# Programming Manual
## iCOM IC-F1100D and IC-F5062D series radios

Version 0.3 | April 2021

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# Introduction

This manual is intended to use by radio technicians who are familiar with similar types of radio equipment. It contains service information required for the equipment described that gives technicians the technical knowledge about how to program radio equipment properly.

## In This Guide

This programming manual covers the basic operation of programming iCOM radios that use selective calling (SelV or 5-Tone). It provides guidance on using the iCOM software for programming iCOM two-way radios.

## Other Information Resources

NA

## Technical Support

Technical support is available to assist the technician in resolving any malfunction which may be encountered. Initial contact should be by electronic mail or opening a ticket wherever possible. When contacting Technical Support, be prepared to provide the radio model and serial number.

## Training

Contact {TESS+} or the ETC training teams.

# Radio models covered by this manual

## Handheld radios

| | |
|---|---|
| **iCOM IC-F1100D**<br>***Features***:<br>No keypad / display<br>Available in VHF / UHF<br>Supports up to 128 channels<br>***Recommended for:***<br>Network users | |
| **iCOM IC-F1100DT**<br>***Features***:<br>Full keypad and display<br>Available in VHF / UHF<br>Supports up to 128 channels<br>***Recommended for:***<br>Network users<br>Network controllers | |

# Base / Mobile radios

| | |
|---|---|
| **iCOM IC-F5062 (MOBILE VERSION)**<br>*Features*:<br>Keypad / display<br>Available in VHF / UHF<br>Supports up to 512 channels<br>Basic microphone included<br>*Recommended for:*<br>Network users<br>Network controllers (keypad microphone must be added) | |
| **iCOM IF-BF5062 (BASE VERSION)**<br>*Features*:<br>Keypad / display<br>Available in VHF / UHF<br>Supports up to 512 channels<br>Keypad microphone included<br>*Recommended for:*<br>Network users<br>Network controllers | |

# Items needed for programming

## Programming Cables

| | |
|---|---|
| **ICOM IC-F1100D series radio**<br>OPC-478UC |  |
| **ICOM IC-F5062 series radio**<br>OPC-1122U |  |

# Programming Software

| | |
|---|---|
| **iCOM Programming Software CS-F2100D**<br>***Applicable radios***:<br>Radio IC-F1100 Series<br>Radio IC-F5200 Series<br><br>***Operating systems***:<br>Windows 7 and up | CS-F2100D<br>Programming Software |
| **iCOM Programming Software CS-F3160/F5060HA**<br> ***Applicable radios*** :<br>All firmware version supported<br><br>***Operating systems***:<br>Win7 / Win10 | CS-F3160/F5060(HA)<br>Revision 1.1 / 10 TONS |

Contact tess@wfp.org for guidance on how to access the programming software.

# UN standard iCOM codeplugs

| | |
|---|---|
| | **Network user codeplug**<br>***Features***:<br>Able to send PTT-ID and emergency calls |
| | **Network controller codeplug**<br>***Features***:<br>Able to send stun, unstun and silent interrogate. |

| ⚠ | The network controller codeplug contains features that, when used incorrectly, can seriously disrupt network operations. Make sure to program this codeplug in network controller radios only! |
|---|---|

Check with your colleagues or email tess@wfp.org to request a copy of the standard codeplug.
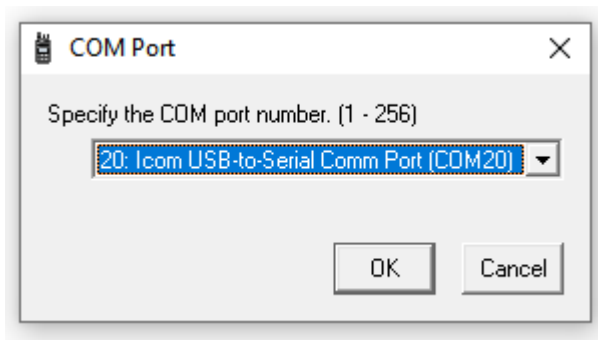
# Configuring the iCOM Programming Software

## ICOM Programming Software CS-F2100D

iCOM programming software is ready to be used.

# Connecting the radio to the ICOM programming software CS-F2100D

1. Connect your radio via the appropriate USB cable (as specified above) to your computer.

2. Select the right COM port, in COM PORT menu/port select.

# Programming radios

## Reading, Writing and Cloning

### Reading the radio

Click on the **Read** icon, or Program Menu/Read, once the radio has been connected to the computer and the right COM port is selected.



### Writing the radio

Write is used to send a configuration or codeplug to the radio.

Click on the Write icon, or Program Menu/Write, once the radio has been connected to the computer and the right COM port is selected.

