



Programming Manual

iCOM IC-F1100D and IC-F5062D series radios

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Telecommunications Security Standards {TESS+}

www.wfp.org/telecommunications-security-standards

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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

Features:

No keypad / display
Available in VHF / UHF
Supports up to 128 channels

Recommended for:

Network users



iCOM IC-F1100DT

Features:

Full keypad and display
Available in VHF / UHF
Supports up to 128 channels

Recommended for:

Network users
Network controllers



Base / Mobile radios

iCOM IC-F5062 (MOBILE VERSION)

Features:

Keypad / display
Available in VHF / UHF
Supports up to 512 channels
Basic microphone included

Recommended for:

Network users
Network controllers (keypad microphone must be added)



iCOM IF-BF5062 (BASE VERSION)

Features:

Keypad / display
Available in VHF / UHF
Supports up to 512 channels
Keypad microphone included

Recommended for:

Network users
Network controllers




Items needed for programming

Programming Cables



<p>ICOM IC-F1100D series radio OPC-478UC</p>	 The image shows the OPC-478UC programming cable for the ICOM IC-F1100D series radio. It consists of a black cable with a blue RJ45 connector on one end, a small black plastic adapter in the middle, and a USB-A connector on the other end. The cable is coiled.
<p>ICOM IC-F5062 series radio OPC-1122U</p>	 The image shows the OPC-1122U programming cable for the ICOM IC-F5062 series radio. It consists of a black cable with a blue RJ45 connector on one end, a small black plastic adapter in the middle, and a USB-A connector on the other end. The cable is coiled.


Programming Software

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

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

UN standard iCOM codeplugs

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

	<p>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!</p>
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Check with your colleagues or email tess@wfp.org to request a copy of the standard codeplug.

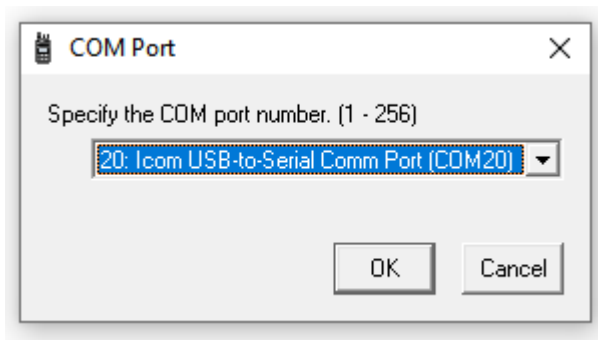
Configuring the iCOM Programming Software

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.

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

CH	RX Code	Text	ID Dec	Bell	Emer Cancel	ABC	Ringer	Auto TX	Aud	Stun	Scan
1	140406801	CALL	ON				Melody1		Aud		
2	240406801	STUN	ON			16				Stun	
3	340406801	UNSTUN	ON			16				Revive	
4	440406801	INTERROG	ON			16					
5	540406801	EMER II	ON				PIRo2				
6	640406801	EMER EXI	ON		ON						
7	91++++++	ACK	ON								
8	++++++										
G	—	GROUP		Blink		—	PIPi		—	Aud	

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

CH	RX Code	Text
1	140406801	CALL
2	240406801	STUN
3	340406801	UNSTUN
4	440406801	INTERROG
5	540406801	EMER II
6	640406801	EMER EXI
7	91++++++	ACK
8	++++++	
G	—	GROUP

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

No.	Name	Ringer Type	Call Type	5-Tone				Common		
				Code	Input Digit	Update	ABC Dec	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	10000792	23456789	ON				6
7	LINK CRP		IND	10000791	23456789	ON				7
8	AIRBDDY		IND	10000794	23456789	ON				8
9	LINK BUS		IND	10000795	23456789	ON				9
10	ERROR L		IND	10000793	23456789	ON				10
11	GLOBAL L		IND	10000799	23456789	ON				11
12	TEL CALL		IND	10000991	23456789	ON				15
13	TEL CALL		IND	10000900	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										

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

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	10000792	23456789
7	LINK CRP		IND	10000791	23456789
8	AIRBDDY		IND	10000794	23456789
9	LINK BUS		IND	10000795	23456789
10	ERROR L		IND	10000793	23456789
11	GLOBAL L		IND	10000799	23456789
12	TEL CALL		IND	10000991	23456789
13	TEL CALL		IND	10000900	23456789
14	ALL		GRP	11**18***	3456789
15	MY ID		IND	140406801	
16	ACK		IND	9140406801	
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

