OTAP Programming with the CS-OPTM1 OTAP Manager

Applicable Models: F3400/F5400/F52D Series Radios.

Contents

Introduction

This software allows for reconfiguring radios remotely while in the field using the CS-OTPM1 OTAP (Over-The-Air-Programming) Manager. The system operator can edit channels, call lists, status message lists and more, without the need to return the radios to the base station.

Digital and analog settings can be changed, although the OTAP pathway MUST be digital at the time of the updating.

Prerequisites

General Prerequisites

All prerequisites and programming instructions must be followed exactly to allow proper OTAP operation.

- Fully tested and operational IDAS Digital system (Conventional, Single Site, or Multi-site)
- USB to USB-Micro data cable for Base radio to PC connection (when using an F3400 or F5400 series). Use OPC 2338 if using an F52D series.
- All radios involved must be communicating on the SAME IDAS *digital* channel during the update process.
- All radios involved cannot be scanning during OTAP updating.
- CS-OPTM1 flash drive (Sentinel Key) to enable the Manager Software
- CS-OTPM1 Manager Software (on CD)
- CS-OPTM1 Instructions
- Base Station Radio (F3400/F5400/F52D series) connected to the PC containing CS-OTPM1 software, to transmit the OTAP commands
- Radio Software Version Requirements:

OTPM Version	Radio Model	Cloning Software Version
OTPM1 Version 1.1	CS-F52D	Not Applicable
	CS-F3400	Versions 1.2 - 1.6
OTPM1 Version 1.2	CS-F52D	Version 1.1
	CS-F3400	Version 1.6 or greater
OTPM1 Version 1.3	CS-F52D	Version 1.2 or greater
	CS-F3400	Version 1.6 or greater

Radio Programming Prerequisites

- **Zone Operation->Unit ID Type:** Must be set to **Own**.
- **Zone XX** -> **CH Type**-> **Digital** (on the frequency that OTAP will be performed)
- **Digital** -> **Conventional/Single Site/MultiSite** -> **Own ID** -> Each radio must have a unique Own ID with no repetition.
- **Digital** ->**OTAP** -> **OTAP Accept** -> Set to ON.
- **Model** -> **Type**: Only radios that match the Model-Type of the saved icf file can be OTAP programmed. Example: If the saved icf file is for a F3400DT, only F3400 DT field radios can be programmed. For mixed fleets, multiple saved icf files will be necessary.
- **Port Setting**: Speed/Mode- Base radio that is sending the OTAP from the PC must have its COM Port (connected to PC) set to:
    - F52D: 19200/ PCCMD V2
    - F3400/F5400: Option Connector-19200/ PCCMD V2; or USB Setting (if using USB/USB Micro cable) Data Transfer/ PCCMD V2

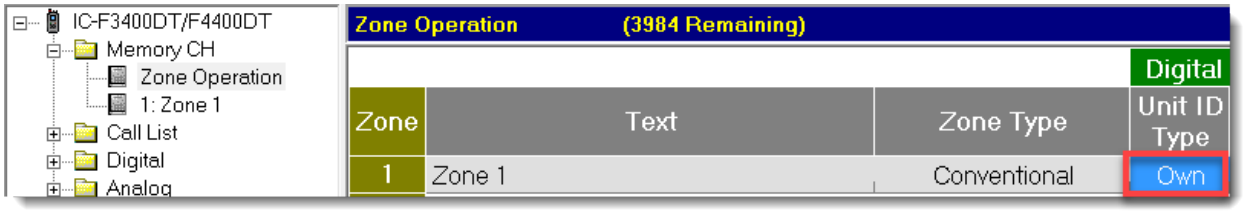
Radio Programming for OTAP Operation

Make the following changes to settings in the CS-F3400/F5400 or CS-F52D cloning software *before opening the OTAP software*. Radios must be programmed with these exact settings to enable them to be re-programmed via OTAP.