# Updating the callsign and 5-Tone ID in radios

Open the UN standard codeplug that matches your radio model. Each time you need to program a new radio you will need to assign a new callsign with a matching 5-Tone ID. Record the ID in a central database so that there is no duplication as per your current 5-Tone analogue radio standard.

3. Open the standard codeplug.

4. Click **5-tone/Rx Code CH** to insert the allocated call sign for the Rx part.



5. Change the last 8 digits of the RX Code with the country code and the identity of the radio.

6.  Click **Call List/Call List** to insert the allocated call sign for the Tx part.

Contents List:
- IC-F2100DT
  - Memory CH
  - Call List
    - Call List
  - Analog
    - Continuous Tone
    - 5-Tone
      - RX Code CH
      - RX Code Setting
      - TX Code Setting
      - Format
      - User Tone
    - Signaling Profile
  - DTMF
  - Scan
  - Emergency
  - User Interface
  - Common

Call List: (482 Remaining)

| No. | Name | Ringer Type | Call Type | 5-Tone Code | Input Digit | Update | ABC Dec | ABC Aud | Sel | Index |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ALL | | GRP | OFF | --- | | | | ON | 1 |
| 2 | System | | GRP | OFF | --- | | | | | 2 |
| 3 | Repeater | | IND | OFF | --- | | | | | 3 |
| 4 | Special | | IND | OFF | --- | | | | | 4 |
| 5 | Phone Pa | | IND | OFF | --- | | | | | 5 |
| 6 | Link OFF | | IND | 100000792 | 23456789 | ON | | | | 6 |
| 7 | Link Cre | | IND | 100000791 | 23456789 | ON | | | | 7 |
| 8 | Already | | IND | 100000794 | 23456789 | ON | | | | 8 |
| 9 | Link BuS | | IND | 100000795 | 23456789 | ON | | | | 9 |
| 10 | Error Li | | IND | 100000793 | 23456789 | ON | | | | 10 |
| 11 | Global L | | IND | 100000799 | 23456789 | ON | | | | 11 |
| 12 | Tel Call | | IND | 100000991 | 23456789 | ON | | | | 15 |
| 13 | Tel Call | | IND | 100000900 | 23456789 | ON | | | | 16 |
| 14 | ALL HCR | | GRP | 11**18*** | 3456789 | | | | | 17 |
| 15 | MY ID | | IND | 140406801 | | | | | | 18 |
| 16 | ACK | | IND | 9140406801 | | | | | | 19 |
| 17 | EMERGENC | | IND | 99999 | | | | | | 20 |
| 18 | ADMIN | | IND | 000000000 | 123456789 | ON | | | ON | 18 |
| New | | | | | | | | | | |

7.  Change the 8 last digits of the two Tx code **MY ID, ACK** with the country code and the identity of the radio.

Call List: (482 Remaining)

| No. | Name | Ringer Type | Call Type | 5-Tone Code | Input Digit |
|---|---|---|---|---|---|
| 1 | ALL | | GRP | OFF | --- |
| 2 | System | | GRP | OFF | --- |
| 3 | Repeater | | IND | OFF | --- |
| 4 | Special | | IND | OFF | --- |
| 5 | Phone Pa | | IND | OFF | --- |
| 6 | Link OFF | | IND | 100000792 | 23456789 |
| 7 | Link Cre | | IND | 100000791 | 23456789 |
| 8 | Already | | IND | 100000794 | 23456789 |
| 9 | Link BuS | | IND | 100000795 | 23456789 |
| 10 | Error Li | | IND | 100000793 | 23456789 |
| 11 | Global L | | IND | 100000799 | 23456789 |
| 12 | Tel Call | | IND | 100000991 | 23456789 |
| 13 | Tel Call | | IND | 100000900 | 23456789 |
| 14 | ALL | | GRP | 11**18*** | 3456789 |
| 15 | MY ID | | IND | 1 40406801 | |
| 16 | ACK | | IND | 91 40406801 | |
| 17 | EMERGENC | | IND | 99999 | |
| 18 | ADMIN | | IND | 000000000 | 123456789 |
| New | | | | | |

