



Icom America Inc.

# *Quick Reference Tutorial*

## *BASIC RADIO FEATURES*

*Simple Programming for  
Basic Radio Operation*





# Before You Program

## Desired Action:

- Program your radio for simple communication to other radios.

## Assumptions:

- All radios are analog
- No advanced signaling, such as 2-tone, 5-tone, or MDC is used

# Cables

## OPC-478UC and OPC-478



- F11/S, F21/S
- F14/s, F24/S
- F33GS/GT, F43GS/GT
- F43TR
- F3021/F4021
- F3011/F4011
- F3001/F4001

# Cables

## Cloning Cables

<b>USB Adapters</b>	<b>SERIAL Type Cables</b>
OPC-478UC (Replaces 478U)	OPC-478
OPC-966U	OPC-966
OPC-1122U	OPC-1122

Adapter Cable OPC-592

# Cables

## OPC-1122U and OPC-1122



- F121/S, F221/S
- F521, F621/TR
- F1721, F2721
- F5061, F6061
- F5011/F6011/F5021/F6021
- F9511/HT

## OPC-592



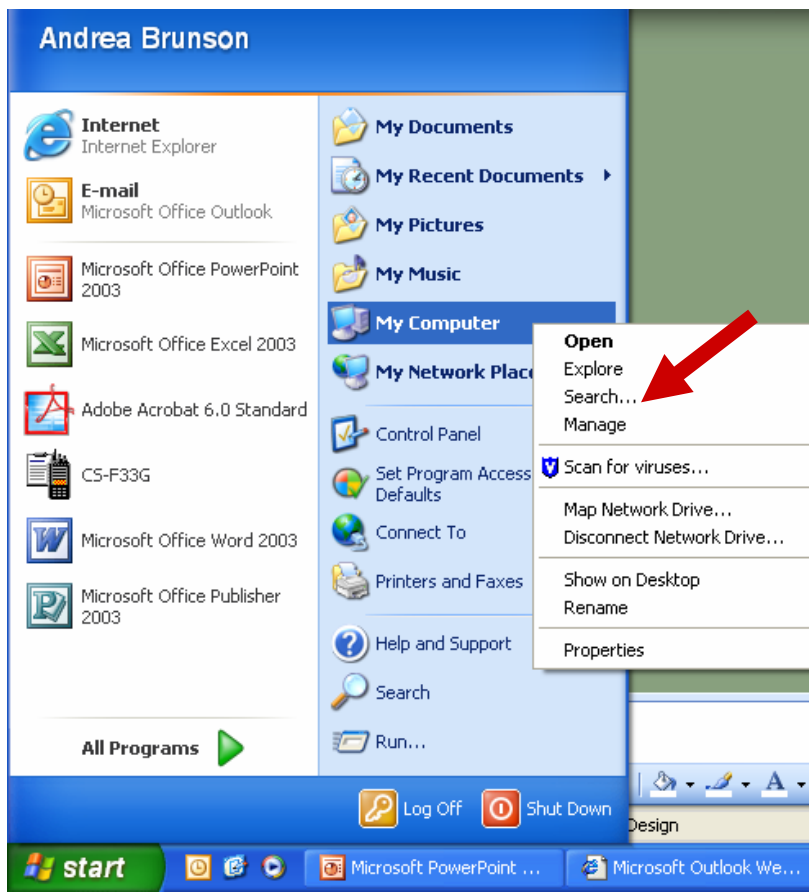
- FR3000, FR4000\*

\*Requires the OPC-478UC, OPC-478U, or OPC-478

# Selecting Your Com Port

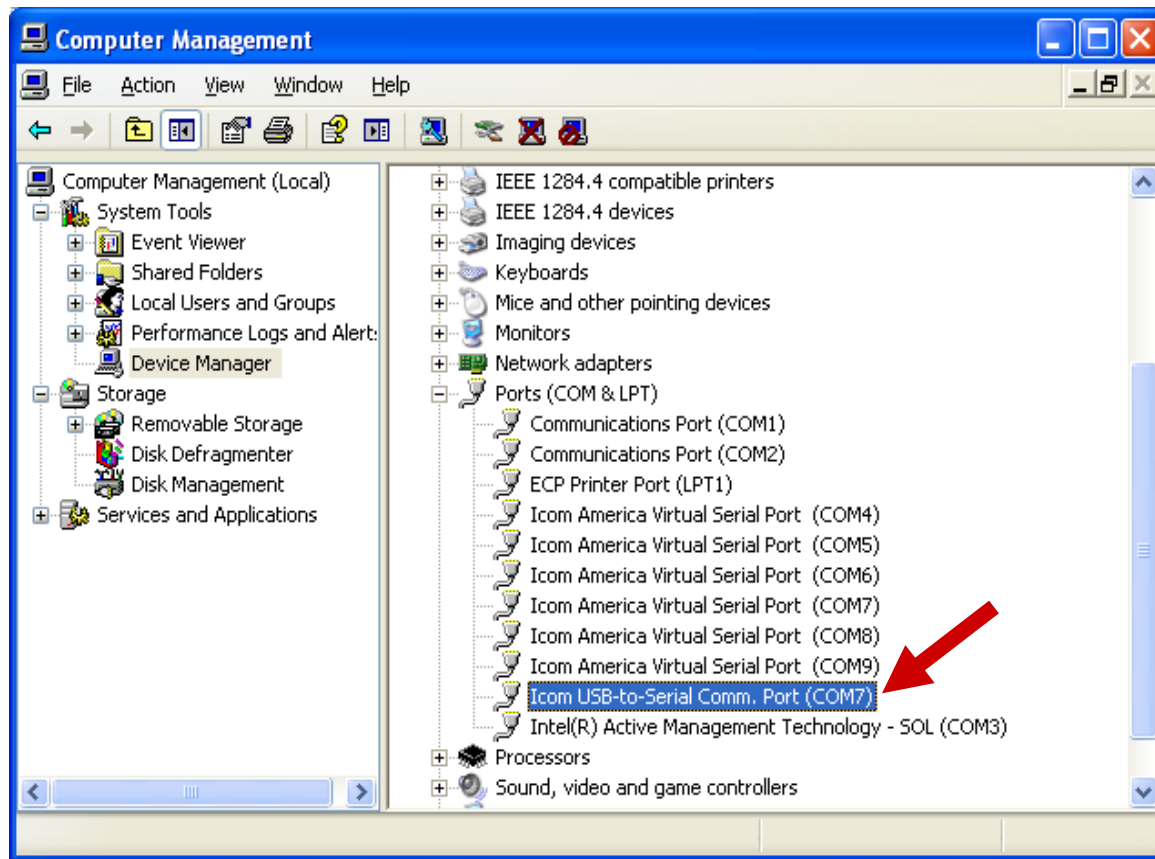
Check your Com Ports (USB):

