO.

Sub-Procedures:

1. Installing Tait Programming Application Software (APCO)
2. Setting the correct COM Port
3. Downloading current radio settings (Read Function) **CRITICAL**
4. Setting Zones (incl. Test Zone)
5. Setting Channels (incl. Test Channels)
6. Writing final radio settings (Program Function)

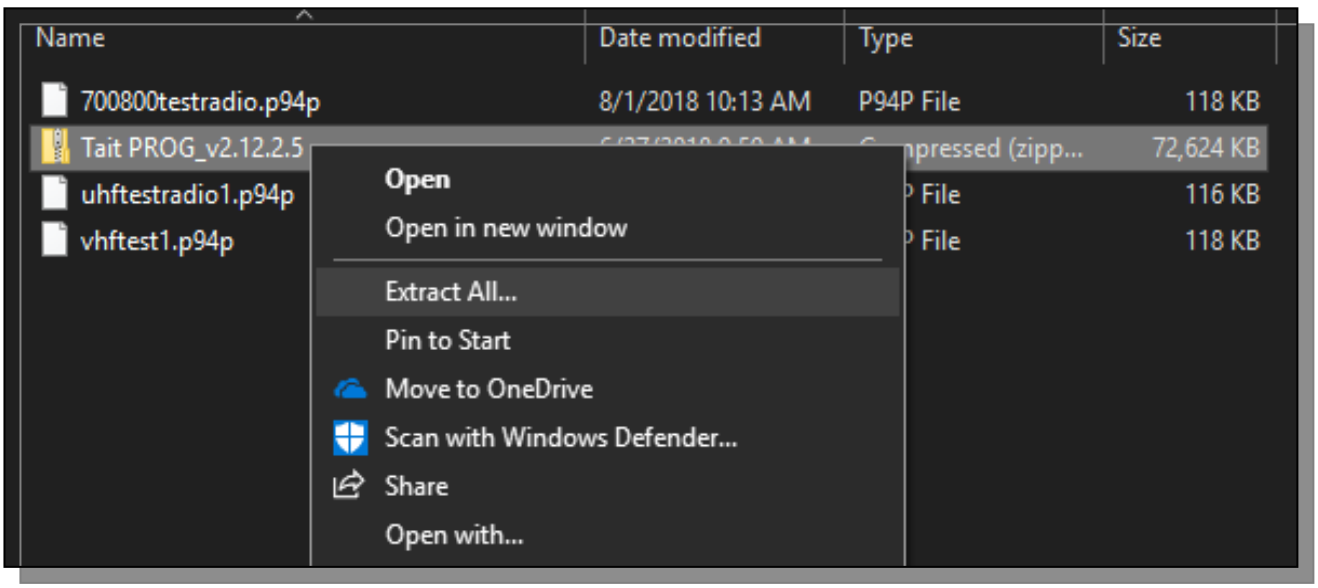
Requirement(s):

- TP9400 Tait Radio
- Tait Programming Cable
- Tait Programming Application (APCO)
- Windows PC

Note: **Bold, green text** indicates a selection on either the computer software or portable radio.

1. Installing Tait Programming Application (APCO)

To access the software application (located within the RSI-supplied USB drive), right-click the zip file, titled "Tait PROG_[version]", and then select **Extract All...**



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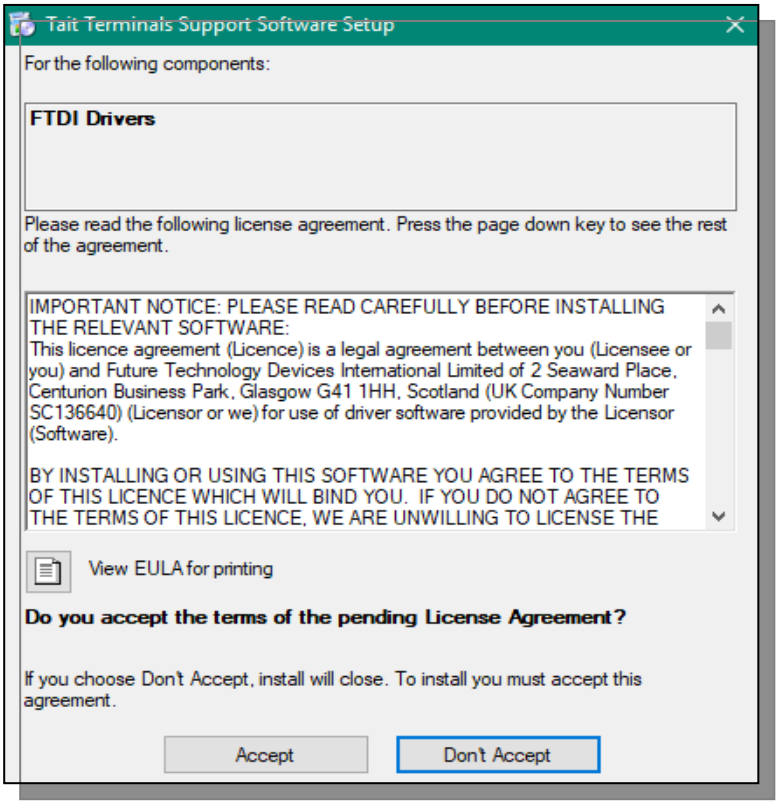
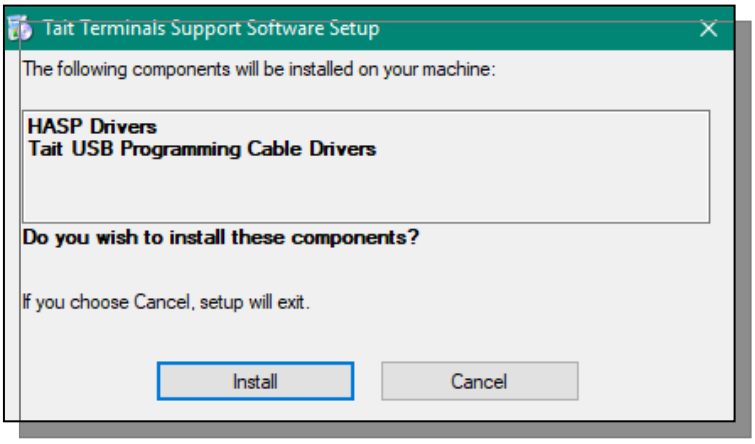
This will prompt the Tait Terminals Support Software Setup. Press the **Accept** button to allow Tait Terminals Support Software Setup to continue installing FTDI Drivers (per the terms of the pending License Agreement shown).



Press the **Install** button to allow Tait Terminals Support Software Setup to continue installing HASP Drivers and Tait USB Programming Cable Drivers.



