## **ADMS-4B Version 4 Help**

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# **ADMS-4B Version 4 Help**

by RT Systems, Inc

The Programmer is designed to give you the ease and convenience of programming the memories and options of the radio from your PC.

Using the Programmer, you can create separate files for unique applications such as travel, emergency activities, or special events. These files can contain different settings, such as memories, power management features, and DTMF numbers, for each purpose.

The Programmer also gives you the ability to read a configuration from the radio. The configuration would be stored in a file on your computer to be changed easily. Then, with minimal button pushing, you can send the altered file back to program the radio.

## ADMS-4B Version 4 Help

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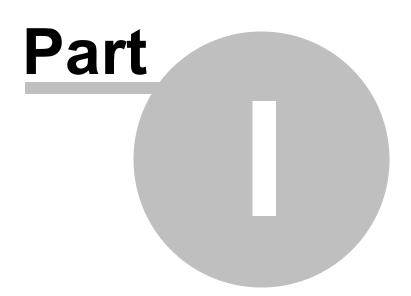
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## Foreword

These help files are offered as reference for the features of the programmer and with some added information about the features and functionality of the radio.

The final reference for a feature of the radio is the Users' Manual for that radio. Any error, omission or misrepresentation of a radio's ability is unintentional.

The Programmer cannot make the radio do anything that it cannot do from the face of the unit. It makes it easier to set options for the existing functions.



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## **1** What Is the Radio Programmer

The Programmer is designed to give you the ease and convenience of programming the memories and options of the radio from your PC.

Using the Programmer, you can create separate files for unique applications such as travel, emergency activities, or special events. These files can contain different settings, such as memories, power management features, and DTMF numbers, for each purpose.

These files are saved separately to be sent to the radio at any time. One file can be sent to the radio at any one time. Be sure to put everything you want into each file as you build it.

The Programmer also gives you the ability to read a configuration from the radio. The configuration would be stored in a file on your computer to be changed easily. Then, with minimal button pushing, you can send the altered file back to the radio.

#### **Hardware Requirements**

Hardware requirements for the Version 4 Programmers include

- A PC running Microsoft Windows: XP, Vista (32 or 64 bit), and Windows 7 (32 or 64 bit). The programmer will NOT work on Windows 98, ME, NT or 2000.
- The correct computer interface cable as shown in the *Radio to Computer Cabling* section of this help.



## 2 Getting Started

## Creating the file

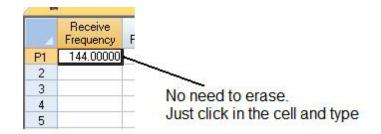
The Programmer gives you an easy way to access details for memory channels and other settings of the radio.

Open the programmer by clicking on the icon that was created during installation. The programmer opens to a default file.

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F	equency	Frequency	Frequency	Direction	Mode		Tone Mode		DCS	Tx Power	Skip	Step	Mask	lcon	Half Dev	Shift	Bank 1	Bank 2	Bank 3	Bank 4	Bank 5	
	44.00000	144.00000		Simplex 💌	FM 💌		None 💌	100.0 Hz	023	High	OH .	5kHz 📦	<u></u>	lcon 12	1				- 8-		10	
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													211		21		17	121	12	111	1	

Note: The default file contains memory channel information on several of the screens. This information is needed by the radio to "fill spaces in its little brain". You can change the default entries that you see; but anything that is completed in the default file cannot be left blank. The Programmer will help you with this. If information is required, it will warn you when it is missing.

Enter a receive frequency

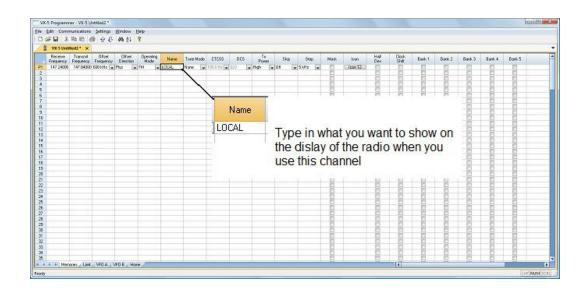


In this example we'll enter 147.240 MHz with standard offset, a Name of Local, and a tone of 100hz.

- Type one four seven period two four zero into the receive frequency column.
- Press Enter.
- The program completes much of the channel information with defaults. The Transmit frequency, Offset frequency, Offset Direction and Operating Mode are completed. This satisfies the "Standard offset" requirement from the original information.

			Settings )																				
	VX-5 Untitle		-		÷																		
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1	47.24000	147.84000 6	001dHz 🖵 I	Plus 💽	e FM 💽		None 🖵	:00 0 Hz	023 🕞	High	06 6	SkHa	1 E		loon 12	E	0	<u></u>	B	0	1		
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-			P1	14	7.24000	14	1.84000	600 k	HZ 💌	Plus	10	FM		-						10	23	8	
-	-		2			1	10.000			1										8		- 53	
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			VFD A VI										1 2			100		13	1.1	1	E3	10	

• Press tab or use your mouse to select the Name cell. Type LOCAL. You choose upper or lower case on many radios. On others, only upper case letters are allowed. The programmer will help you. If a letter or symbol will not work on the radio, you will not be able to enter it here.



• Press tab to move to the Tone Mode cell. Setting up the tone of 100hz requires TW steps (just as it would if you were doing this from the face of the radio). Turn on Tone Mode AND then set the 100hz tone.

VX S UNIX	led2* ×	-						_									_				
	Transmit Frequency 147,84300 f	Office Frequency 6001tHz 💌	Other Direction Plus (#	Operating Mode	Nane LOCAL	Tone Made	CTCSS TOO D Har 💽	DCS   523   -	Te Pover High (w	Skø I Cit i Cit	Step  SKH: w	Nak	iten Ioan 12	Hat Concocco	Clock Shit	Eorth 1	Bork 2	Bark 3	80%.4	Bork 5	
	States and																				
		e Mod		CTCS: 0.0 Hz	-	Tł	ne pr	oar	am w	vill no	ot let	vou	sett	he (	стс	SS					
	Tone Tone			CTCS: D.O Hz	-						ot let the										
					-	to Th	ne u nis k	nles eep:	s yoi s yoi	u set u froi		Ton	e Mo ting t	de t	first.		one				

- This channel is ready to use.
- The other columns are set only if you need them for better radio performance. See Regular Memory Channels in this help and the User's Manual for the radio for details on what these features do and the settings

for them.

There is more to this radio than just memory channels. So, there is more to the programmer. Tabs at the bottom of the main screen give you access to Limit memories, Home channels, Hypermemories, VFO, Marine and Shortwave channels, that apply to your radio.