1. Go to your Start Menu.
2. Right click My Computer.
3. Select Manage.



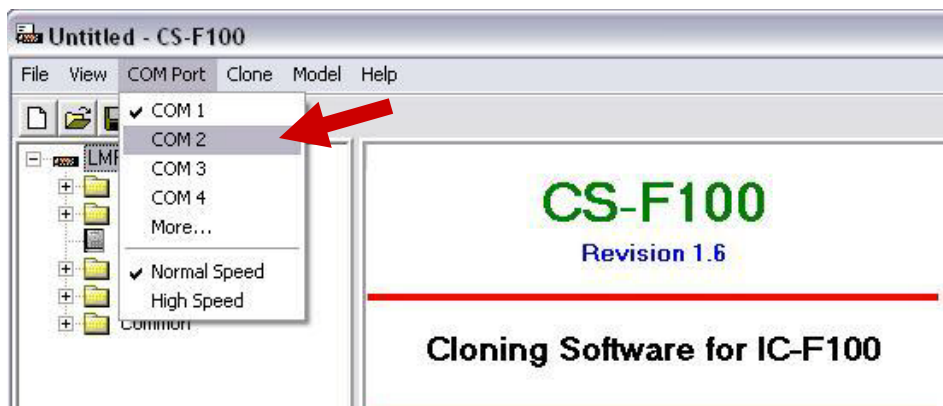
# Selecting Your Com Port

4. Select Device Manager in Tree Menu
5. Click on Ports in the menu to the right
6. Find your Port

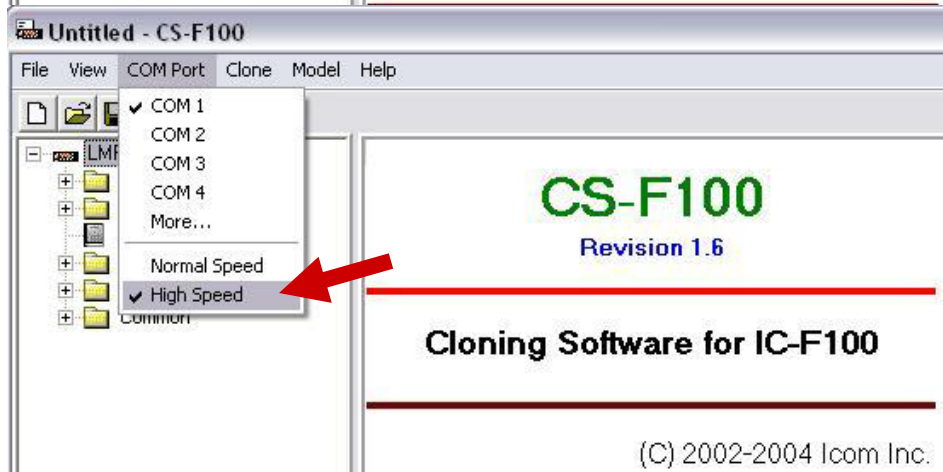




# Selecting Your Com Port

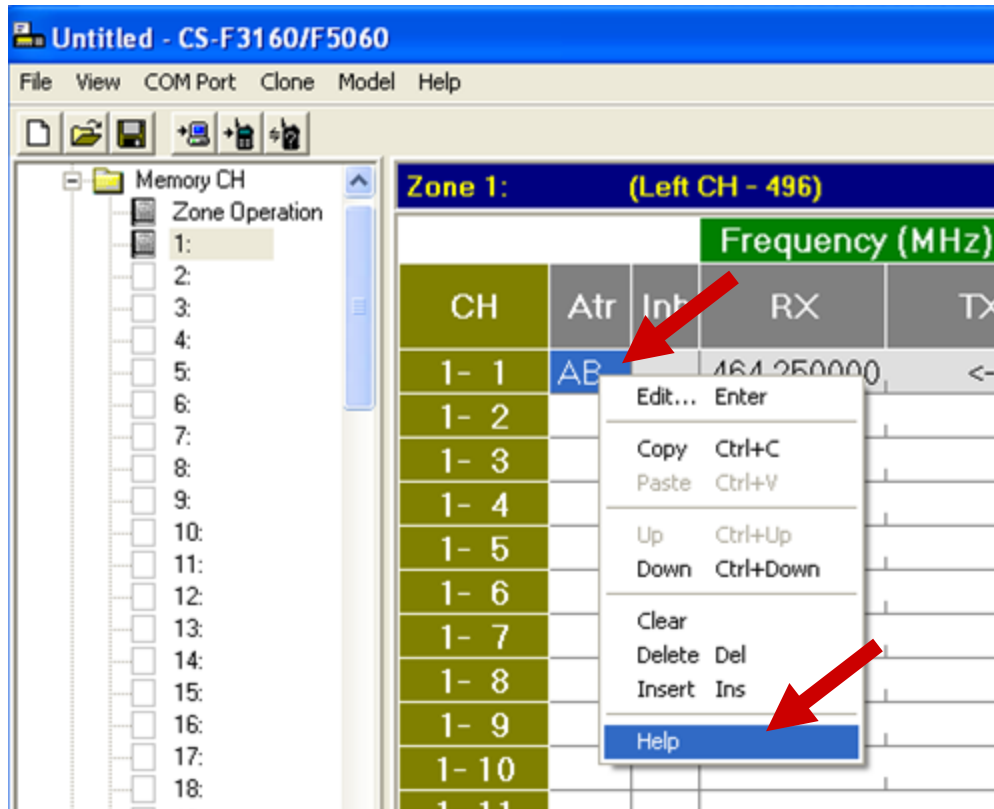


Select the correct  
COM port.