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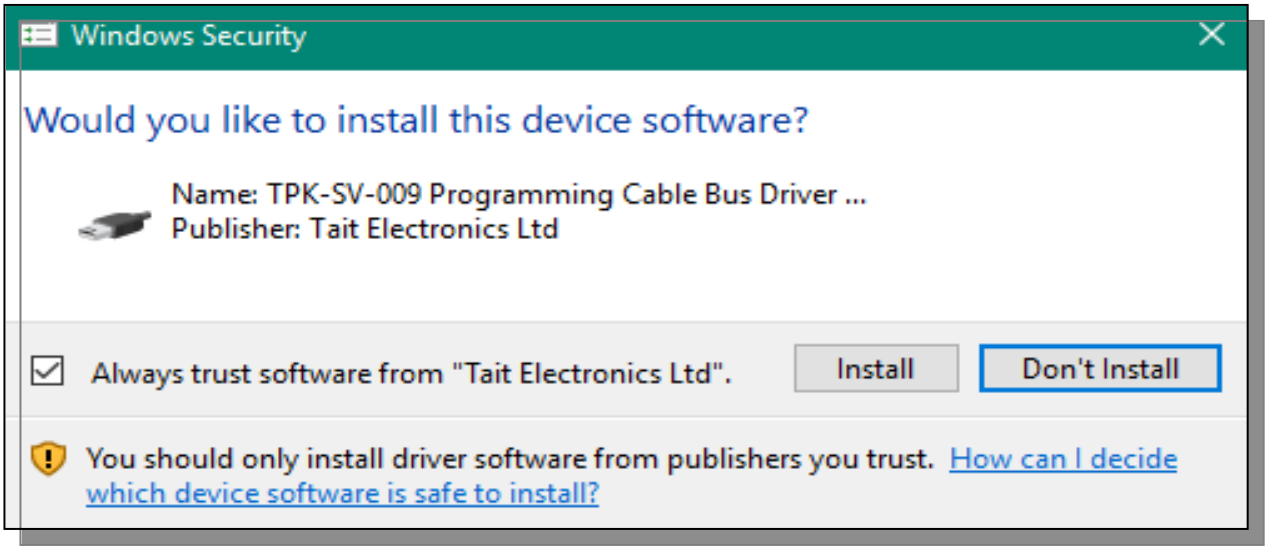
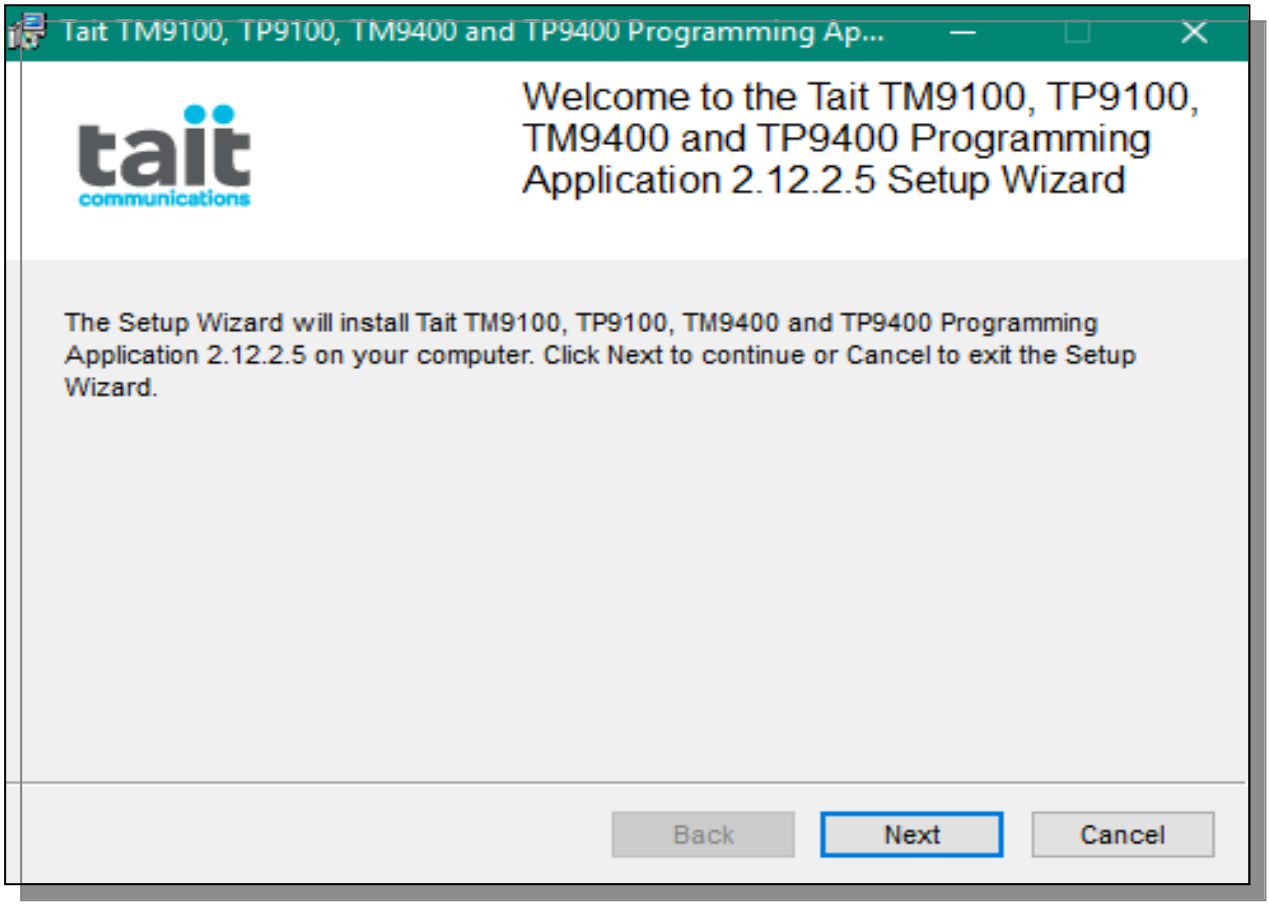
Note: Windows Control may prompt additional dialog boxes confirming the installation of these drivers, depending upon the Windows OS version and/or personalized security settings utilized.



Upon selecting **Install** / **Accept** / **OK**, the Setup Wizard will automatically open.



Select the **Next** button to continue.