Transmit Frequency 10 144.00000		Offset Direction implex 💽 I	Operating Mode FM 💌	Nome	Tone Mode None	CTCSS	DCS	Tx Power	10000	The second		_							
					Mana .				Skip	Step	Mask	loon	Half Dev	Clock. Shift	Bank 1	Bank 2	Bank 3	Bank 4	Bank 5
						100.0 Hz	023	High w	Off .	5kHz 💌	0	Icon 12	0.04	0				10	
					2.0	- C-	2	1	Q	10 22	0		0	10	E).	0	0	0	10
					-							-	- 27	- 19		27	199	19	10
											- E		1	- 8-	-B-	6	-B-	B	1
													<u>81</u>	177		10	<u> </u>	10	10
													-8-	-8-	-8-			- 8-	
											1		10	1	1	10		1	1
											(E)			1	8	10	1	1	1
													10 <sup>1</sup>	100	- 273	10	113	10	10
								-					1	- H-	1	1	1	E .	1
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											1		100	10	1	10	D	11	1
											10		13	<u> </u>	1	E	0		E
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		_	-				1		/				- 22		10	10		10	
			as	pec	itic ra	alo		/			0		10	一日	6	0	0	1	1
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			/		/		/				- 8-			- 8-				- 8-	6
		/				/					1		1	1		E .	- E		1
		/		/	/			-			<u>m</u>		0	1	0	0	1	10	1
	- /	/	/										25	100	8	10	10	10	10
-	/	-	/	/						-	1		-		1	1	1	1	1
	/	/	1	_							7117				- 100	100		100	100 CT
				cha	channe	channels, et	channels, etc as	Limit memories, VFC channels, etc as they a specific radio	channels, etc as they appl	Limit memories, VFOs, Home channels, etc as they apply to a specific radio	channels, etc as they apply to	Limit memories, VFOs, Home channels, etc as they apply to a specific radio	Limit memories, VFOs, Home channels, etc as they apply to a specific radio	Limit memories, VFOs, Home channels, etc as they apply to a specific radio	Limit memories, VFOs, Home channels, etc as they apply to a specific radio	Limit memories, VFOs, Home channels, etc as they apply to a specific radio	Limit memories, VFOs, Home channels, etc as they apply to a specific radio	Limit memories, VFOs, Home channels, etc as they apply to a specific radio	Limit memories, VFOs, Home channels, etc as they apply to a specific radio

Click a tab. A screen opens with the details that can be entered for these radio functions. You can work with the radio without ever using these tabs. There are default values on these screens that never need to be changed. Make changes for your special activities when you plan to use one of these functions of the radio.

## Save the file

Now that you have the frequencies entered into the memory channels, Save the file.

•	dit Lonir	runications Settings	Bindow	Belb																	
14	× 12 4	BB @ 08	胡科	8																	
-	DOSTest*	×																			
J	Receive Frequency	Transmit Officer Frequency Frequency	Other Direction	Operating Mode	Nane	Tone Mode	CTCSS	DCS	DCS Polaty	Uter CTCSS	Tx Power	Ship	Step	Mark.	Altenator	S-Meter Squeich	Bel	Hall Dev	- Clock Shitt	BANK 1	BANK 2
	147,24000	147.84000 6001/Hz	Pla	714		Name	100.0 Hz		INSTR.	1600 Hz	High (5 W)	DH	15 8912	15	10	01	C.	1	11	11	15
	147.24500	147.04500 6001412	Pha	194		None	100 D Hz	820	DS-TN	1600 Nz	High (5 W)	Diff	15 49 6	- 23	1	Dt	C6	12	1	19	12
	147,25000	147 85000 600 kHz	Pho	FM		Nove	108.0 Hz	323	RAFTA	1600 Hz	High (5 W)	Diff	1540-0	10	123	01	01	10	10	10	21
4	147.29508	147.85500 600 kHz	Plus	FM .		Norie	106.0 Hz	228	RN-TN .	1600 Hz	High (5W)	0/1	15 MHz	- 63	- 63	01	01	- 81	- 63	12	63
5	147 28000	147.86000 600 MHz	Pho	84		None	100 D Hz	123	EN EN	1600 Hz	High (5 W)	DH:	15 kHz	- 63	0	09	Q#	- 81	- 23	10	6
6	147.28500	147.86500.600 kHz	Put	/H		None	100 D Hz	023	RN/INC	1600 Hz	High (5 W)	DH	15 kHz	13	10	DH .	0.6	10	- E-	13	12
2	147.27000	147.07000 600 kHz	Pha	FM.		None	100.0.93	0.23	EN-EN	1600 Hz	Ngh (5 W)	DIT	1549-b	10	10	01	01	123	10	10	25
8	147 27500	147.87500 600 kHz	Phys	84		None	10E.B.Hz	023	RNTM	1600Hz	High (5 W)	011	15440	12	100	01	G#	(E)	10	12	21
9	147,29000	147,88000 600 kHz	Phri	PH		Nane	100.0 Hz	923	BN FN	1600 Hz	High (5W)	01	15 kHz	- 63	0	01	OK .	8	10	10	2
10	147.29500	147.88500 600 kHz	Pho	64		None	100 0 Hz	023	BN-TN	1600 Hz	High (5 W)	DH	15 kHz	10	1.0	011	08	10	1		- 23
11	147,29000	147.89000 600 kHz	Pla	294		None	100.0 Hr	025	RMTN.	1630145	High (5 W)	DH	15.8912	13	10	01	Q8	10	100	12	10
12	147.29500	147.05500 600 MHz	Pha	714		None	100 D Hz	\$20	RS-TN	1000142	High (5 W)	Diff.	15 kHz	10	10	0.1	05	23	1	12	25
12	147 30000	147 90000 600 kHz	Pho	FM .		None	100 D Hz	823	RNITN	1600.Hz	High (5 W)	Drit	15.6%	- 63	13	01	61	23	10	13	- 63
14	147.30508	147.90500 680 kHz	Plus	RH I		Nané	100 B Hz	823	RNTN .	1600 Hz	High (5W)	01	15 kHz	63	10	01	0.	8	- 63	1	10
15	147 31000	147.91000 600 kHz	Phot	84		None	100 D Hz	823	BNTN	1600 Hz	High (5 W)	DH:	15 4042	63	0	0.9	0.	10	21	10	12
16	445 25000	445,25000	Sinplex w	[FH		None w	100 D He	023	RNIN .	TEODHS -	High B W.	01	w 50 kHz w	13	5	01 .	05 (w)	10	. 22	11	12
17	445 25500	445,25500	Sinpito	FM.		None	100 D.Hz	023	EN DI	1600He	High (5 W)		50 840	10	10	01	Gr	(2)	10	11	21
18	445 29000	445,28000	Sinples	EM .		None	108.8.Hz		RNTM	1600Hz	High (5 W)	01	50 444	13	123	01	01	23	12	12	- 23
15	445 29500	445.26500	Simplex	FM		Nane	100 0 Hz	923	RN IN	1600 Hz	High (5W)	01	50 MHz	- 63	0	01	O#	6	10	13	6
20	445 27000	445.27000	Simplex	PH		None	100 0 Hz	023	BN IN	1600 Hz	High (5 W)	08	S0 kHz	10	10	09	0.6	2	10	13	12
21	445 27500	445.27500	Simplex	294		None	100 D Hz	\$23	195151	16301/2	High (5 W)	Dit	50 895	10	10	01	04	10		12	10
22	445 29000	445,28000	Sinples	7H		None	100 D H;	0.23	RISTN	1600Nz	High (5 W)	Dit .	50 844	10	10	01	01	(E)	10	12	21
23	445 29500	445,28500	Sinples	FM		Nane	100 D Hz	\$23	RNITN	1600142	High (5W)	Drit	50 4Hz	- 13	15	01	O#	8	61	13	- 63
24	445 29000	445.29000	Simplex	RH I		Nané	100 B Hz	823	RN-TN	1600 Hz	High (5W)	09	50 kHz	63	- 63	01	0.	- 63	6	10	10
25	445 29500	445.29500	Simplex	6M		None	100 D Hz	823	BN/TN	1680 Hz	High (5 W)	DH	50 KHz	13	0	01	0#	0	10	10	10
26	445 30000	445.30000	Sinplex	7H		None	100 D Hz	523	HIS-TH.	1000112	High (5 W)	DIT	50 8913	23	20	01	0.5	100	- 27	21	12
27	445 30500	445.30500	Sinplex	FM.		None	100 D Hz	\$23	EN DI	160014a	High (5 W)	DIT	50 89-5	10	10	01	0 ff	823	10	11	21
28	445 31000	445.31000	Sinples	PM		Nane	100.0 Hz	0.23	RNTN	1600 Hz	High (5 W)	0/1	504Hz	10	10	01	0 W	10	10	10	12
25	445 31 500	445.31900	Simplex	PH I		Nane	100.0 Hz	123	BATA	1600 Hz	High (5W)	OH .	50 kHz	10	10	01	G#	103	1	10	1.12
20	445 32000	445.32900	Simplex	84		None	100 B Hz	823	BN-FN	1600 Hz	High (5W)	09	50 816	10	0	09	0.9	10	10	1	12
31	445 12500	445.32500	Simplex	714		None	100 D Hz	\$20	<b>BMTN</b>	10001/2	High (5 W)	DIT	50 89 5	13	10	01	08	10	10	12	10
32	445 23000	445 33000	Sinples	FH.		None	100 D Hz	523	RISTA	1600 No	High (5 W)		50 846	10	10	01	01	100	1	12	2
30	445 33500	445.33500	Singles	FH		Nane	100.0 Hz	\$23	RNTN	1600142	High (5 W)	DH	50 446	10	10	01	G#	10	10	18	1.2
SA	445 34000		Simplex	84		Name	TOD D HE	823	BNTN	1800 Hz		09	50 kHz	12	10	01	Q#	63	10	1	10
25	445 34500	445.34500	Simplex	EM .		None	100 D Hz	823	RNTN	1688Hz	High (5 W)	DR	50 kHz	10	10	01	C#	100	10	10	10
			U . VEDA	VFO 8 / Ha	w Maine		Faile / V		11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	1.000		1.500.0	Town of the second second	100	4		1.00	-	1	1 111	-