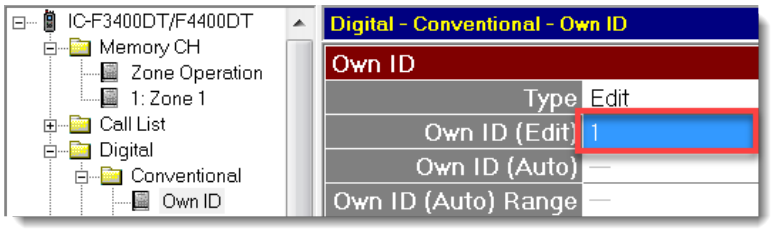
1. Enter all the customer's channel information and associated settings.

   Note: The channel to be used for the OTAP operation must be assigned as **Digital**.

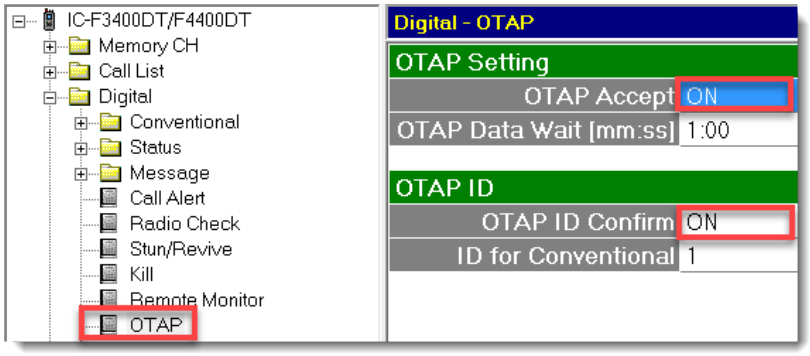
2. Go to **Zone Operation** -> **Unit ID Type** and set to **Own** (Conventional, Single-site or Multi-site Trunk systems Zone Type).



3. Go to **Digital** -> **Conv., or Single Site or MultiSite** -> **Own ID** -> **Own ID Edit** and enter this radios Unit ID. Note: All radios must have a different **Own ID**.

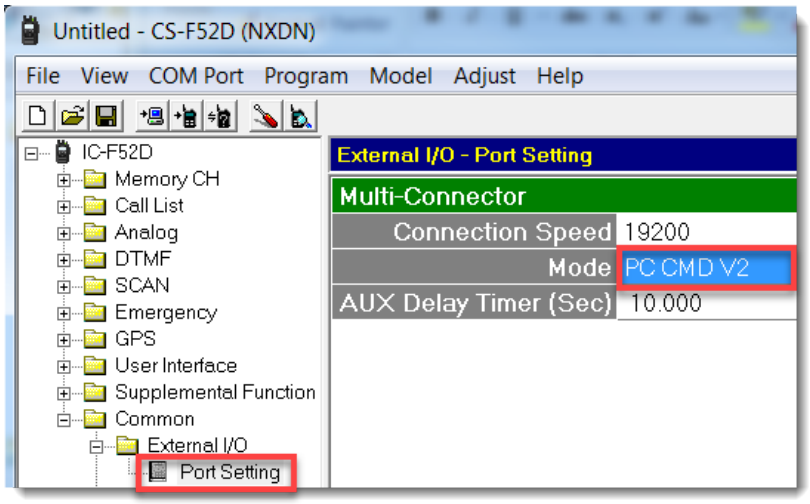


4. Go to **Digital** -> **OTAP** -> **OTAP Accept** and set to **ON**.
5. Optional Setting: Go to **OTAP ID Confirm**-Set this to the base radio ID. This ensures that radios cannot be programmed over-the-air by any radio except the base radio identified in this field.



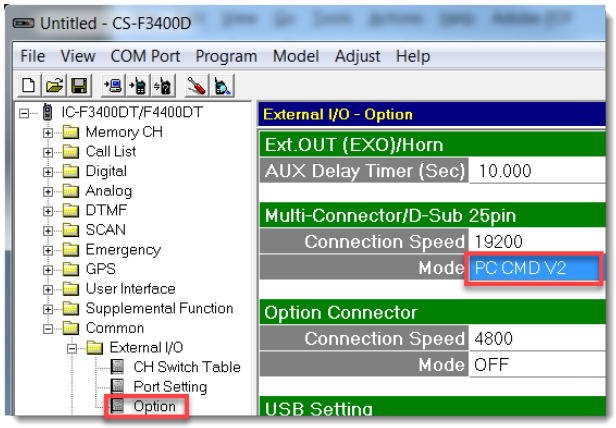
OTAP Management radio (Connected to PC) only