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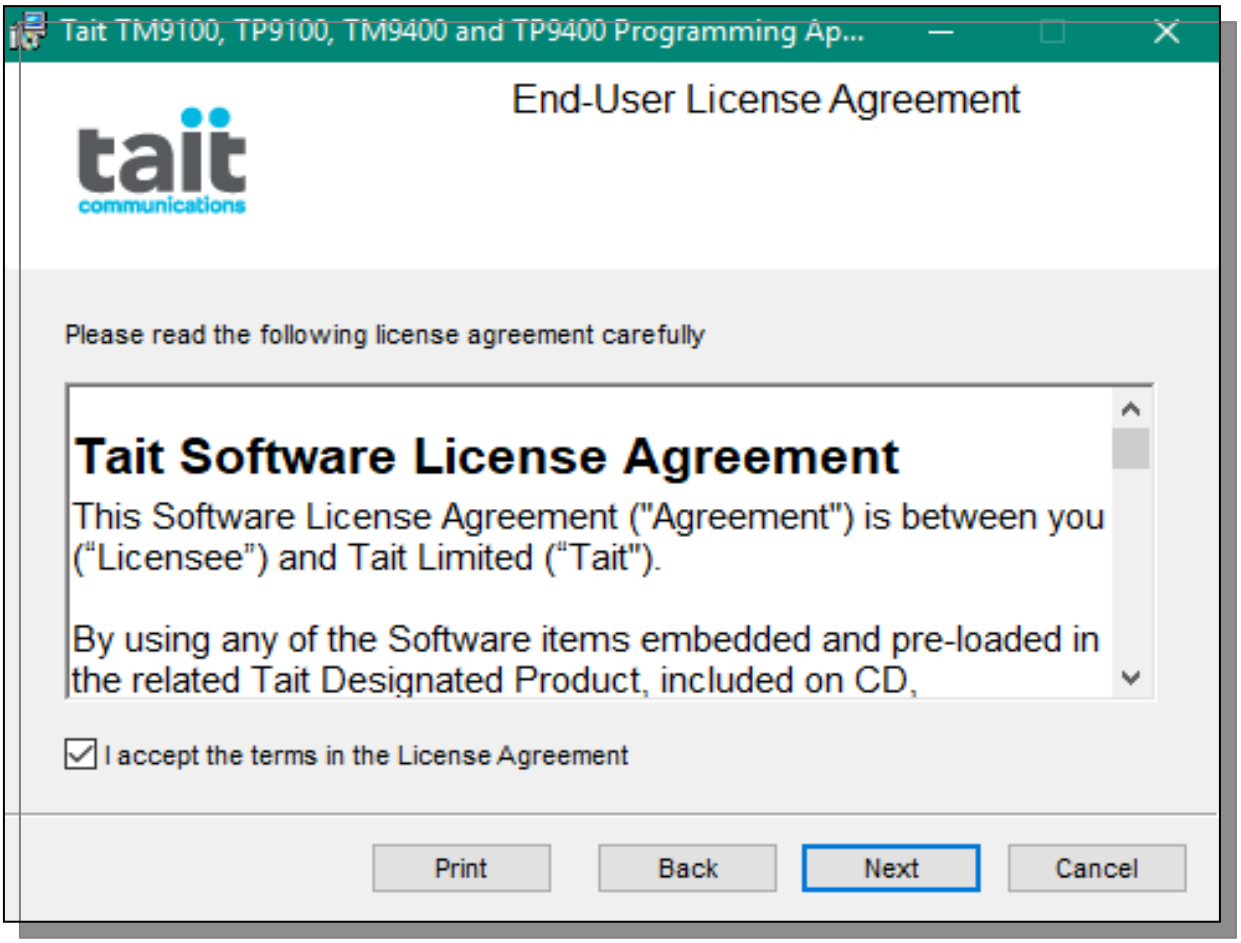
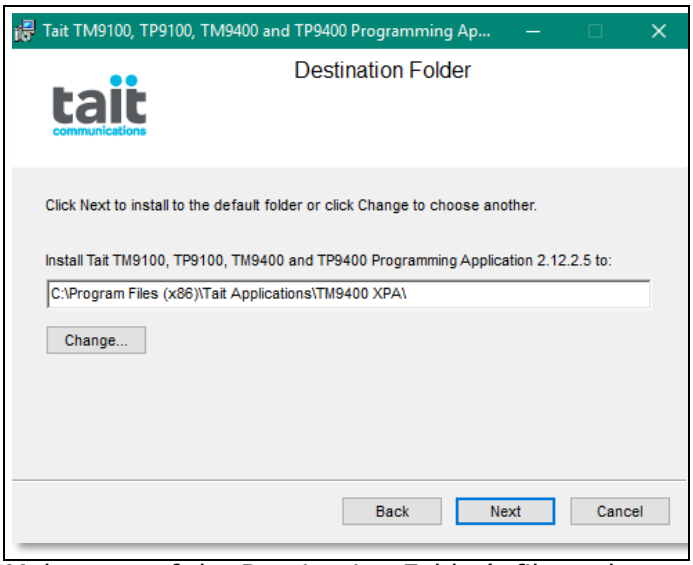
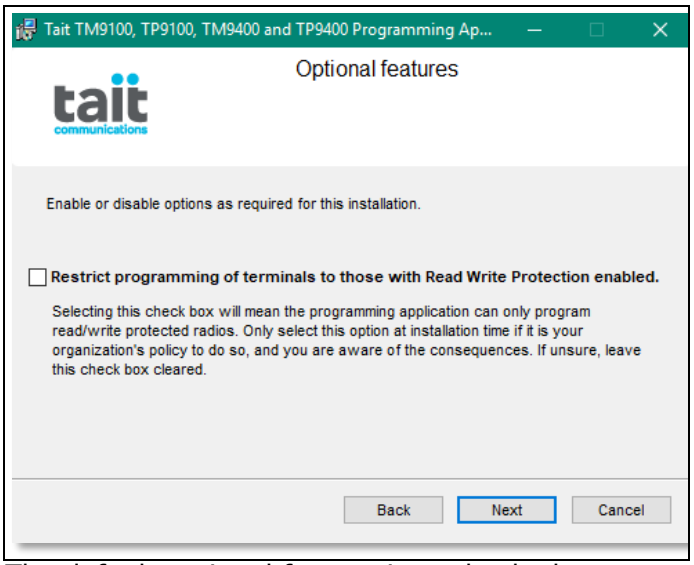
Click the **checkbox** to accept the terms in the End-User License Agreement for Tait Communications. Then select the **Next** button.



Select the preferred Destination Folder and Optional Features as shown below. It is recommended to use the default settings for installation.



Make note of the Destination Folder's file path.



The default optional feature is unchecked.

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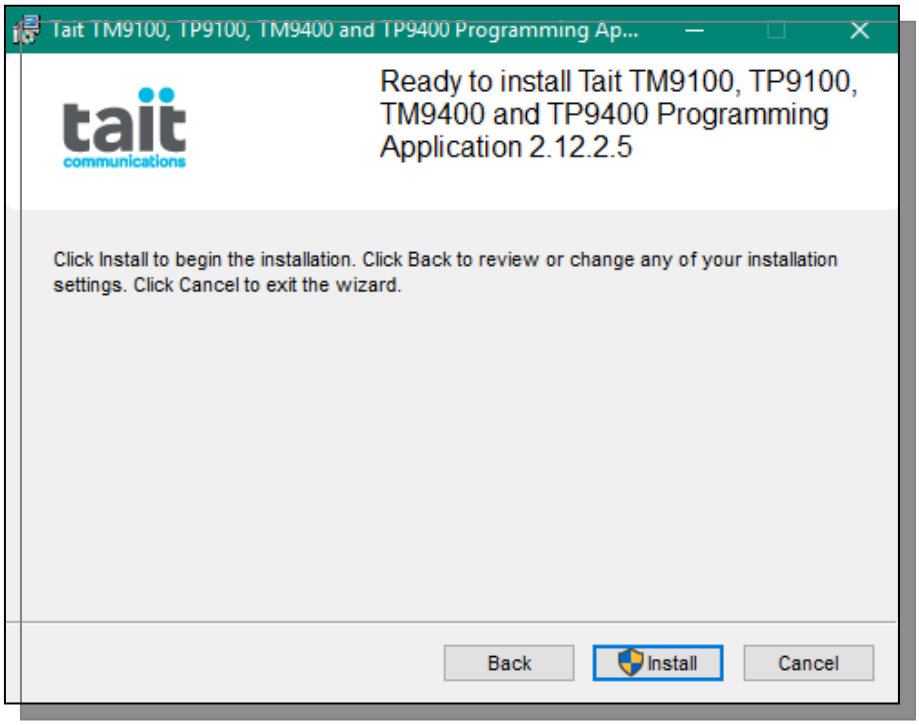
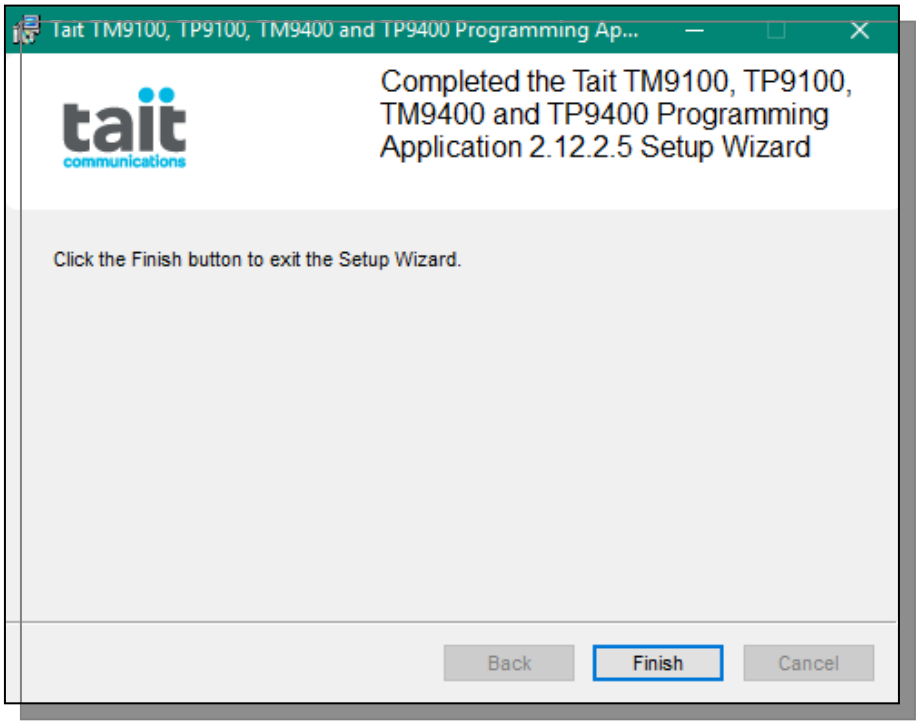
Click the **Install** button, then the **Finish** button to complete installation.