Set the software to  
High Speed.

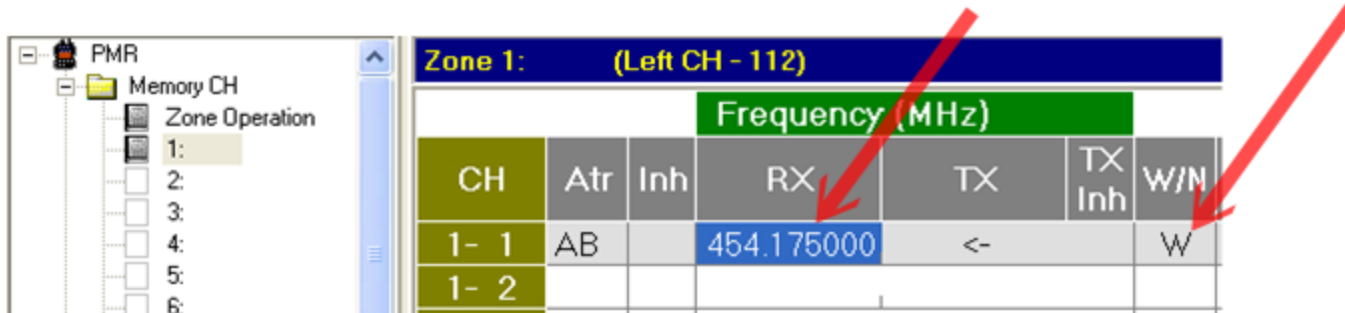
# Help Menu



1. Right click in space and the drop menu will appear.
2. Click on Help at the bottom.

# Enter Frequencies

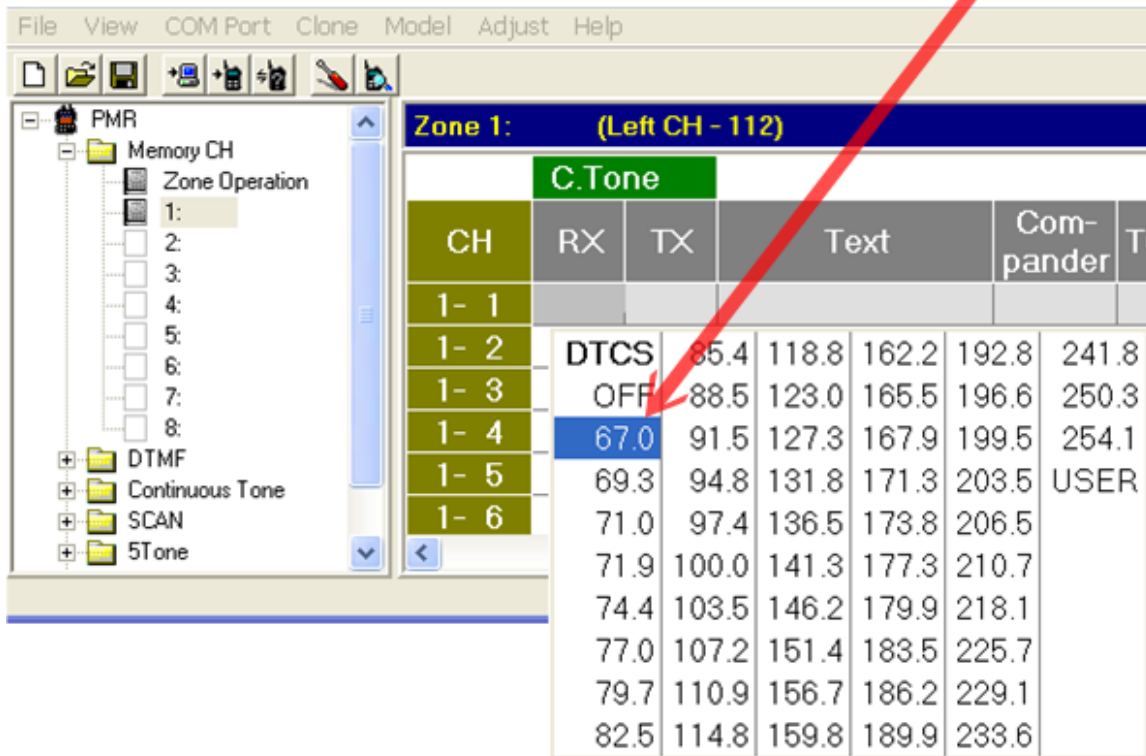
- Go to **Memory CH** Zone 1 and enter your frequency.
- In the **W/N** field, select Wide or Narrow for that frequency.
- If simplex is used, an arrow will appear in the TX column, meaning it is the same as the RX frequency.
- If Duplex, enter the RX, then TX freqs