F52D-Common->External I/O->Port Setting

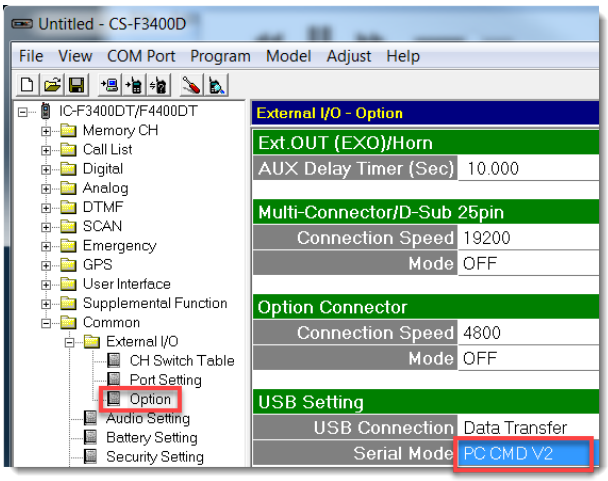


- Connection Speed- 19200
- Mode- PC CMD V2

F3400/F5400- Common->External I/O-> Option



Or



Setting	Description
Multi-Connector/D-Sub	Use these settings when the 25 Pin or Mic jack is used for Data Transfer.
USB Setting	Use when USB to USB-Micro cable is being used.
PC CMD V2	This setting allows the radio to accept data commands from the PC, but disables the ability to clone the radio. To re-enable the ability to read/write, press and hold P1 while powering up the radio, then release. At this time, the radio can be read or written *One Time Only.*
Connection Speed	Set baud rate to 19200.

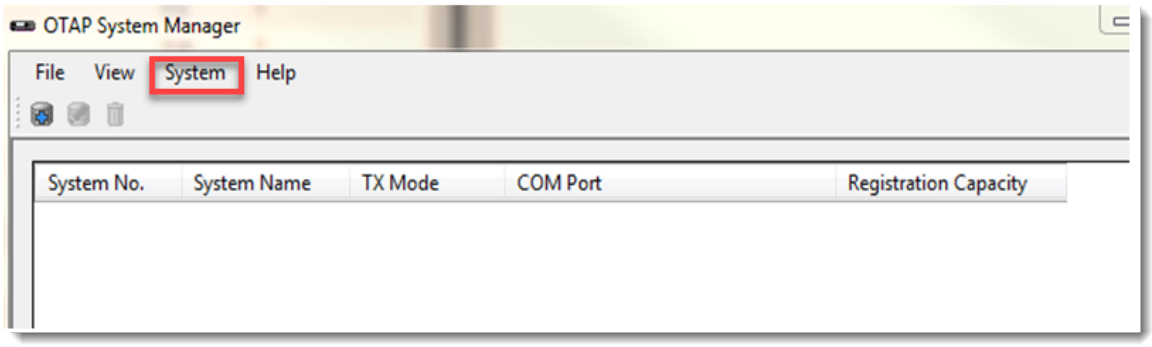
Save This Template icf File. This template file must be saved to a known place on the PC as this saved file will be used in the OTAP process as the initial base-line file.