## In the menu, click File | Save As

Save in:	VX-8 Prog	rammer		- G 🛛	• 📼 👏 🏚	
C.	Name	Date modif	Туре	Size	Tags	
ecent Places	DCSTest Reader	eral Travel and Er	ntertainmen	t		
Network		DCSTest				Save

Enter a filename. You can be as descriptive as you want. 256 characters including spaces, upper and lower letters, and much more to describe this file. The programmer will enter the extension so it can find the file later.

Once you complete this part of the process, the program will open the last file when it starts up.

## **Even More Radio Functions**

Today's radios can do so much. Many of the features are not a part of the details for a memory channel. These other options are set once for the radio to use no matter what channel you're operating on: memory channel, limit memory, VFO or Home channel.

These options may include, but are not limited to, Lock mode, ARTS details, display brightness and color, DTMF memories, scan resume options, and many others.

Select Settings | Radio Menu settings from the menu at the top of the main screen to access these options. The Settings screen opens to a page with check boxes, list boxes and edit fields. A sample Settings screen would look like this.

annen Lante LO. ( LEAL						
ommon ARTS / Cw / EAI	Messages   5 our	ds   DTMF / Internet	VFU and Menu SH	up   APHS / GPS		
Attenuator Broadcast	Antenna - AM	Home VFO Dial	Moni/TCal	Spec-Analyzer	BlueTooth Set	Password
Attenuator Marine	BAR & EXT 🔻	Enable 👻	Moni 🔻	1 Time 🔻		Enable
Attenuator Weather	Antenna - FM	HM/BV	Priority Time	Time Out Timer		
Auto Repeater Shift	EXT Antenna 💌	Reverse 💌	5 seconds 🔹	3.0 min 🔻	Mode Mono 👻	Programmable Key Assignments
Busy Channel Lockout	Audio Mute Level	Lock 📃 Enable	PTT Delay	VFO Mode	Save Off 👻	Internet Key
Busy LED	Off 🔹	Dial + Key 💌	The second secon	Band 👻		Internet 👻
Fast Tone Search	Auto Power Off	Mem Fast Step	BX AF Dual	VOL Key Mode	Power On 👻	My Key
Memory Protect	Off -	10 CH -	TRX1 sec -	Hold -	P-Code 6111	DC Voltage 👻
Priority Revert	Channel Counter	Memory Write	Rx Save	Vox	10000000	с <u>-</u> у
Split Tone	±5 MHz V	Next -	200 ms -	Off -	Timers	Scanning
Jone Search Mute			Constanting	<u></u>	Enable	✓ Lamp
Tx Save	FW/KeyTimer 0.5 sec 🔹	Mic Gain Level 5 🔹	Smart Search	Vox Delay 0.5 seconds 💌	Olf 00.00	Memory Scan Mode
Display	0.5 260 +	Level 5 +	Single +	0.5 seconds +	and the second sec	All Channel -
Dual/Mono	Sensor	Lamp	Set Mo	de Cursor	On Enable	
Dual Receive	DC	▼ Key5s			00:00	VFO Scan Mode Band 💌
					Weather	
Altitude Units / Olfset	Temperature Fahrenheit	LCD Cor     Level 13		de Format		Resume Mode
	Teneratek	- Level I.			Weather Alert	5.0 sec 💌
Barometric Units / Offset			imer S-Meter	Symbol	Active Channel	Restart Time
mb ▼ 0	All	▼ Level 4	- 10	5 9 -	1 - 162.550 MHz 💌	2.0 sec 🔻

Set the options as you need them to get the performance you want from your radio. The settings shown for your radio will correspond to your radio's features.

Once you have the options like you want it, save this file. Yes, this is saved separately from the frequencies in the memory channels.

To save the file, select File | Save from the menu on the Settings page. Enter a name when the window opens. You will not have to set these options again when you start a new file of memory channels.

Once the file is saved, select File | Exit to return to the main screen of the programmer.

## Sending the file(s) to the radio (programming the radio)

The new *RT Systems*' Version 4 programmers have no comport setup. Using the *RT Systems*' USB cable, you attach the cable, attach the radio, and get the programming done.