Zone 1: (Left CH - 112)						
Frequency (MHz)						
CH	Atr	Inh	RX	TX	TX Inh	W/N
1- 1	AB		454.175000	<-		W
1- 2						

# Set Tones

In **C.Tone**, set your tones (if desired) in the **RX** and **TX** fields.



The screenshot shows the ICOM software interface with the 'C.Tone' settings table. The table has columns for CH, RX, TX, Text, Com-pander, and TO. A red arrow points to the RX field for channel 1-3, which is set to OFF.

CH	RX	TX	Text	Com-pander	TO
1- 1					
1- 2	DTCS	85.4	118.8	162.2	192.8 241.8
1- 3	OFF	88.5	123.0	165.5	196.6 250.3
1- 4	67.0	91.5	127.3	167.9	199.5 254.1
1- 5	69.3	94.8	131.8	171.3	203.5 USER
1- 6	71.0	97.4	136.5	173.8	206.5
	71.9	100.0	141.3	177.3	210.7
	74.4	103.5	146.2	179.9	218.1
	77.0	107.2	151.4	183.5	225.7
	79.7	110.9	156.7	186.2	229.1
	82.5	114.8	159.8	189.9	233.6

# Set Tones

In **C.Tone**, should you want a DTCS (digital) tone, select **DTCS** and enter the desired tone number. If you want an inverted tone, add “i” to the end of the tone number. Otherwise, “N” normal is added automatically.

C.Tone					
RX	TX	Text			C
<b>DTCS</b>	85.4	118.8	162.2	192.8	241.8
OFF	88.5	123.0	165.5	196.6	250.3
67.0	91.5	127.3	167.9	199.5	254.1
69.3	94.8	131.8	171.3	203.5	USER
71.0	97.4	136.5	173.8	206.5	
71.9	100.0	141.3	177.3	210.7	
74.4	103.5	146.2	179.9	218.1	
77.0	107.2	151.4	183.5	225.7	
79.7	110.9	156.7	186.2	229.1	
82.5	114.8	159.8	189.9	233.6	

C.Tone	
RX	TX
123N	<-

# Channel Text

H - 496)

	Text	Com- pander	TOT
	CHANNEL - 1		ON

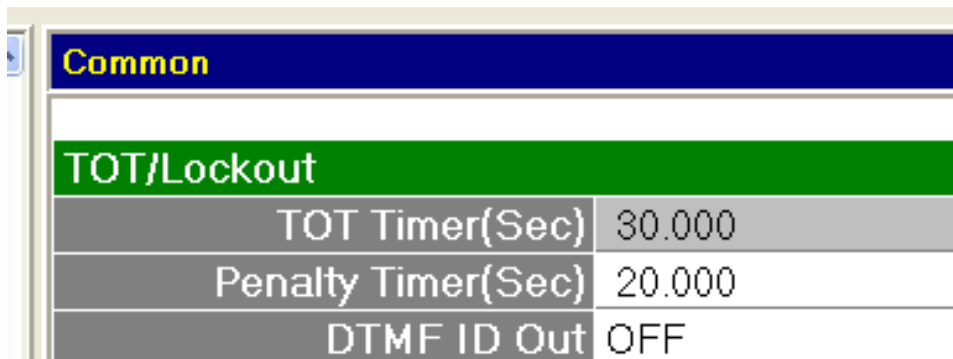
Enter the Channel name in the Text field.