CS-OTPM1 Software Installation

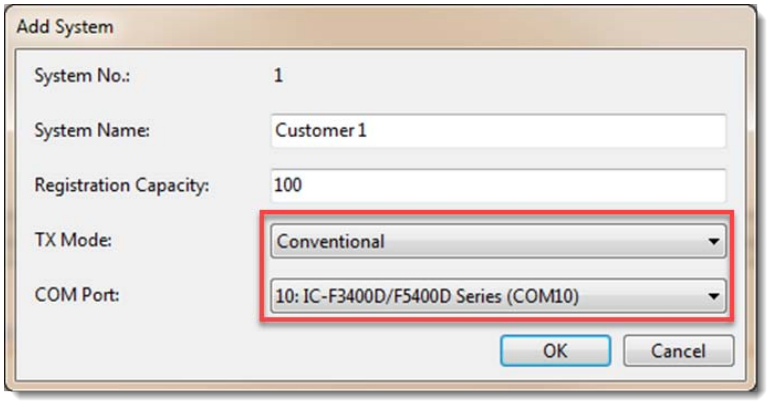
1. Install the CS-OTPM1 Manager Software from the CD. Refer to the CS-OTPM1 Instructions.
2. Insert the CS-OPTM1 Sentinel Key flash drive into your computer.

OTAP System Configuration

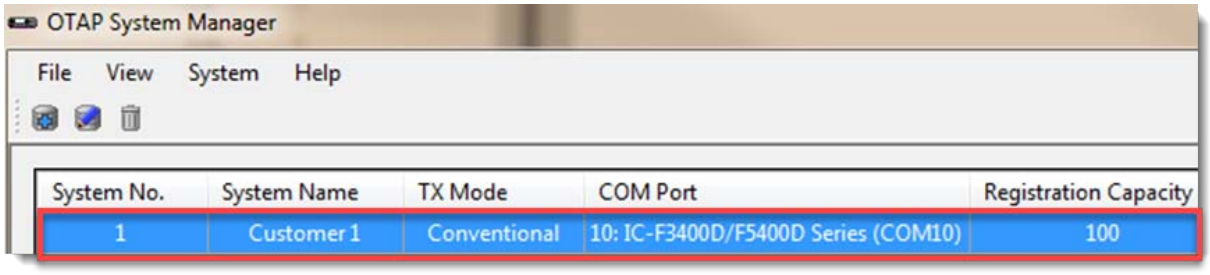
After installing the OTPM1 software, the following window will appear.



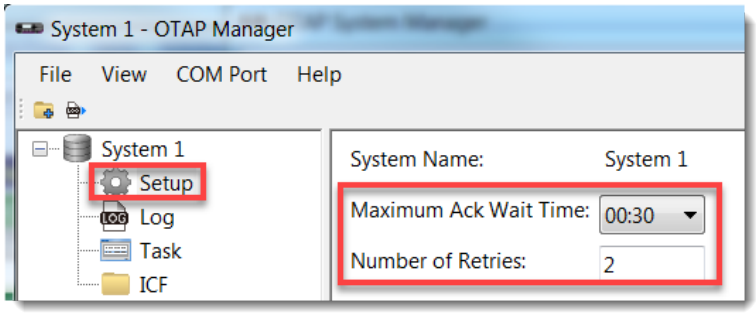
1. Click **System** -> **Add System**.
2. **System Name**: Enter a descriptive name for this system.
3. **Registration Capacity**: Enter the maximum number of radios to be capable of OTAP (with a cushion).
4. **TX Mode**: Select Conventional, Single-site Trunk, or Multi-site Trunk (depending on your System) for TX Mode. This selection will be the path that the base radio uses to transmit the updates.
5. **COM Port**: Select the **Com Port** connected to the base radio and click **OK**.



6. Double click on the System you just created.

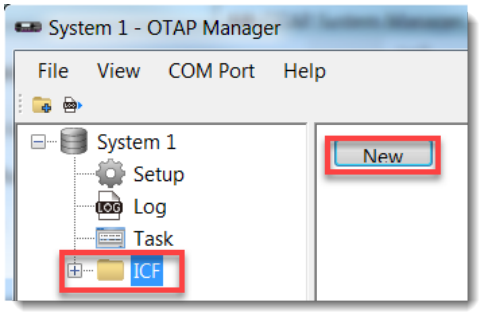


7. Click **Setup.**
8. **Maximum ACK Wait Time**: Select a maximum acknowledge wait time and set the number of retries per radio for OTAP attempts.
9. **Number of Retries**: Set to "**2**". This is the number of times the OTAP will attempt for each unsuccessful OTAP.