#### First: Communications | Get data from

Although you really want to put the details of your file into your new radio so you can use it, doing Get data from with this new radio gets the process started and may help prevent problems sending the file to the radio.

# This process is REQUIRED if your radio has been modified to transmit outside the ham band.

- From the menu at the top of the main window, select File | New. Open a new file to protect the file that you created.
- Connect the *RT Systems* USB cable to a port on your computer. Wait until the New Hardware Found process completes.
- With the radio off, connect the other end of the cable to the radio.
- From the menu at the top of the main window, select Communications | Get data from.

# A screen will open with details about this process specific to your radio.

- Follow these steps carefully until this process is complete.
- Open the file that you created earlier. To open a file select File | Open from the menu at the top. Select your file from those in the list. Or with Version 4, your file may already be open in the other tab.

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	Frequence			Officer	Operation	Nane	Tone Mo	de CTCSS	00	5 DCS Polad	Uper CTCSS	Tx Power	Skip	Step	Mask.	Atenualo	S-Meter Sourich	Bell	Half	Eleck Shitt	BANK 1	BANK 2
PI	147,24000			-	94		None		023	BN-TN	1600 Hz	High (5 W)	OH	15 kHz	11	E.	OH	OF		E)	PL	FI
2	147,24500					1									-	1	0H	0¥	100	1	1	1
3	147.25000	147,85000 6001	Hr Plu		FM	100	Eac	n tab	12.5	i aine	rent fi	le.				10	OH	0¥	101	1.5	10	1
4	147.25500	147.89900 6001	Hr Plu		FM											10	0H	0¥	- E	10	10	1
5	147.26000	147,86000 6001	Hr Ph		FM											10	0H	0¥	10	10	10	13
6	147.26500	147.86900 6001	Hr Plu		FM												OH	0¥	· 63	12	10	1
7	147.27000		Hr Plu		FM		The	files	can	even	he fo	r diffe	pren	t radio	20	13	OH	DF	10	10	10	1
8	147.27500	147.87900 6001	Hr Plu		FM		THE	mcs.	cun	CVCII	DCIO	a Gint	-ici	it raun	55.	13	0H	DF	10	10	1	1
9	147.28000	147.89000 6001	Hr Plu		FM												0H	0¥	· 10	12	12	13
10	147.28500	147.88900 6001	Hr Plu		FM		Nore	TOUDHE	1023	THN-IN	(1630 Hz	High (SW)	Lte	15 kHz	1 121	1 10	OH	0¥	- El .	12	12	1
11	147.29000	147.89000 6001	Hr Plu		FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>CH</b>	15 kHz	10	10	OH	0¥	· 81	10	17	1
12	147.29500	147.89900 6001	Hr Plu		FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>GH</b>	15 kHz	10	1	0H	DF	10	10	1	1
13	147.30000	147.90000 6001	Hr Plu		FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>GH</b>	15 kHz	12	10	0H	0¥	· 10	10	12	1
14	147.30500	147.90900 6001	Hr Plu		FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>OH</b>	15 kHz	12	10	OH	0¥	· 10	12	12	13
15	147.31000	147.91000 6003	Hr Plu		FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>CH</b>	15 kHz	10	10	OH	0¥	· 10	10	12	1
16	445.25000	445.29000	i Sir	ples w	FM 🕞		Norse	100 B Hz	023	Sel SN-TN	1600 Hz	High 15 W.	CH	- 50 kHz	a (m.	1	OH .	0¥ 🗣	1 E	10	10	1
17	445,25500	445.29900	Sir	plex	FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	GH	50 kHz	1 10	1 1	Off	DF	- E	10	1	1
18	445,26000	445.26000	Sir	rplex	FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	0H	50 kHz	12	10	0H	0¥	· 10	12	12	13
19	445,26500	445.26900	Sir	rplex	FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>OH</b>	50 kHz	10	10	OH	0¥	· 63	12	12	1
20	445.27000	445.27000	Sir	roles	FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>CH</b>	50 kHz	10	10	OH	0¥	· 10	10	12	13
21	445,27500		Sir	rplex	FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	GH	50 kHz	13	10	OH	DF	· 10	13	10	1
22	445,28000	445,29000	Sir	rplex	FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	0H	50 kHz	12	10	0H	0¥	- El :	12	12	1
23	445,28500	445.28900	Sir	rplex	FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>OH</b>	50 kHz	12	10	OH	0¥	· 63	12	12	13
24	445,29000	445.29000	Sir	ples	FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	Ott	50 kHz	10	1	OH	0¥	- El	10	1	1
25	445,29500		Sir	plex	FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	GH	50 kHz	10	1	OH	DF	10	10	1	1
26	445 30000		Sir	plex	FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	0H	50 kHz	10	1 1 1	0H	D¥	- E	10	1	1
27	445.30500		Sir		FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)		50 kHz	10	B	0H	0¥	- E	10	P	1
28	445.31000	445.31000	Sir	plex	FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)		50 kHz	10	8	0H	0¥	- El	10	1	1
23	445.31500				FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)		50 kHz	10	8	OH	0¥	10	10	1	1
30	445 32000	445.32000	Sir	ples	FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)		50 kHz	10	1	OH	OF	- El	10	10	1
31	445 32500	445.32900	Sir	plex	FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	0H	50 kHz	10	T B	06	0¥	- EI	10	P	1
32	445.33000	445.33000	Sir	plex	FM		None	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	0H	50 kHz	10	T B	0H	0¥	· 10	1.15	1	1
33	445.33500	445.33900	Sir	ples	FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	<b>CH</b>	50 kHz	10	T B	OH	D¥	· 61	1.5	P	1
34	445.34000	445.34000	Sir	ples	FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)	OH	50 kHz	10	- B	OH	OF	1	10	1	1
35	445 34500	445.34900			FM		Nore	103.0 Hz	0.23	BN-TN	1600 Hz	High (5 W)		50 kHz	0	- B	0H	OF	- E	1	E	1
	a all Mars	ories Skip Lin	a EAL	150 4	NOD D	ma Male	a Darika	Cul Darks	Manfine	_		-	-			4		1	100	A DECKER OF	-	And in case of the local division of the loc

#### Second: Communications | Send data to

• When your file is ready, select Communications | Send data to from the menu at the top of the main screen.

# A screen will open with details about this process specific to the radio.

- Follow the steps carefully to complete this process and program the radio. Read the screen carefully. The steps are often different from those used to get data from the radio.
- Turn off the power. Disconnect the programming cable from the radio.

Your radio may still be in VFO mode after it is programmed. This is a normal mode for the radio. Press the key on the face of the radio as described in the User's Manual for the radio to put the radio into Memory mode and see what you programmed.