Note: Windows Control may prompt additional dialog boxes confirming the installation of these drivers, depending upon the Windows OS version and/or personalized security settings utilized.

The Tait Programming application should automatically open. If not, refer to the Destination Folder's file path noted from the previous step to manually locate and open the program.

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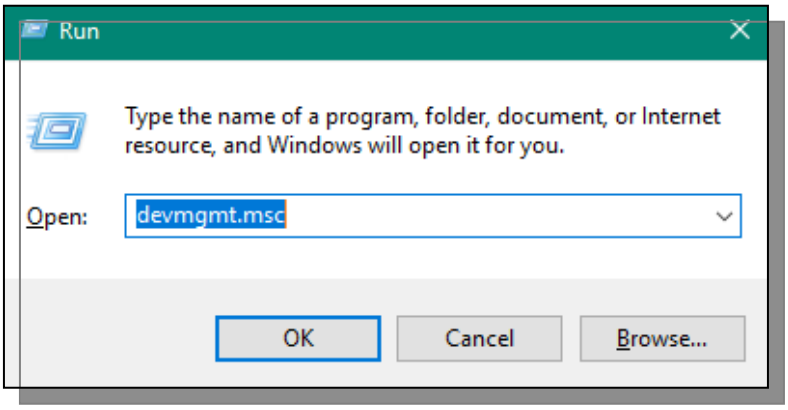
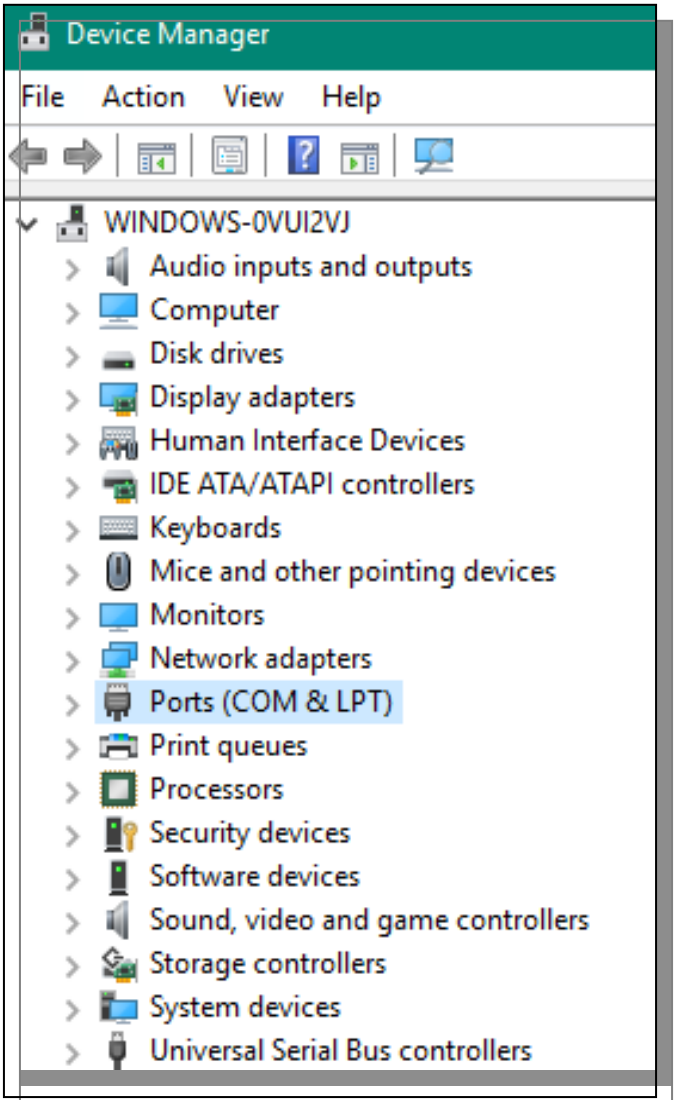
2. Setting the Correct COM Port

Upon successfully installing the software onto a Windows PC, press the ⊞ and R keys to prompt Run. Enter *devmgmt.msc* into the dialog box, then select **OK**.



This will open the Device Manager.



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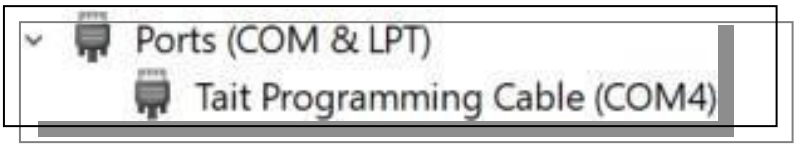
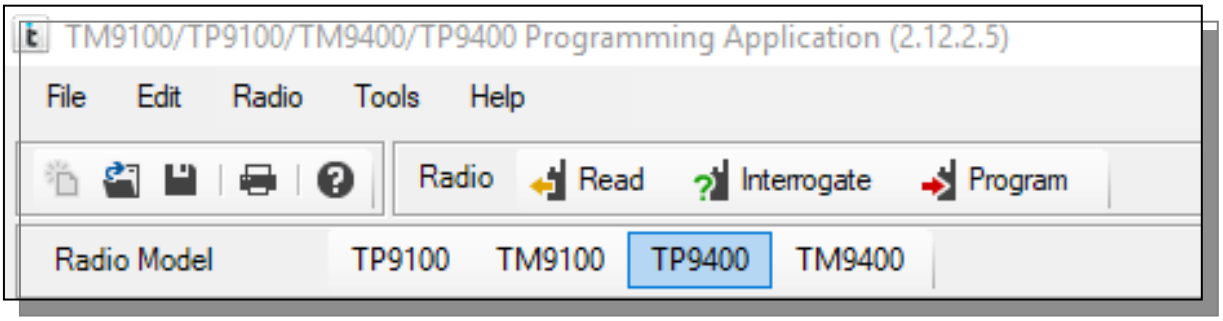
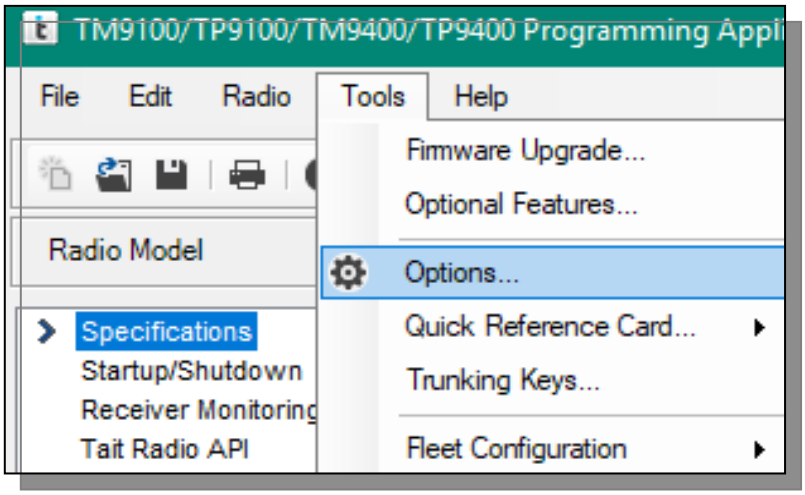
Locate Ports (COM & LPT) to determine the port number assigned to the Tait Programming Cable. For example, the below figure shows the assignment (COM4).