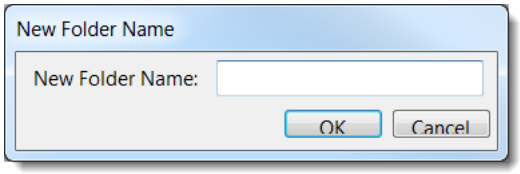


ICF File Loading-OTAP Manager Configuration

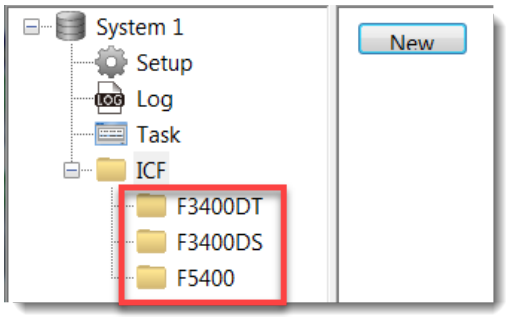
1. Select the **ICF** folder and click **New** to create a new folder for your .icf file.



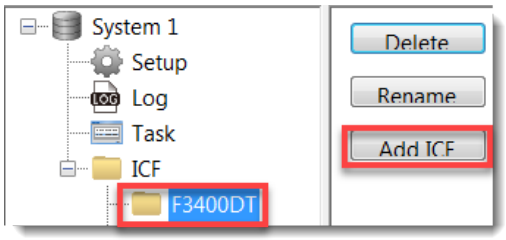
2. Name the folder in the text box. This name should describe the radio model type. An icf file (applicable to this model type) will be added later.



Note: A different folder will be necessary for each model type of radio in this fleet. Example: If fleet is composed of F3400 DT and F5400 D radios, 2 folders will be required.

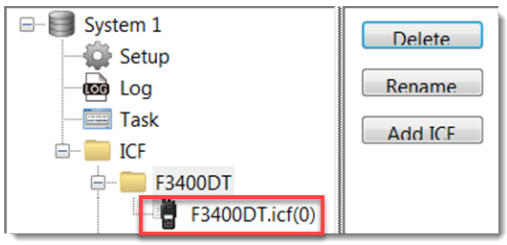


3. Select the new folder and click **Add ICF**.



4. Go to the applicable radio icf *template* file created for that radio model and saved on this PC for this radio model type.

5. Click on the icf on the PC to add it to your folder on the OTAP screen.

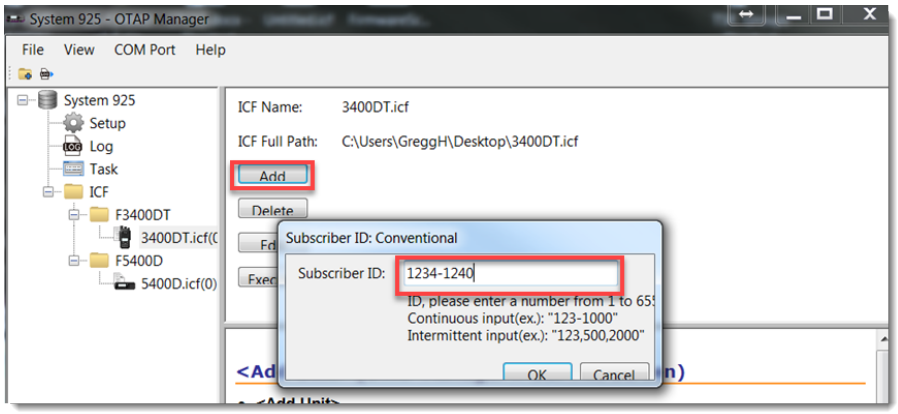


Subscriber Target ID Loading-OTAP Manager Configuration

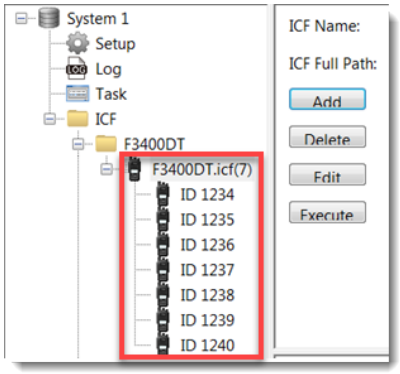
1. Select the template icf file and click **Add**.