8.  Change **5-Tone/RX Code Setting/Timer**:
    - Link A: 1.000s
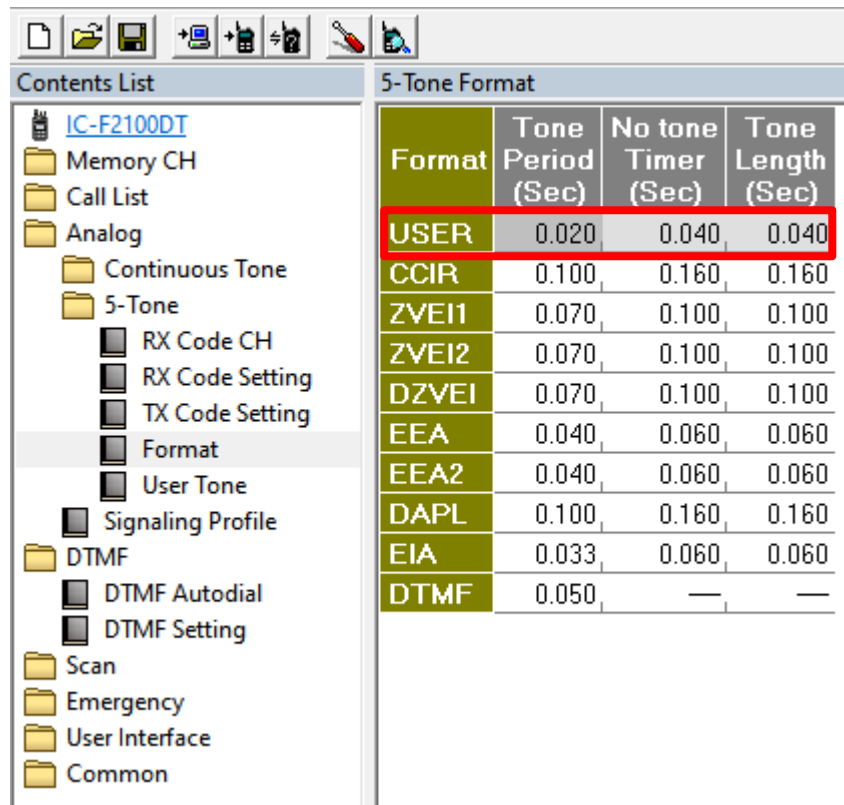    - ID Decode: 1.600s
    - Ringer Repeater: 10.000s

**5-Tone RX Code Setting**

| Timer | |
|---|---|
| Link A (Sec) | 1.000 |
| ID Decode (Sec) | 1.600 |
| Ringer Repeat (Sec) | 10.000 |
| | |
| Compare Digit | 1234567890 |
| Tone Decode Comparison | OFF |

9.  Change **5-Tone/Tx Code Setting/Timer**:
    - Long Tone: 0.700s
    - Link R: 0.600s
    - Link 1: 0.600s
    - Link 2: 0.200s
    - Lead out Delay: 0.000s
    - ABC Decode: 1.600s

**5-Tone TX Code Setting**

| Timer | |
|---|---|
| Long Tone (Sec) | 0.700 |
| Link R (Sec) | 0.600 |
| Link 1 (Sec) | 0.600 |
| Link 2 (Sec) | 0.200 |
| Lead out Delay (Sec) | 0.000 |
| ABC Decode (Sec) | 1.600 |
| | |
| Displayed Digit | 1234567890 |
| PTT Call at Inaudible | OFF |
| | |
| **Special Tone** | |
| Group | A |
| Repeat | E |
| Link2 | F |
| | |
| **Reset Code Assign** | |
| Reset Code 1 | OFF |
| Reset Code 2 | OFF |

10. Change **5-Tone/Format/USER** to 20ms

| Format | Tone Period (Sec) | No tone Timer (Sec) | Tone Length (Sec) |
|---|---|---|---|
| USER | 0.020 | 0.040 | 0.040 |
| CCIR | 0.100 | 0.160 | 0.160 |
| ZVEI1 | 0.070 | 0.100 | 0.100 |
| ZVEI2 | 0.070 | 0.100 | 0.100 |
| DZVEI | 0.070 | 0.100 | 0.100 |
| EEA | 0.040 | 0.060 | 0.060 |
| EEA2 | 0.040 | 0.060 | 0.060 |
| DAPL | 0.100 | 0.160 | 0.160 |
| EIA | 0.033 | 0.060 | 0.060 |
| DTMF | 0.050 | — | — |

Contents List:
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    - 5-Tone
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      - TX Code Setting
      - Format
      - User Tone
    - Signaling Profile
  - DTMF
    - DTMF Autodial
    - DTMF Setting
  - Scan
  - Emergency
  - User Interface
  - Common

# Adding channels to UN standard codeplugs

Update the Channel details.