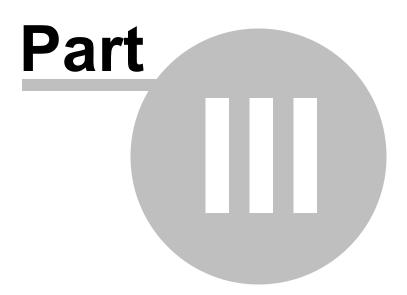
## **Hardware Requirements**

Hardware requirements for the Version 4 Programmers include:

- A PC running Microsoft Windows (XP, Vista or Windows 7). The Version 4 *RT Systems'* software will not work on Windows 98, 2000, ME, or NT.
- Version 4 An open USB port or the RTS-03 USB to serial adapter to work with an original *RT Systems*' 9-pin serial cable.

*Note: The Version 4 programmers will not recognize any other cable or USB adapter. They will not work through a serial port.* 

• The correct computer interface cable as shown in the *Radio to Computer Cabling* section of this help.



### 3 Using the Programmer - Overview

The Programmer is designed to be used in conjunction with the manual for the radio. The Programmer provides easy feature configuration while the written manual provides an explanation of a feature and its use.

## Working with Programming Files

The radio Programmer has the ability to work on more than one file at a time. These can be files for the same radio or for different radios: even radios from different manufacturers.

You can copy and paste frequencies from one file to another. This added feature makes it even easier to create new files as you take pre-programmed memory information from other files.

The name of the file currently being edited is shown in the title bar at the top of the window. If the file has not yet been named, "Untitled #" appears. The "#" increments when multiple new files are being worked on. *Note: Untitled #, the default filename, should not be used for permanent file storage. Even if you work in this file, be sure to enter a different filename when you save.* The file being edited is referred to in this help as the current file.

#### **Creating a New Programming File**

Just like in any other editor, there are several ways to create a new cloning file.

- You can open an existing file, save it with a different filename.
- You can use the File | New command as a starting point for a new "blank" file. This file begins with default information for the radio. The "default' information you see in the file is the same as what was in your radio when you bought it new.
- Another way to create a data file is to upload the contents of the radio with the Communications | Get data from menu command. After executing this command, the current file will reflect the memory channels and feature settings of the radio. Changes are easily made to these settings and the new file saved.

#### Note: Not all the menu settings of the radio are associated with memory channels. Many are "global" settings that affect the radio during memory or VFO operations. These settings are handled in the fields found on the screen accessed under Settings | Radio Menu Settings.

The global settings will be read from the radio; however, by default, these settings are not saved with the file. Select Settings | Radio Menu Settings to view, change and save these settings. Once saved, these global settings will be sent to the radio every time it is programmed. If they are not saved, default settings will be sent to the radio with the memory programming.

#### To save these Global settings

- Select Settings | Radio Menu Settings in the menu on the main screen. The Settings screen opens.
- Verify that your settings are as you want them or make changes.
- From the top of this screen, select File | Save. A Save dialog opens into which you enter a filename. Enter the name for this file and click Save.
- Exit the Settings screen by selecting File | Exit.

This settings file is now available for use by any saved file that you send to your radio.

## Creating and using multiple Global settings files

There may be global settings of the radio that you want configured differently for different activities. You can make changes to your settings file and save it separately.

To select a settings file for use:

- Select Settings | Radio Menu Settings from the main page of the programmer.
- From the Radio Menu Settings screen, select File | Open. A list of settings files will be presented.
- Select the file you want to use and click Open.
- Verify that this is the settings file that you want to use. Check also that the proper filename appears in the bar at the top of the Menu Settings window.

 Select File | Exit to close this screen. These settings will be sent to the radio with each memory channel file until you change this file selection again.

Having multiple memory channel files and multiple global setting files gives you the ability to mix and match the features of your radio to suit your needs. This makes it easy to customize the radio for a special event without disturbing the original programming files. Then once the event is over, simply reprogram the radio with the memory channel information and settings that you use everyday.

## Tying Global Settings to a Memory Channel File

The Version 3 and Version 4 programmers have the option of saving the global settings with the memory channel information. This new feature is not the default for the programmer; but may be valuable under certain programming circumstances (i.e., programming many radios when you want to be absolutely certain that the settings and the frequencies are properly set for a given activity).

To contrast and compare the two Radio Menu Setting options:

• Use Separate file for menu settings (default)

This is the default for the programmer.

This option is based on a "Set and Forget" plan. Once the global settings are configured to your liking and saved, you do not have to repeat this process. This configuration does not change with a new memory channel file.

The last settings file saved is the one that will be used when a memory file is sent to the radio.

You can save several different settings files (i.e., one for your radio and a different one for your son's radio). Then easily match the settings to the radio being programmed without having to make changes in the file repeatedly.

• Keep menu settings and frequencies in a single file. (option)

This option is set on the Settings | Preferences screen.

With this option selected, the Radio Menu Settings as assigned on the Settings | Radio Menu Settings screen are assigned ONLY in this file.

With each new file created the Radio Menu Settings return to factory defaults.

You have the ability to customize the global settings just as you customize the memory channel file. This would be useful if you are programming each radio uniquely.

No guesswork about what the configuration of the global settings. Once they are set, they stay set in this file until you make a change to them.



## 4 Viewing and Changing Programming Files

The Programmer begins in a screen displaying memory channel information for the radio. Default information found in a factory fresh radio is contained in the file. Anywhere this information is displayed it can be changed.

Memory information is easily entered in a spreadsheet style layout. You can view, rearrange, eliminate, or edit these entries. Memory channel 1 must be programmed in most radios. VFOs and Home channels must be programmed. Memory channel 1 and limit memory channels. VFO and Call channels must each contain a frequency appropriate for the band. The programmer checks for missing data when Send data to is executed.

Columns not regularly used are easily hidden with the selections under Settings | Preferences (View | Preferences in earlier versions). Customize your screen for the information you use most often.

## **Radio Menu Settings**

Global menu settings which in earlier programmers occupied the opening screen are now entered on a Settings screen accessed under Settings | Radio Menu Settings (View | Settings in earlier versions). Here options are set for menu settings of the radio that do not change with each memory channel. These settings affect the radio whether it is in memory mode or VFO mode.

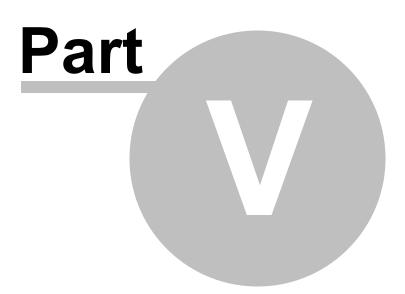
The Radio Menu Settings screens contain check boxes for single click settings and easily filled blanks for personalized options. Once configured, these Settings are saved for use by new files. There is no longer a need to reset the options in each new file or to begin a file from an existing one.

Note: Radio Option Settings (including Lock, Beeps, etc) are read from the radio with the Get data from command. Be sure that settings you have customized are saved in the programmer. Access the Settings screen and use File | Save to make the options that were taken from the radio permanent for programming the radio later. Once saved, the settings will be repeated with each new file of memory channel details.

The programmer has two options for these Settings. Multiple Settings files can be created just as multiple frequency files. Then you can "mix and match" as needed to program a radio for a given situation. Alternately, you can opt to save the Settings as part of an individual file.