2. **Subscriber ID**: Add radio ID's to be OTAP'd. If you are assigning more than one radio to that icf file, be sure to start with the first ID and add additional IDs in numeric order. You may enter a range of IDs as below, or individual numbers separated by commas.

   Note: All ID's must be of the same model and type. Portable D only or DS only or DT only, etc.

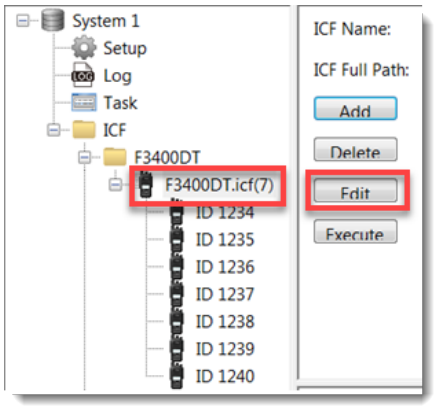


3. Click **OK**. This adds the ID target list to be OTAP'd to the icf file chosen previously.

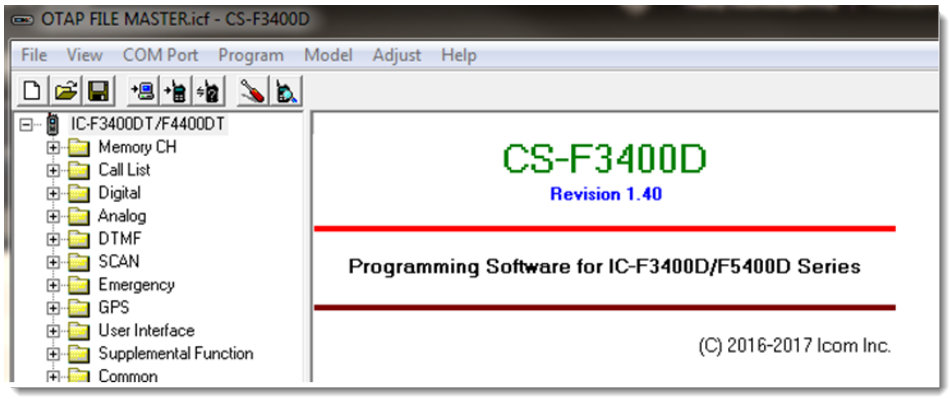


Editing icf File before OTAP-OTAP Manager Configuration

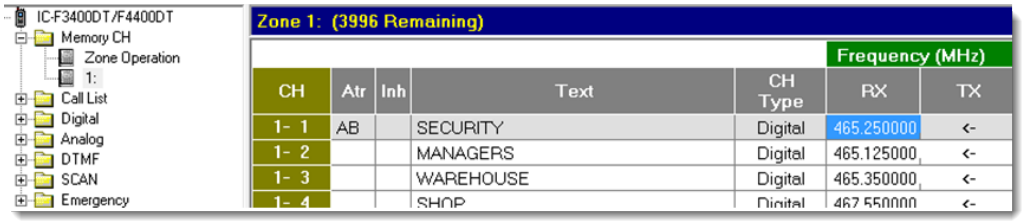
1. Highlight the template icf file master and click **Edit**.



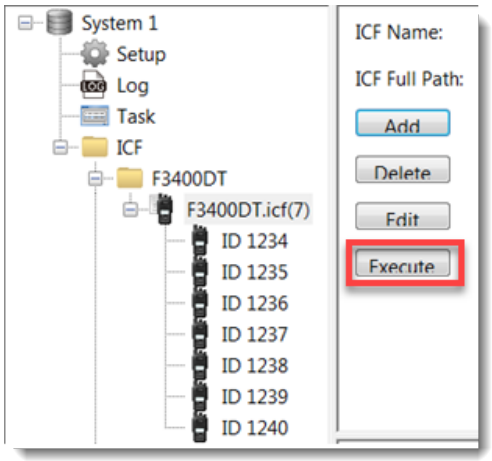
The CS-F3400 software from *within the OPTM-1 software* will come up with the icf file saved earlier.