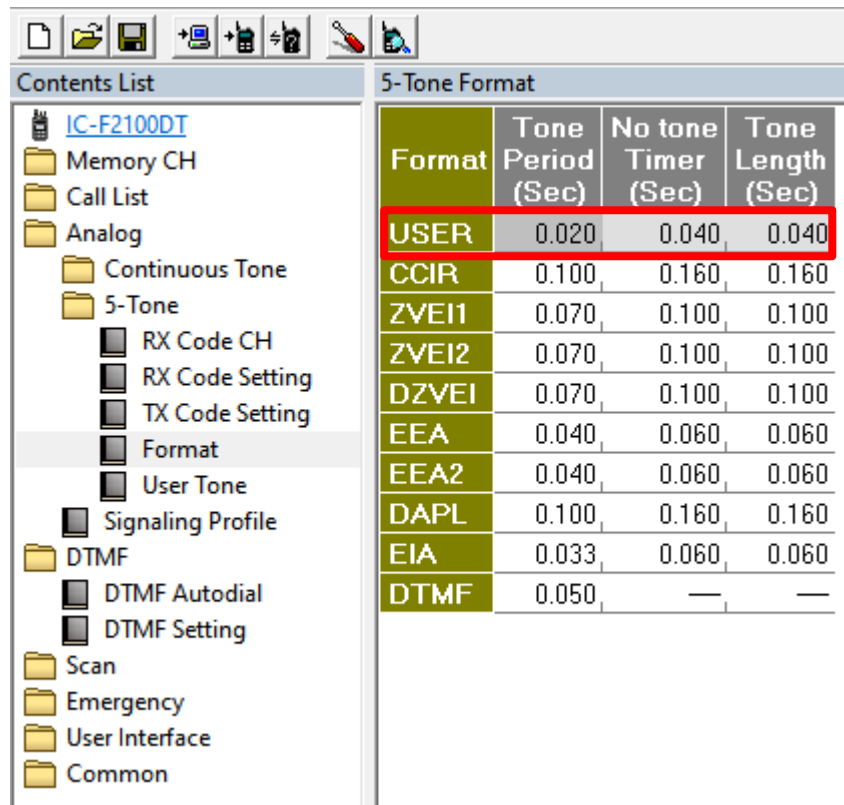
5-Tone RX Code Setting	
Timer	
Link A (Sec)	1.000
ID Decode (Sec)	1.600
Ringer Repeat (Sec)	10.000
Compare Digit	1234567890
Tone Decode Comparison	OFF

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



The screenshot shows a software interface for programming an iCOM radio. On the left is a 'Contents List' tree with folders like 'Memory CH', 'Call List', 'Analog', 'DTMF', 'Scan', 'Emergency', 'User Interface', and 'Common'. Under 'Analog', there is a '5-Tone' folder containing 'RX Code CH', 'RX Code Setting', 'TX Code Setting', 'Format', and 'User Tone'. The 'Format' option is selected. On the right is a '5-Tone Format' table with columns: 'Format', 'Tone Period (Sec)', 'No tone Timer (Sec)', and 'Tone Length (Sec)'. The 'USER' row is highlighted with a red border, showing values of 0.020, 0.040, and 0.040 respectively.

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	—	—

Adding channels to UN standard codeplugs

Update the Channel details.

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

CH	Atr	Inh	Text	CH Type	Frequency (MHz)			C.Tone			Analog			Scan List					
					RX	TX	TX Inh	RX	TX	RF PWR	SQL Tight	Lock-out	Auto Reset	Bandwidth	Signaling Profile	Scan List	Inc	Assign	Sel Inh
1- 1	AB		COM RPT	Analog	163.100000	158.100000		141.3	<	L1			Tim-A	N	1		Inc		
1- 2			Moto RPT	Analog	153.325000	158.325000		141.3	<	L1			Tim-A	N	1		Inc		
1- 3			SPX 1	Analog	152.325000	<		141.3	<	L1			Tim-A	N	1		Inc		
1- 4			SPX 2	Analog	142.500000	<		141.3	<	L1			Tim-A	N	1		Inc		

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																		

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)

CH	Atr	Inh	Text	CH Type	Frequency (MHz)			C.Tone			Analog			Scan List					
					RX	TX	TX Inh	RX	TX	RF PWR	SQL Tight	Lock-out	Auto Reset	Bandwidth	Signaling Profile	Scan List	Inc	Assign	Sel Inh
1- 1	AB		COM RPT	Analog	163.100000	158.100000		141.3	<	L1			Tim-A	N	1		Inc		
1- 2			Moto RPT	Analog	153.325000	158.325000		141.3	<	L1			Tim-A	N	1		Inc		
1- 3			SPX 1	Analog	152.325000	<		141.3	<	L1			Tim-A	N	1		Inc		
1- 4			SPX 2	Analog	142.500000	<		141.3	<	L1			Tim-A	N	1		Inc		

1

2

3

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.