You can find more details on these two options under Using the Programmer -

Overview and **Radio Menu Settings - General Overview** in this help. Using individual and separate settings files is the default.



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## 5 Easy Editing in the Grid

Many new data management commands are available in the programming software from *RT Systems*.

The commands listed here are available through a right click menu or from the list that opens when you select Edit from the menu at the top of the screen. These commands can be used on any of the spreadsheets in the program.

#### **Right Click Menu**

Select a row to be edited by clicking on the number to the left of that row. You will notice that the entire row is highlighted (not just the Receive Frequency cell). Release the left mouse button. You will notice that the row remains highlighted until you left click someplace else on the screen of the programmer.

Note: You can select several rows at once (to copy, delete, etc) by clicking on the number to the left of the first of the selection then while holding the left mouse button, drag the mouse across the number of each of the channels to be included. This must be a continuous group.

With the mouse pointing at the highlighted area (anyplace as long as the point of the mouse pointer is within the highlighted area), press the right mouse button. A menu opens with editing options. Release the right mouse button once that menu opens.

Use the mouse to point at the desired command. Left click the mouse to execute that command.

#### Edit Menu

Select a row to be edited by clicking on the number to the left of that row. You will notice that the entire row is highlighted (not just the Receive Frequency cell). Release the left mouse button. You will notice that the row remains highlighted until you left click someplace else on the screen of the programmer.

Note: You can select several rows at once (to copy, delete, etc) by clicking on the number to the left of the first of the selection then while holding the left mouse button, drag the mouse across the number of each of the channels to be included. This must be a

#### continuous group.

Holding neither of the mouse buttons, move the mouse pointer to Edit in the menu at the top of the screen. Press the left mouse button to select this menu option.

Holding neither of the mouse buttons, use the mouse pointer to select one of the editing options shown in the menu. Click the left mouse button to execute this command.

#### **Editing Commands**

The examples here will use the programmers for the Yaesu FT-60 (ADMS-1J) and the lcom IC-91 (WCS-91). You will see by the screen shots that you can copy and paste between files: even files for radios from different manufacturers. The programmer will take care of the similarities and differences.

**Cut (Ctrl+X)** - Removes the selected entry and leaves the memory channel blank. This feature is designed to work for deletion of all the data in a memory channel rather than data in a specific column.

Copy (Ctrl+C) - Copies the selected data.

You can copy two different ways:

Copy <u>all the details</u> of a Memory Channel (one or several at once) or Copy <u>details within one column</u> (from one cell to one or many at one time)

- In most cases, data can be copied from one tab to another (as in left and right memories).
- It can also be copied from one programmer to another (both files Version 3 or Version 4 or even between Version 3 and Version 4 files).
- Data that is not appropriate for where it is to be pasted (i.e., a VHF frequency into a UHF channel) will not be pasted.

#### Copying an entire memory channel or group of channels

Shown here are details for copying within a file. The same actions apply to copy data to another tab of the file or to another programmer.

Open the file.

| 143, 37500<br>143, 40200<br>143, 40200<br>143, 41250<br>143, 41250<br>143, 41250<br>143, 41250<br>143, 41250<br>143, 41250<br>143, 4250<br>143, 4250<br>143, 4750<br>143, 4250<br>143, 51280<br>145, 51280<br>145, 51280  | cy Offset<br>Direction<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex  | Operating<br>Hode         Composition           Auto         52   | ENRUE<br>ENRUE<br>ENRUE<br>ENRUE<br>ENRUE<br>ENRUE<br>ENRUE<br>ENRUE<br>ENRUE  
   | Shive Name   | Tune Mole<br>Hone<br>Hone<br>Hone<br>Hone<br>Hone<br>Hone<br>Hone<br>Hon  | CTCSS<br>900.0 Hz<br>300.0 Hz | 023<br>023<br>023<br>023<br>023<br>023<br>023<br>023   
  |  
   | Step     Auto  |   | ** Power<br>19.55 19. | The Parton   | Page  
  | Berk 1   | Bark 2   | Bork 3  | Bork 1   
  | Bark 5   | Serk 6  | Bark 7   |
|---|---|---
--|--|---|---
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---|--
---|---|---|--
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--|--|---|---|--|---|--|
| Tpasant         C/Harl           143, 2000         Presame           144, 2000         Presame           144, 2000         Presame           144, 2000         Presame <th><ul> <li>V Direction</li> <li>Singlex</li> </ul></th> <th>Holds         Holds           Auto         52           Auto         52</th> <th>2092<br/>2092<br/>2092<br/>2092<br/>2092<br/>2092<br/>2092<br/>2092</th> <th></th> <th>None<br/>None<br/>None<br/>None<br/>None<br/>None<br/>None<br/>None</th> <th>200.0 Hz<br/>200.0 Hz</th> <th>023<br/>023<br/>023<br/>023<br/>023<br/>023<br/>023<br/>023<br/>023<br/>023</th> <th></th> <th>Auto<br/>Auto<br/>Auto<br/>Auto<br/>Auto<br/>Auto<br/>Auto<br/>Auto</th> <th></th> <th>Pover<br/>1951 195 195 195 195 195 195 195 195 195</th> <th></th> <th>Page Grabe</th> <th></th> <th>Berk 2</th> <th></th> <th></th> <th>Berk S</th> <th></th> <th>Sork 7</th> | <ul> <li>V Direction</li> <li>Singlex</li> </ul>   | Holds         Holds           Auto         52   | 2092<br>2092<br>2092<br>2092<br>2092<br>2092<br>2092<br>2092   |  | None<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 200.0 Hz<br>200.0 Hz   
  | 023<br>023<br>023<br>023<br>023<br>023<br>023<br>023<br>023<br>023   
  |  | Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto  
   |   | Pover<br>1951 195 195 195 195 195 195 195 195 195   |  | Page Grabe   
   |  | Berk 2   |   
   |   | Berk S   |   | Sork 7   |
| Insulance         Presulance           143, 2520         143, 2523           143, 2523         153, 2730           144, 253, 2730         144, 253, 2730           145, 2728         144, 2530           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         144, 2728           145, 2728         144, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         143, 2728           145, 2728         144, 2728           145, 2728         144, 2728           145, 2729         145, 2728  | <ul> <li>V Direction</li> <li>Singlex</li> </ul>   | Holds         Holds           Auto         52   | 2092<br>2092<br>2092<br>2092<br>2092<br>2092<br>2092<br>2092  
  |  | None<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 200.0 Hz<br>200.0 Hz  | 023<br>023<br>023<br>023<br>023<br>023<br>023<br>023<br>023<br>023  
   