2. Make desired changes to the icf file.

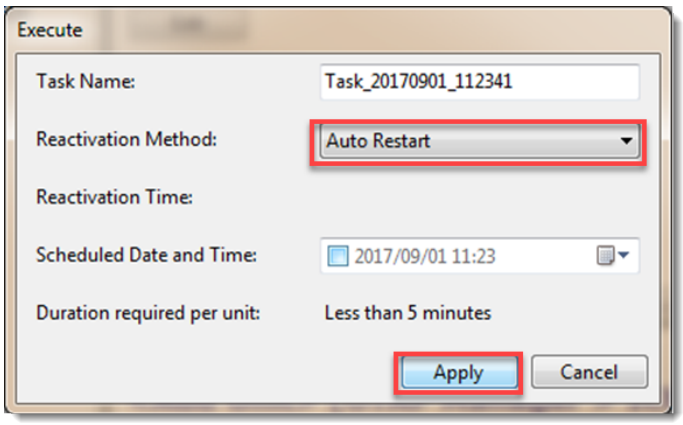


3. Go to **File** -> **SAVE** to save the changes to the icf file. *Do NOT save under a different name.*
4. Either close or resize the programming software with the edited template file.
5. A red dot appears in front of each Unit ID under the icf file indicating that update can be done.
6. Select the icf file and Click **Execute**.

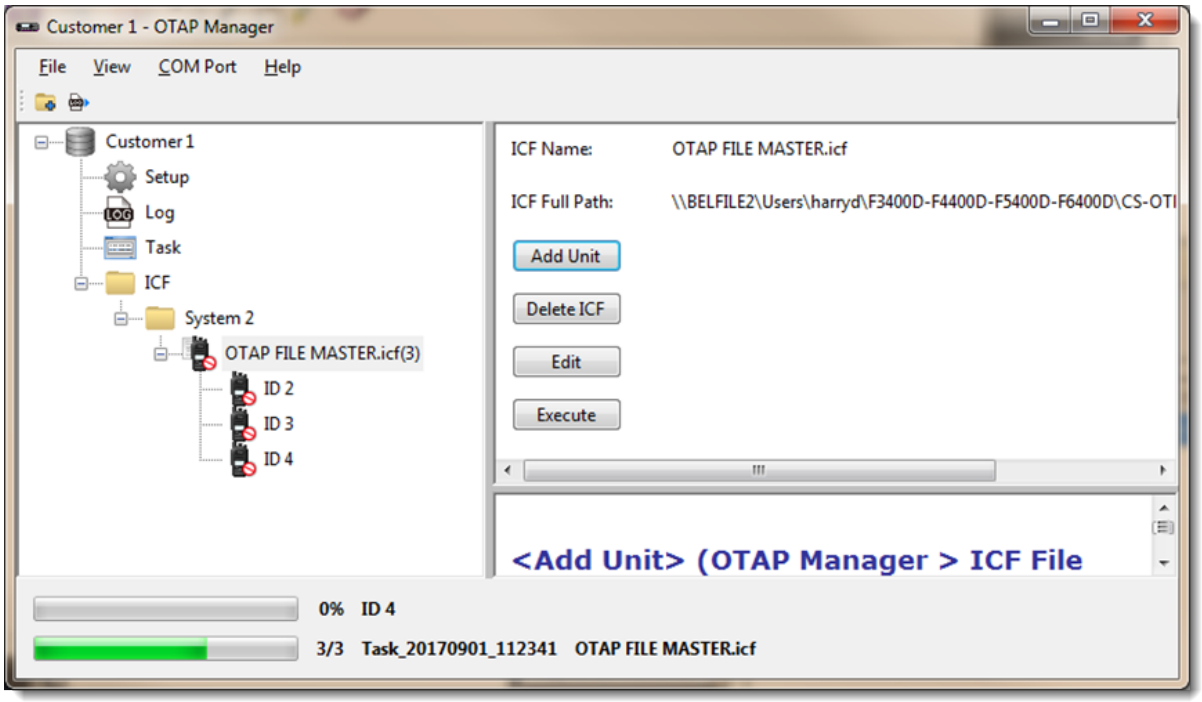


Execute Process Settings-OTAP Manager Configuration

1. In **Reactivation Method**, select **Auto Restart**.
2. Click **Apply** to start the OTAP process with those radios.
3. The OTAP Manager will proceed through the entire list of radios to be updated.