Analog - Signaling Profile: (31 Remaining)

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
1	OR	Both				L-OFF	5T	5T	5T	USER			14		15	BTM	12345678
New																	



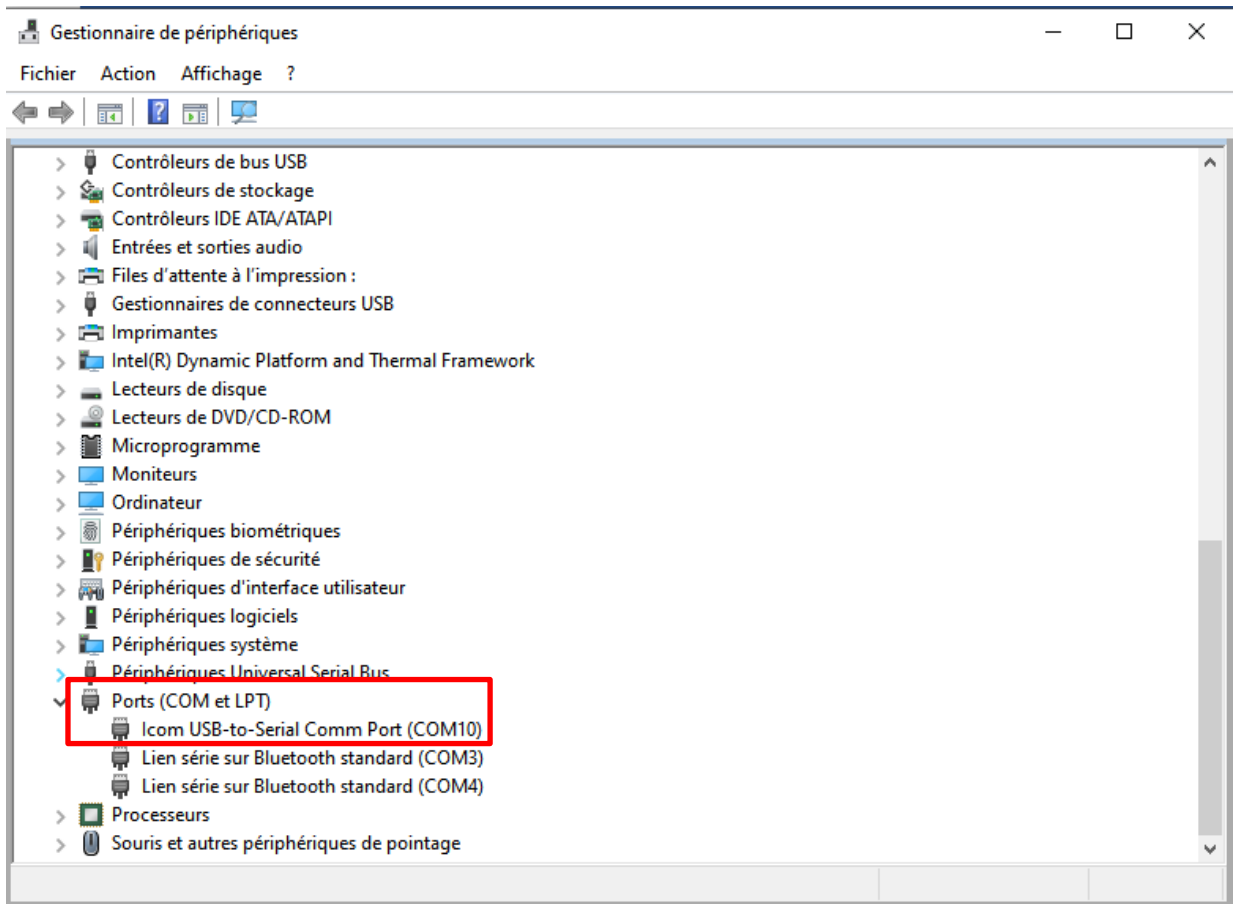
Write the radio.

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.