   |  | Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto  |   | Pover<br>1951 195 195 195 195 195 195 195 195 195   |  | Pager<br>Crable   
  |  
   | Bank 2   |   | Serk 4  | Bank 5   |   | Bark 7   |
| 143, 2000<br>143, 2000<br>145, 2000<br>145, 2000<br>145, 2000<br>145, 31255<br>145, 31555<br>145, 31555<br>145, 31555   | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Single | Auto         22           Auto         32           Auto         42           Auto         42   | 2042<br>2042<br>2042<br>2042<br>2042<br>2042<br>2042<br>2042   |   
                  | None<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 300.0 Hz<br>300.0 Hz  | 823<br>823<br>823<br>823<br>823<br>823<br>823<br>823<br>823<br>823   
  |  
   | Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto  |   | \$\$\$\$\$\$\$\$\$\$\$\$  |  |  
   |  |  
   |   |   |  |   |  |
| 143, 27300<br>143, 2030<br>143, 2030<br>145, 31250<br>145, 31350<br>145, 31350<br>145, 31250<br>145, 31250<br>145, 31250<br>145, 31250<br>145, 31250<br>145, 41250<br>145, 415  | Singlex<br>Explain<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Single | Ante 11<br>Auto 12<br>Auto 1 | 2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2040,2<br>2000,2<br>2000,2<br>200,2<br>2000,2<br>2000,2<br>2000,2<br>2000,2<br>2000,2<br>2000,2<br>2000,2<br>2000,2<br>200   |  | None<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 200.0 Hz<br>200.0 Hz  
   | 823<br>823<br>823<br>823<br>823<br>823<br>823<br>823  
   | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>1  |
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  | 423<br>423<br>423<br>423<br>423<br>423<br>423<br>423<br>423<br>423   
  |  | ALS<br>ALS<br>ALS<br>ALS<br>ALS<br>ALS<br>ALS<br>ALS<br>ALS<br>ALS  
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| 143, 1000)<br>145, 31250<br>145, 31250<br>145, 31250<br>145, 32500<br>145, 32500<br>145, 32500<br>145, 32500<br>145, 32500<br>145, 32500<br>145, 41250<br>145, 51000<br>145, 51250<br>145, 5  | Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex  | Auto 32<br>Auto 52<br>Auto 53<br>Auto 53<br>Auto 52<br>Auto 5 | 20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20902<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20002<br>20000<br>20000<br>20000<br>20000<br>20000<br>200000<br>20000<br>20000<br>20000<br>20000<br>20000<br>20000 |  | None<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 200.0 Hz<br>200.0 Hz   
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| 145, 1289<br>145, 1390<br>145, 1390<br>145, 1390<br>145, 1390<br>145, 1990<br>145, 1990  | Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex<br>Smplex  | Auto S1<br>Auto S1<br>Auto S1<br>Auto S2<br>Auto S1<br>Auto S1<br>Auto S1<br>Auto S1<br>Auto S2<br>Auto S | EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLEM |  | None<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 100.0 Hz<br>100.0 Hz  
   | 623<br>623<br>623<br>623<br>623<br>623<br>623<br>623<br>623<br>623  
   |  | Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto   
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| 145, 137800<br>145, 13730<br>145, 13730<br>145, 13730<br>145, 13730<br>145, 13730<br>145, 13730<br>145, 14730<br>145, 41235<br>145, 41255<br>145, 41255<br>145, 41255<br>145, 41255<br>145, 41255<br>145, 41255<br>145, 14500<br>145, 14700<br>145,   | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex  | Auto         51           Auto         52           Auto         64           Auto  | DANA<br>DANA<br>DANA<br>DANA<br>DANA<br>DANA<br>DANA<br>DANA   |  |
None<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 200.0 H9<br>200.0 H9  | 123<br>123<br>123<br>123<br>123<br>123<br>123<br>123<br>123<br>123   
  |  
   | 2,40<br>8,40<br>8,40<br>8,40<br>8,40<br>8,40<br>8,40<br>2,40  |   | 105<br>105<br>105<br>105<br>105<br>105<br>105<br>105<br>105<br>105  |  |  
   |  |  
   |   |   |  |   |  |
| 143, 33730<br>143, 2500<br>143, 2500<br>143, 2500<br>143, 2500<br>143, 4000<br>145, 4250<br>145, 4250   | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex   | Auto 31<br>Auto 32<br>Auto 3 | DANE<br>DANE<br>DANE<br>DANE<br>DANE<br>DANE<br>DANE<br>DANE   |  | None<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 200.0 mg<br>200.0 mg<br>200.0 mg<br>200.0 mg<br>200.0 mg<br>200.0 mg<br>200.0 mg<br>200.0 mg<br>200.0 mg<br>200.0 mg  
   | 423<br>423<br>423<br>423<br>423<br>423<br>423<br>423<br>423<br>423  
   | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10   | 8,40<br>A.40<br>A.40<br>A.40<br>A.40<br>A.40<br>A.40<br>A.40<br>A.   
  |   | high<br>High<br>High<br>High<br>High<br>High  |  |   
  | 000000000000000000000000000000000000000  |  | 0000000   |  
  |  | 100000000000000000000000000000000000000   |  |
| 143, 25000 143, 2500 145, 2500 145, 250 145, 250 145, 250 145, 250 145, 420 145, 420 145, 421  | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex  | Auto         S2           Auto         W           Auto         W           Auto         S2           Auto         Auto           Auto         Auto   | DANE<br>DANE<br>DANE<br>DANE<br>DANE<br>DANE<br>RAND<br>DOWN<br>XIMON<br>DAP   
   |  | None  | 300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz  | 623<br>623<br>623<br>623<br>623<br>623<br>623<br>623<br>623<br>623   
   
  | 00<br>00<br>00<br>00<br>00<br>00<br>00<br>00<br>00<br>00   | Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto  |   | High<br>High<br>High<br>High<br>High  |   
  |  
   |  |  |   |   | 5  | 00000   |  |
| 145, 58230 [<br>145, 59230 [<br>145, 49250 [<br>145, 40000 [<br>145, 41250 [<br>145, 51210 [<br>145, 51210 [<br>145, 51200 [<br>14  | Singlex      Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex     Singlex  | Auto         ¥         32           Auto         52         54           Auto         54         54           Auto         54         54           Auto         54         54   | EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE  |   
  | None x<br>None<br>None<br>None<br>None<br>None<br>None<br>None  | 300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz  | 023<br>023<br>022<br>023<br>023<br>023<br>023<br>023<br>023  
   
  | 10<br>10<br>10<br>10<br>10   | Auto<br>Auto<br>Auto<br>Auto<br>Auto<br>Auto  |   | 5 + 5 5 5   |  |  
   |  | 000  
   |   |   | 0  | 10  | 0000   |
| 143, 37500<br>143, 40200<br>143, 40200<br>143, 41250<br>143, 41250<br>143, 41250<br>143, 41250<br>143, 41250<br>143, 41250<br>143, 4250<br>143, 4250<br>143, 4750<br>143, 4250<br>143, 51280<br>145, 51280<br>145, 51280  | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex   | Auto SI<br>Auto SI<br>Auto SI<br>Auto SI<br>Auto SI<br>Auto OX<br>Auto OX<br>Auto OX<br>Auto OX<br>Auto OX<br>Auto OX<br>Auto OX<br>Auto OX<br>Auto OX  |
EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLE<br>EMPLEM |  | None<br>None<br>None<br>None<br>None<br>None<br>None  | 300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz  | 823<br>822<br>823<br>823<br>823<br>823   
   