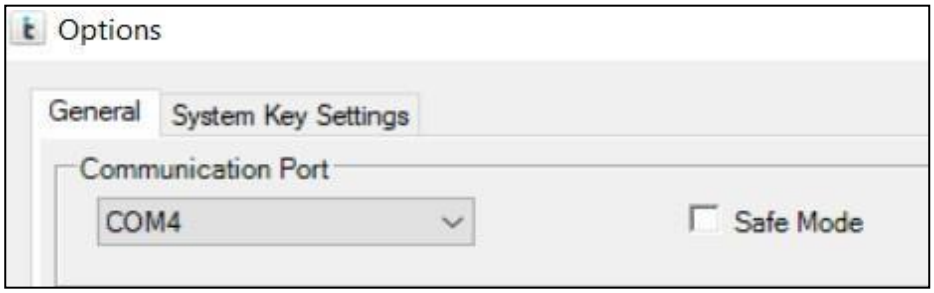
Go back to the Tait Programming Application (if not already open) and select the applicable Radio Model from the available tabs:



Navigate through the following menu path:
Tools > Options > General (tab) > Communication Port (section)



From there, select the assigned port number in the drop-down menu, same as it appears within the Device Manager (i.e. COM4). Click **OK** once selected.



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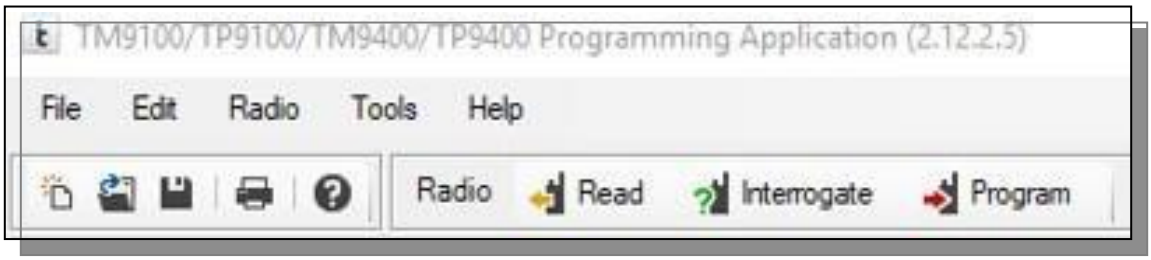
3. Downloading Current Radio Settings (Read Function)

WARNING: Failing to perform this function will result in the loss of existing programming. *DO NOT SKIP THIS STEP!*

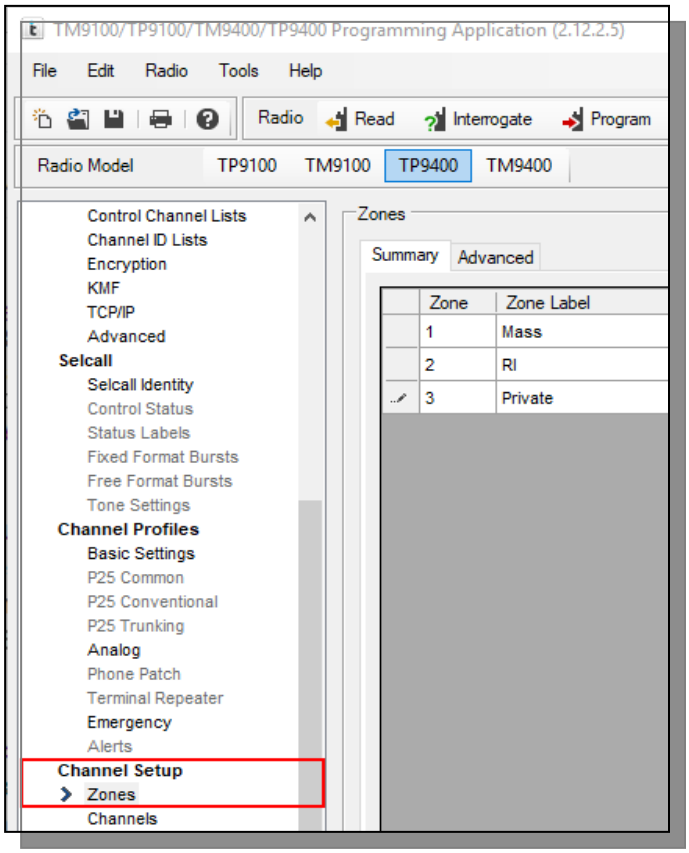
Connect the radio to the programming cable, then press the **Read** button on the main screen (CTRL + R).



This will download any existing programming onto the radio, which will eliminate the need to re-enter any preset frequencies.

4. Setting Zones

From the main screen, refer to the left-side menu and then scroll down to the Channel Setup section. Select Zones to prompt the Summary tab on the right-hand side.



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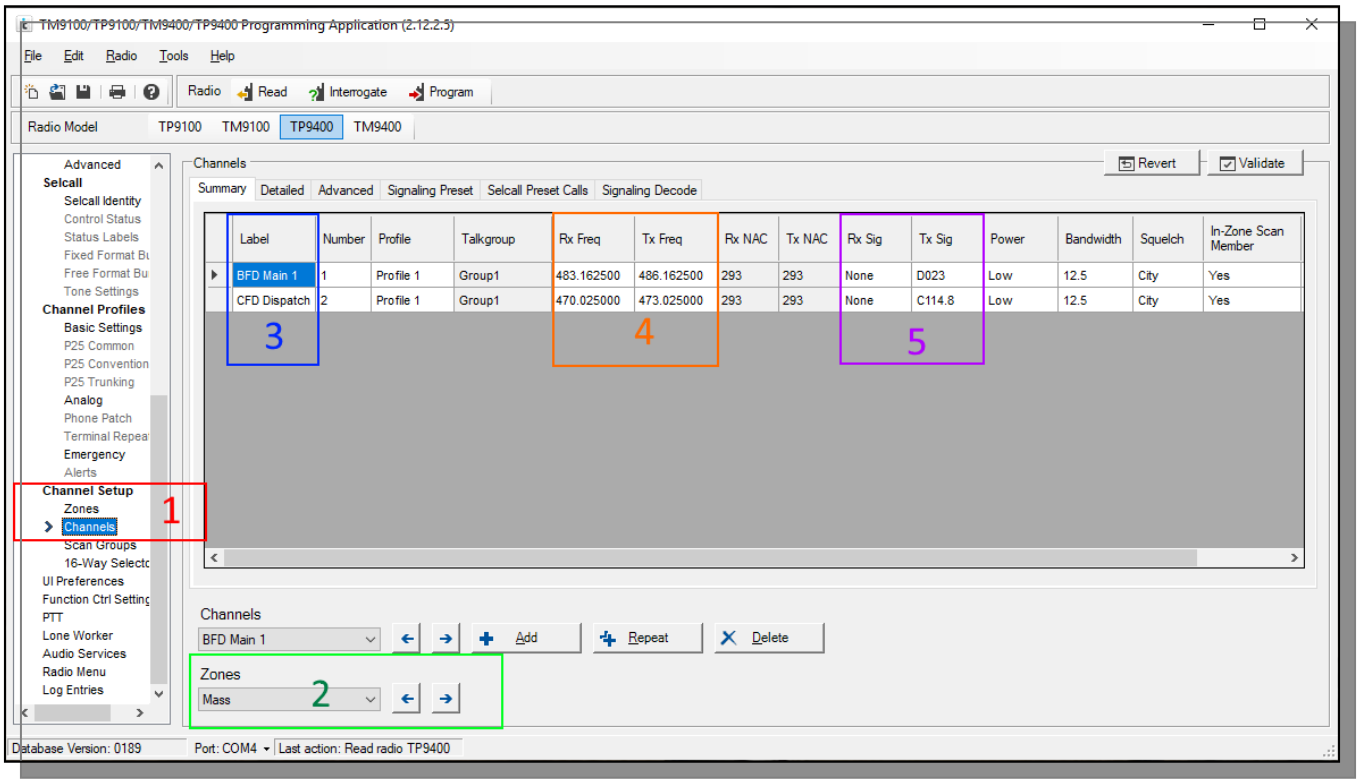
Using the Add button, enter each applicable Zone Label into the summary tab as a new line item.