Troubleshooting

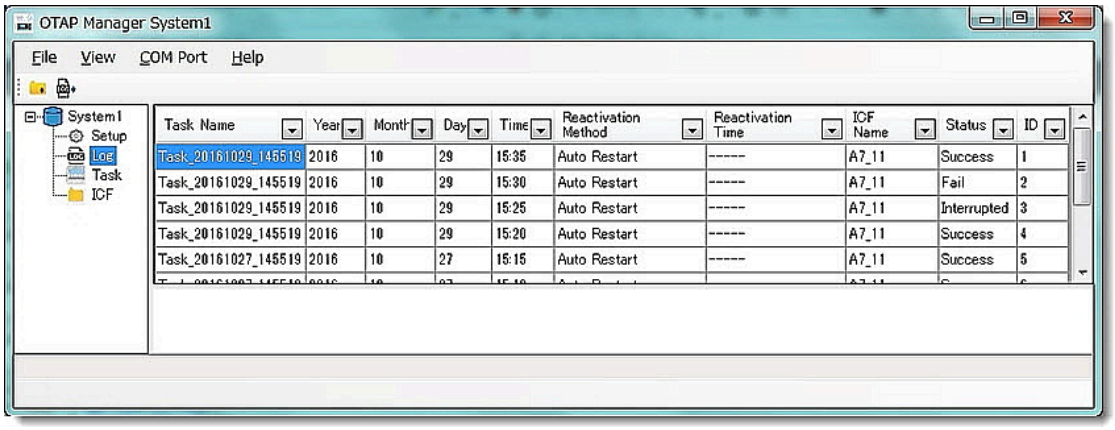


After the OTAP process has completed, any radios that ***failed*** to update will have a red X next to its icon. This can occur for several reasons:

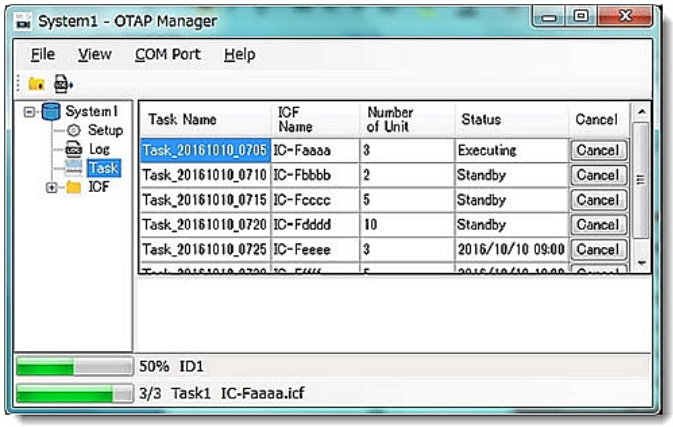
- The radio was out of range or turned off.
- The radio was on a channel that was different than the base radio channel.
- The version of the radio doesn't match the version of the template file.
- There may have been excessive RF interference during the OTAP process.
- The radio firmware is too old.
- CS-FXXX Software used to program the radios is not compatible with the version of OTPM1 being used (See Prerequisites)

Other OTAP Software Features

The **Log** window shows the previous OTAP activity.



The **Task** window shows current activity.



OTAP FAQs

Question:

Error messages appear when I try to program an F3400/F5400 radio with the cloning software for the OTAP process.

Answer:

*This message only means that the **Digital** > **OTAP** > **OTAP Accept** field has been set to **ON** in the cloning software.*

Question:

When Execute is clicked, screen says "Cant access Com Port".

Answer:

The Port Setting connection speed needs to be set at 19200 or the Com Port is assigned wrong.