# Time Out Timer

The **Time Out Timer** setting stops the radio user from keying up and using the frequency for an excessive amount of time. After the TOT timer elapses, the radio will automatically unkey.

Zone 1: (Left CH - 496)						
						Scan List
CH	Com- pander	TOT	RF PWR	PWR Save	Lock- out	Scan L
1- 1			H			
1- 2		OFF				
1- 3		ON				
1- 4						

# Time Out Timer



Common	
TOT/Lockout	
TOT Timer(Sec)	30.000
Penalty Timer(Sec)	20.000
DTMF ID Out	OFF

The TOT Timers are in the Common-Common window.

- **TOT Timer** - How long the PTT can be pushed before the TX is disabled.
- **Penalty Timer** - If a TX is disabled due to excessive transmissions, this is the time that must pass before another PTT is allowed.



# RF Power

TOT	RF PWR	PWR Save	Lock-out
ON	H	ON	
	L1 : Low1		
	L2 : Low2		
	H : High		

- Set your Power level at the **RF PWR** Setting.
- The service manual for each radio shows its power level information.
- Generally, L1 = 1 Watt, L2 = 2 Watts, High = 4 or 5 Watts
- Dependent on battery charge

# Power Save

Zone 1: (Left CH - 496)						Scan List
CH	Com-pander	TOT	RF PWR	PWR Save	Lock-out	Scan List
1- 1			H			
1- 2				OFF		
1- 3				ON		
1- 4						
1- 5						

The Power Save setting allows the radio to partially “fall asleep” during periods of no RX or TX. Any PTT or receive signal will return the radio to an alert state.

# Power Save

Common	
PWR Save	
Start Timer(1st)(Sec)	20.000
Start Timer(2nd)(Sec)	60.000
Auto TX	
Auto TX Timer(Sec)	60.000

- **Start Timer (1<sup>st</sup>)** - After this time of inactivity, the radio will partially “fall asleep”. This saves battery power.
- **Start Timer (2<sup>nd</sup>)** - After this time, the radio will fall into a deeper state of inactivity, saving more power.
- PTT or RX activity will return the radio to an active state.

# Squelch Tight

Zone 1: (Left CH - 496)							
CH	(MHz)		W/N	SQL Tight	C.Tone		T
	TX	TX Inh			RX	TX	
1- 1	<-		N	ON			
1- 2				OFF			
1- 3				ON			
1- 4							

- Squelch Tight adds additional squelch to the already existing global squelch setting.
- Is only active on channels with the setting turned on.
- Used for Carrier squelch channels where a stronger SQL is needed for that channel only

# Squelch Tight

Zone 1: (Left CH - 496)				
CH	TX	TX Inh	W/N	SQL Tight
1- 1	<-		N	ON
1- 2				

Set Mode		
	Value	Enable /Inhibit
Backlight	Dim Auto	Enable
LCD Contrast	50	Enable
Beep	ON	Enable
Beep Level	3	Enable
Ringer Level	3	Enable
SQL Level	2	Enable
AF Min Level		Enable

Others	
Beat Cancel	Auto
Forced Narrow	OFF
Forced Narrow Change	Disable
Batt Type Change	Disable
Batt Change Mode	EMR+PTT
SQL Tight Offset	3
AF Amp Always Power ON	Enable

A SQL Tight of 3 PLUS a global squelch of 2 results in a squelch setting of 5 for THAT individual channel.

# Squelch Tight

Zone 1: (Left CH - 112)						
CH	TX Inh	W/JN	SQL Tight	C.Tone		
				RX	TX	
1- 1		N	ON			
1- 2			OFF			
1- 3			ON			

Common	
Forced Narrow Change	Disable
Battery Type Change	Disable
SQL Tight Offset	50
SQL Tight Offset 2	2
DOS Timer(Sec)	0.00
Coast Timer(Sec)	0.00

- SQL Tight setting needs to be set to ON in the Memory channel
- SQL Tight offset value is set in Common settings. This value adds on to the regular squelch value in Set mode settings.