Add an additional zone labeled "Private" for BDA testing; private zones are very useful during DAS / Isolation testing (See "DAS / Donor Isolation Testing Procedure").

Zone information can be collected from the local AHJ (*www.radioreference.com should only be used as a set of guidelines*).

5. Setting Channels

Referring to the left-side menu, select Channels **(1)** underneath the Channel Setup header (also located directly beneath Zones).



From there, select the correct Zone **(2)** by utilizing the left and right selection arrows.

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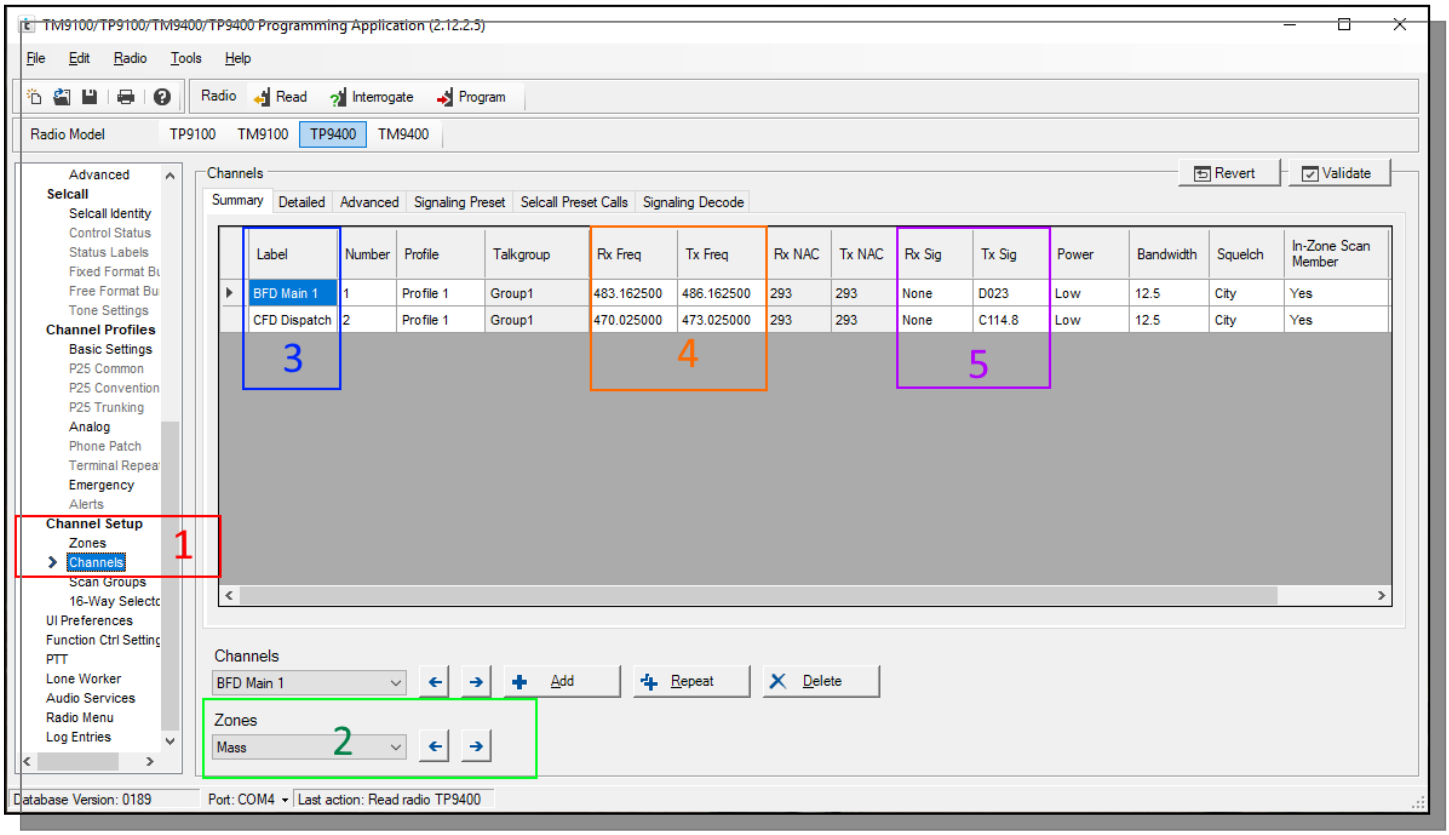
Using the **Add** button, enter each applicable Label **(3)** into the Channel section's summary tab as a new line item.



Channel information can be collected from the local AHJ (*www.radioreference.com should only be used as a set of guidelines*).

The Channel Label may also be referred to as the Alpha Tag:

Frequency	Input	License	Type	Tone	Alpha Tag	Description	Mode	Tag
483.16250	486.16250	KGA645	RM	023 DPL	BFD Main 1	Fire Main Dispatch	FMN	Fire Dispatch

Frequency	Input	License	Type	Tone	Alpha Tag	Description	Mode	Tag
470.02500	473.02500	WQHR366	RM	114.8 PL	CFD Dispatch	Fire Dispatch	FMN	Fire Dispatch

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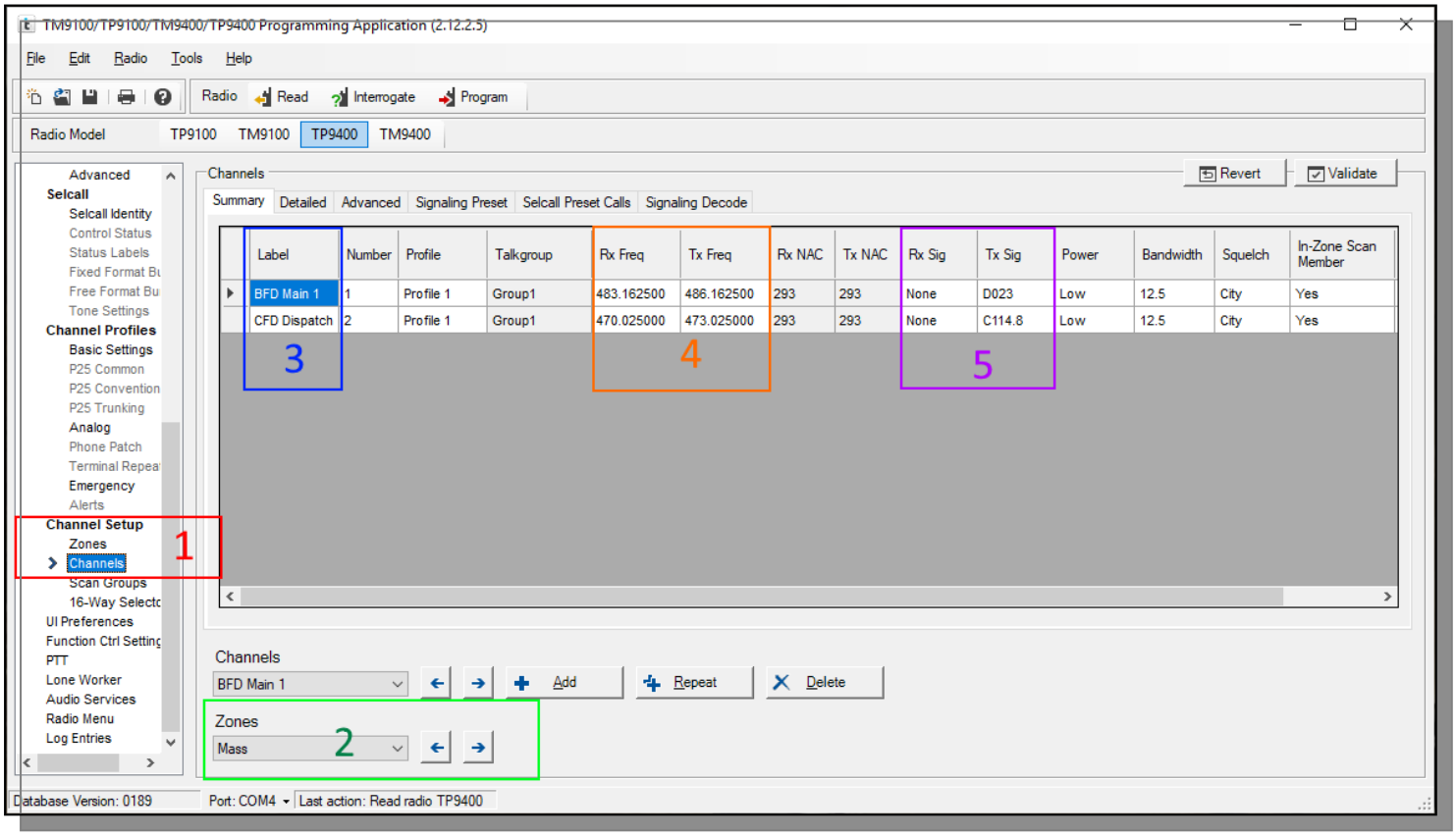
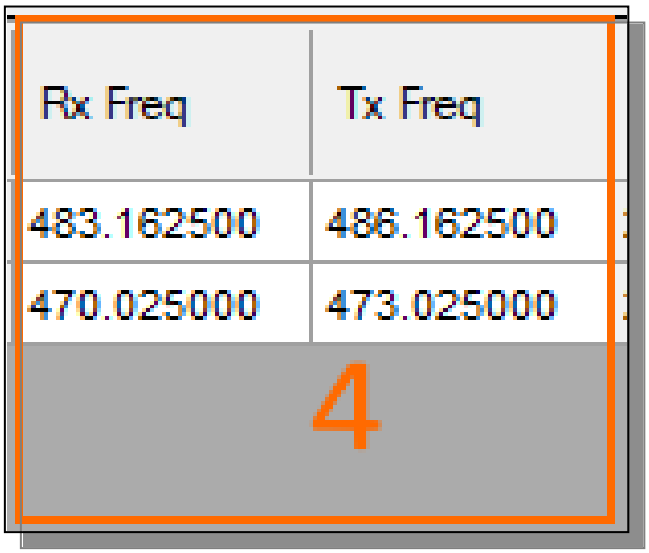
Input the corresponding Frequency and Input data into the Rx Frequency and Tx Frequency columns, respectively, for each Label **(4)**.