Open the standard codeplug, and then select **Memory CH/ 1:**



1. Choose **CH Type** Analog.

2. Update the **TX and RX Frequencies** as per the current analogue standards

3. Choose **C. Tone 141.3 Hz** (UN standard)

In the Analog – Signaling profile:

4.    Choose **Log In/Off**, to L-OFF.

5.    Choose **5-Tone** USER.

6.    Choose **5-Tone/STN**, ALL.

7.    Choose **5-Tone/ID**, MY ID.

| List | CH Mute | Switch Action | | | | | Signaling | | | 5-Tone | | | | | | | | |
|------|---------|------|-----|------|-----|-------------|----------|----------|--------|------|-----|---|-----|---|----|---|-----|----------|
|      |         | Moni | Sel | Call | PTT | Log-In/Off | Log-out | Emg-out | Decode | Form | RPT | L | STN | L | ID | L | Pos | RX C.No |
| 1    | OR      | Both |     |      |     | L-OFF       | 5T       | 5T       | 5T     | USER |     |   |     |   | 14 | 15 | BTM | 12345678 |
| New  |         |      |     |      |     |             |          |          |        |      |     |   |     |   |    |   |     |          |

**Write** the radio.

# Annex A – Troubleshooting

## Trouble Reading / Writing / Cloning a radio

When connected to a radio via the USB cable ensure that the drivers are correctly installed.

1.  Connect the radio to the programming cable
2.  If the radio is not recognized by the programming software, then:
3.  Check the com port in devices manager
4.  Check the drivers in devices manager
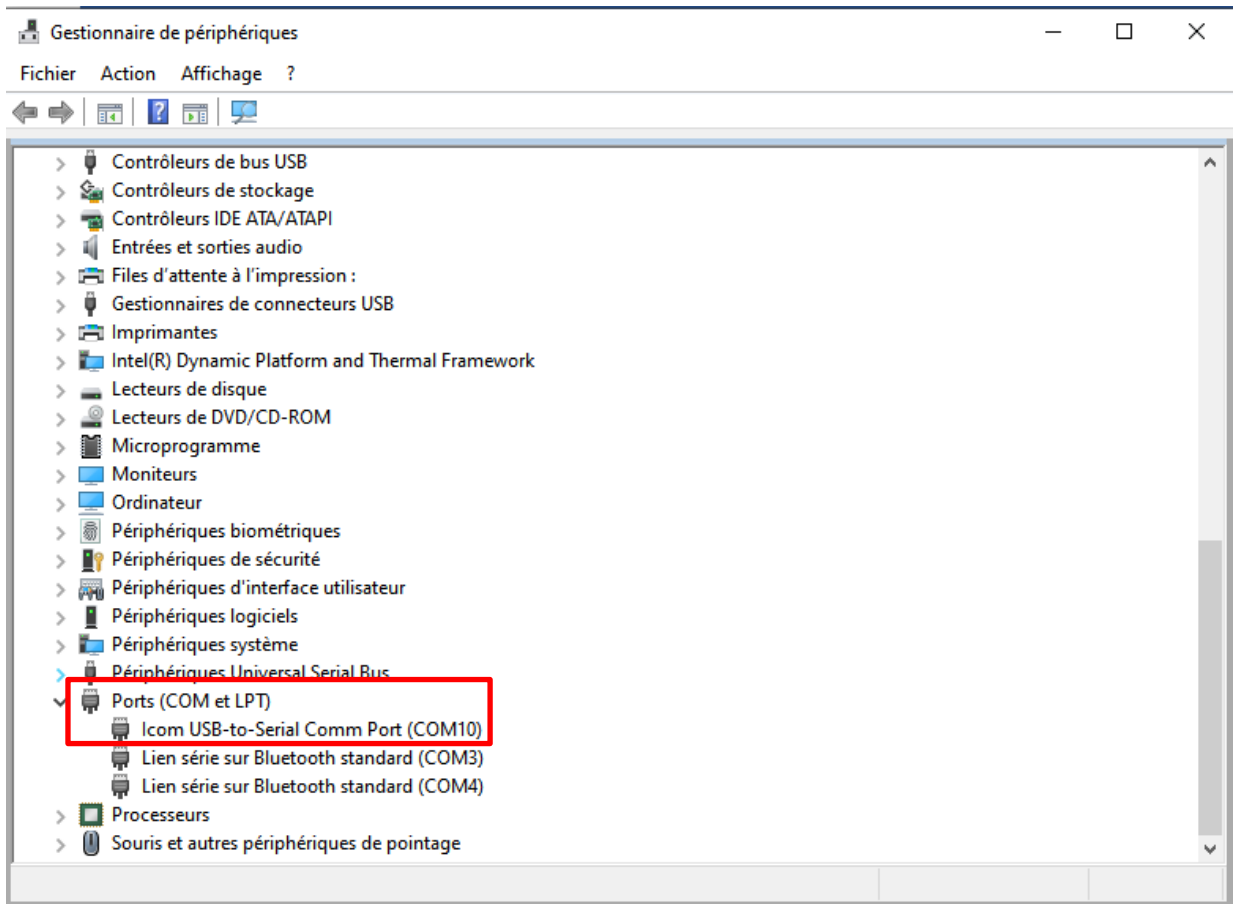


5.  Turn the Radio OFF and then back ON.