Next, input the Sig data **(5)** for each Label. **ALWAYS LEAVE Rx Sig INFO BLANK** (Displays as "None" on Summary tab). PL/DPL Tones go into the Tx Sig column.



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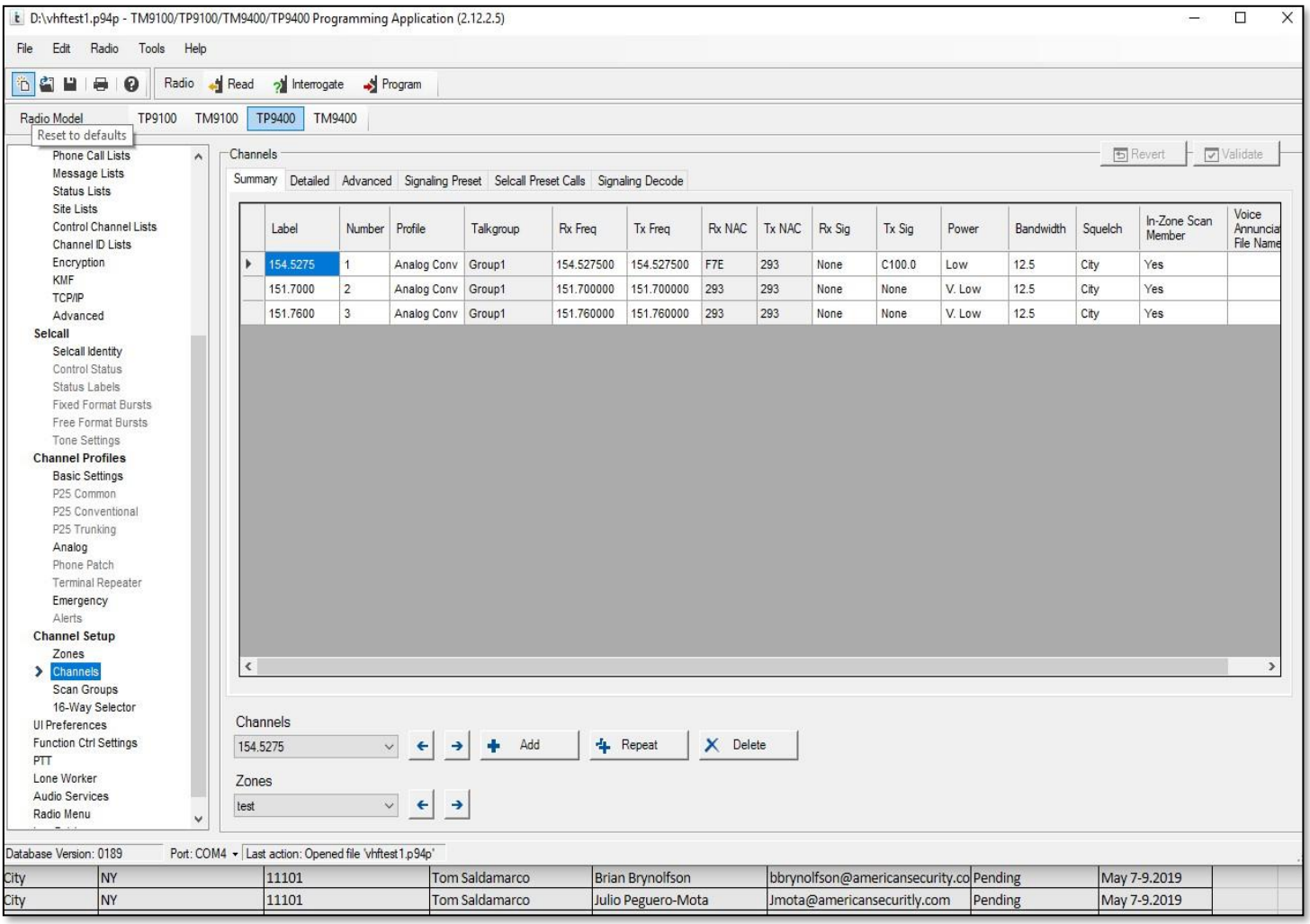
Once the Sig data has been entered, create a set of "Private" channels to correspond with the "Private" zone (configured earlier in Step #5) for testing the DAS / Isolation (See "DAS / Donor Isolation Testing Procedure").

The following are examples of test channels for each band:

VHF



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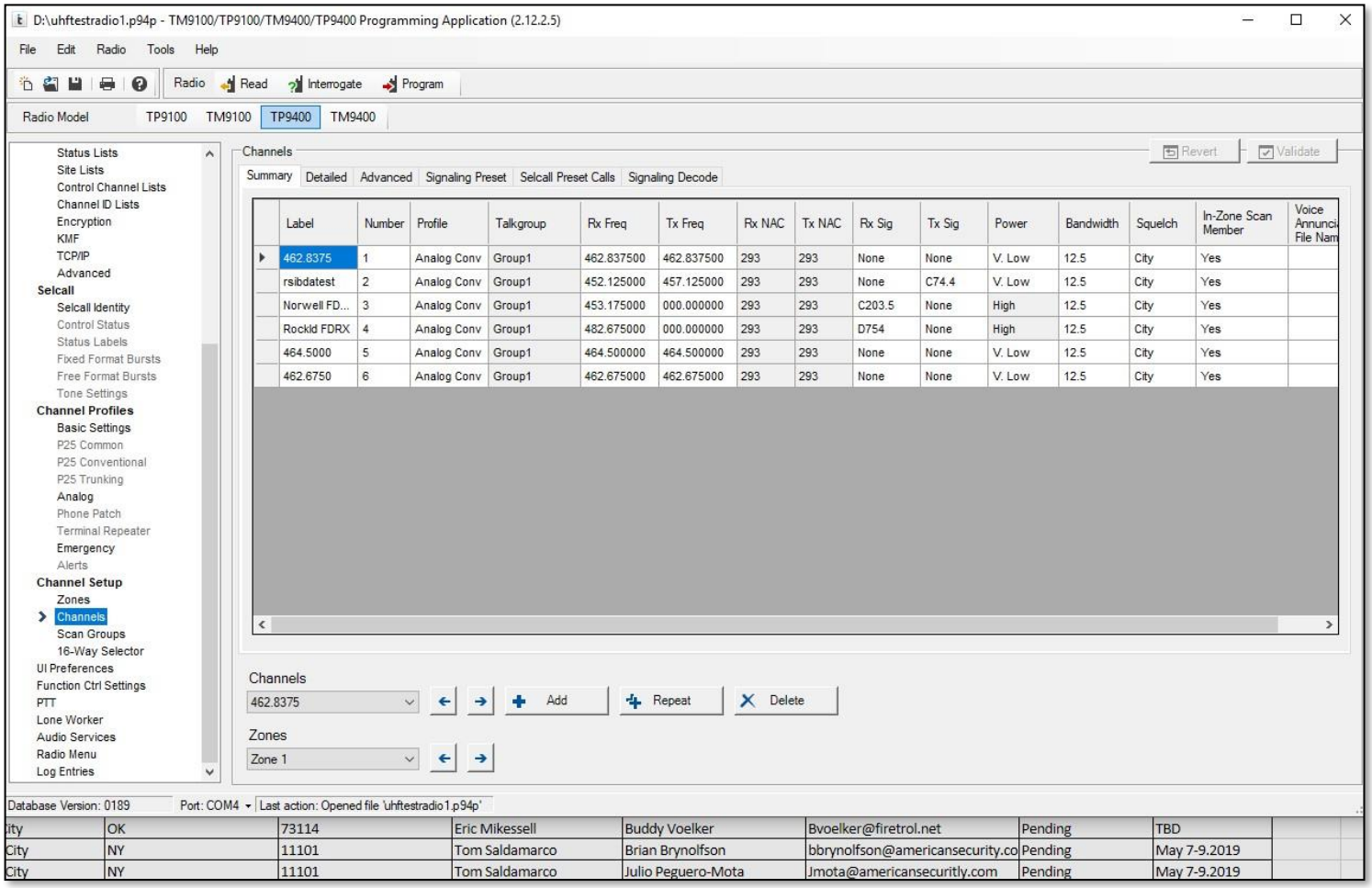
UHF



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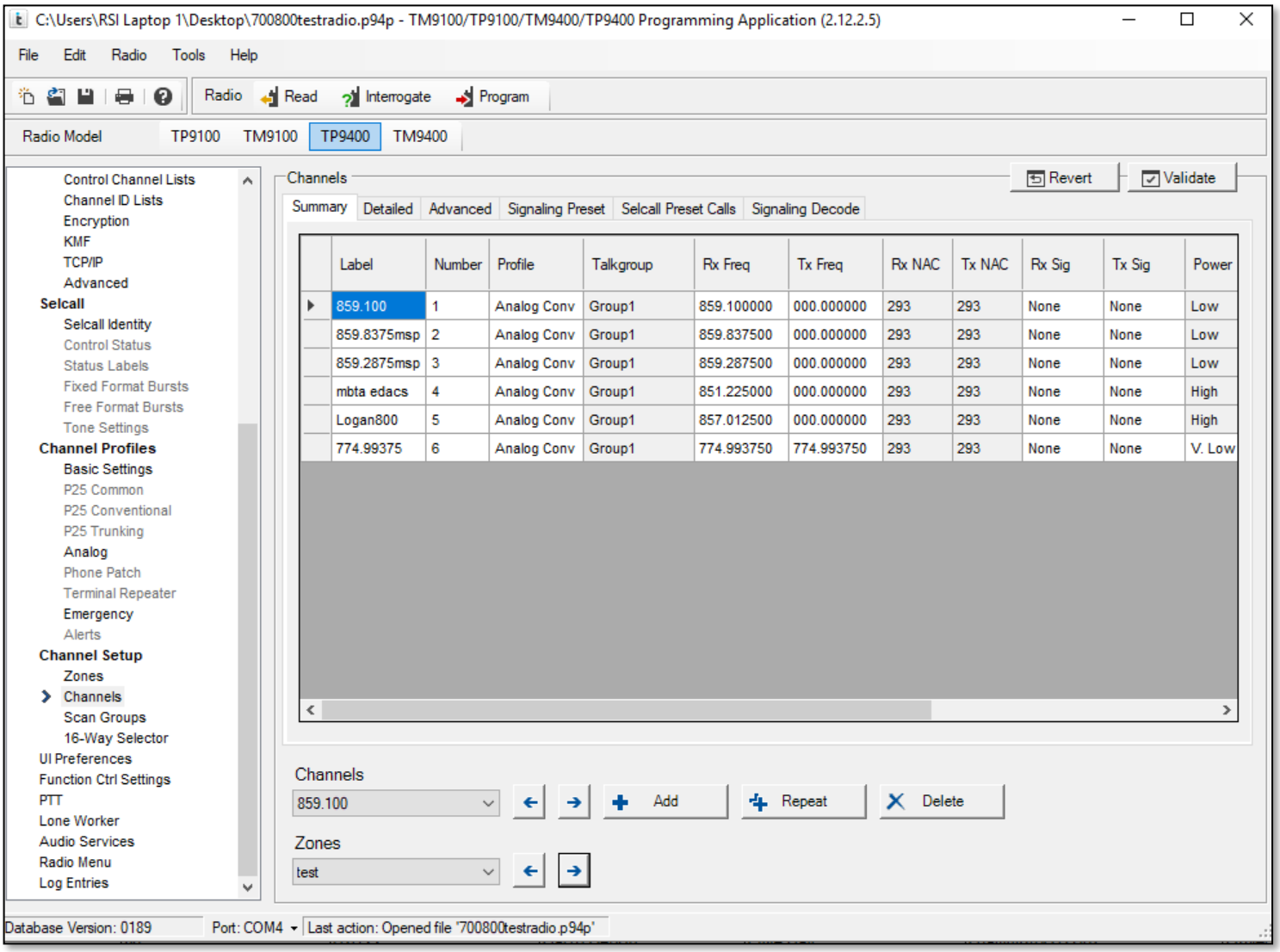
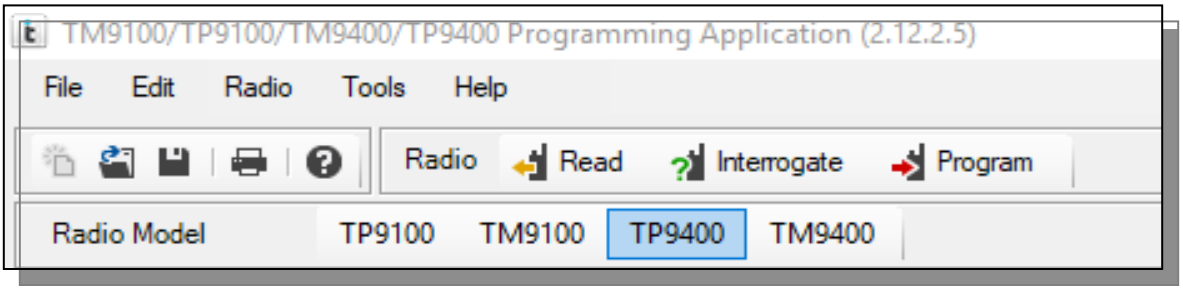
700-800MHz



6. Writing Final Radio Settings (Program Function)

Once all zones and channels are completely inputted into the programming application, write-to-radio by selecting the **Program** button (CTRL +M)



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