  | 0#<br>0#<br>0#<br>0  | A,40<br>AL00<br>AL00<br>A,40<br>A,40<br>A,40  |   | High<br>High<br>High<br>High  
   |  | 10<br>10<br>10   
   | 8  | 5  |   | 8   | 1  |   | 10   
   |
| 243,28793<br>143,4000<br>145,41250<br>145,41250<br>145,41250<br>145,41250<br>145,41250<br>145,41250<br>145,41250<br>145,41250<br>145,41250<br>145,41250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>145,51250<br>1  | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex   | Auto SI<br>Auto SI<br>Auto SI<br>Auto OP<br>Auto OV<br>Auto O<br>Auto Ko<br>Auto Auto<br>Auto   | INFLE<br>INFLE<br>INFLE<br>INFLE<br>INFLE<br>INFLE<br>INFLE<br>INFLE<br>INFLE<br>INFLE<br>INFLE  
   | DELESSING SIN  | None<br>None<br>None<br>None<br>None<br>None<br>None  | 200.0 Hz<br>200.0 Hz<br>200.0 Hz<br>200.0 Hz<br>200.0 Hz<br>200.0 Hz  | 822<br>823<br>823<br>823<br>823  
   
  | 0#<br>0#<br>0#   | ALAD<br>ALAD<br>ALAD<br>ALAD  |   | High<br>High<br>High  
   |  | 10   
   | 8  | -  |   | 8   | -  | - 8   | 8  |
| 143,4000<br>145,41250<br>145,4250<br>145,4500<br>145,4500<br>145,4500<br>145,4500<br>145,4500<br>145,4500<br>145,5100<br>145,5100<br>145,5100   | Simplex<br>Simplex<br>Simplex<br>Simplex<br>Simplex<br>Simplex<br>Simplex<br>Simplex<br>Simplex<br>Simplex<br>Simplex<br>Simplex  | Auto         SZ           Auto         SZ           Auto         SZ           Auto         OZ           Auto         OZ           Auto         OZ           Auto         NZ           Auto         NZ           Auto         NZ           Auto         NZ           Auto         NZ   | ANYUE<br>RAND<br>KONN<br>KONN<br>KONN<br>KONN  
   | THE STREET   | None<br>None<br>None<br>None<br>None<br>None  | 300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz<br>300.0 Hz  | 023<br>023<br>023<br>023   
   
  | 04<br>04<br>04   | Auto<br>Auto<br>Auto  |   | High<br>High  
   | 10   | -  
   | 8  | 1  | 1   | 8   | 1  | 1.12  | 13   |
| 143.41280<br>143.42780<br>143.42780<br>143.42780<br>143.42780<br>143.42780<br>143.42780<br>143.42780<br>143.42780<br>143.5280<br>143.5280   | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex  | Auto         SI           Auto         OP           Auto         OX           Auto         Auto           Auto         Auto   | ANYON<br>CANYON<br>CANYON  
   | DENNSSISE  | None<br>None<br>None<br>None<br>None  | 300.0 Hg<br>300.0 Hg<br>300.0 Hg<br>300.0 Hg  | 023<br>023<br>023  
   
  | o#<br>off  | ALA0<br>ALA0  |   | High  
   | 1  | 8  
   |  |  | E1  | - E3  |  |   |  |
| 145.42500<br>143.43750<br>143.45200<br>143.46230<br>143.47500<br>143.47500<br>143.48750<br>143.5000<br>143.5210<br>143.5210   | Singles<br>Singles<br>Singles<br>Singles<br>Singles<br>Singles<br>Singles<br>Singles  | Auto 07<br>Auto 03<br>Auto 03<br>Auto 03<br>Auto 03<br>Auto 03<br>Auto 03<br>Auto   | RAND<br>XXXVXXX<br>XXXVXXX<br>XXXVXXX<br>XXXVXXX   
   | DSSSSSC  | None<br>None<br>None<br>None  | 300.0 Hg<br>300.0 Hg<br>300.0 Hg  | 023<br>023   
   
  | off  | 4,40  | 1   |   
   |  |  
   |  |  |   | 100   | 101  | 1   | 1  |
| 143.43730<br>143.45000<br>143.46230<br>143.47500<br>143.47500<br>143.5000<br>143.5000<br>143.5210<br>143.5210   | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex   | Auto 0X<br>Auto 02<br>Auto 10<br>Auto 10<br>Auto 10<br>Auto   | XNNN<br>XNVON<br>XNVP  
   | RSSSE  | None<br>None<br>None  | 300.0 mg<br>300.0 mg  | 823  
   
  |  |   |   |   
   |  |  
   | 8  | - 21   |   | 8   | - 20   |   | 1  |
| 243.45000<br>243.46230<br>243.47500<br>243.48750<br>243.50000<br>243.51280<br>243.51280   | Sinplex<br>Sinplex<br>Sinplex<br>Sinplex<br>Sinplex<br>Sinplex  | Auto C/<br>Auto K,<br>Auto K<br>Auto Auto   | CANYON LUGP  
   | N N N  | None<br>None  | 100.0 Hz  |  
   
  |  |   |   | High  
   | 10   | 10   
   | 10   | 10   | 10  | - 11-   | - 10   | 10  | 10   |
| 143, 46230<br>143, 47500<br>143, 48750<br>143, 56000<br>143, 51250<br>143, 51250  | Singlex<br>Singlex<br>Singlex<br>Singlex<br>Singlex   | Auto Ki,<br>Auto Ki<br>Auto   | 0409   
   | N NO   | None  |   |  
   
  | OH   | Auto  |   | High  
   |  |  
   | -8-  | - 10-  |   | -8-   |  | - 21  | - 10-  |
| 143.47500<br>143.48750<br>143.58000<br>143.51250<br>143.51250   | Simplex<br>Simplex<br>Simplex<br>Simplex  | Auto Kit<br>Auto<br>Auto  |  
   | X  |   |   | 023  
   
  | OH   | Auto  | - 24  | High  
   | - 54   | 10   
   | - 14 -   | - 14   |   | - 14 -  |  | - 24  | 10   |
| 143-48750<br>143-50000<br>143-51250<br>143-51250  | Simplex<br>Simplex<br>Simplex   | Auto<br>Auto  |  
   | 10   |   | 100.0 Hy  | 822  
   
  | Off  | A.40  | 1 12  | High  
   |  | 1 12   
   | - 14-  | 10   | 10  | - 14 -  |  | - 21  | 10   |
| 143.50000<br>143.81280<br>143.82500   | Smplex<br>Smplex  | Auto  |  
   |  | None  | 100.0 Hz  | 023  
   
  | O <sup>M</sup>   | Auto  | 1 10  | High  
   | 1 12   | 100  
   | 10   | 10   | 1   | - 14 -  | - 14   | 1   | 10   |
| 143.51250<br>143.52500  | Seplex  |   |  
   | 11   | None  | 300.0 Hz  | 123  
   
  | Off  | Auto  | 1   | High  
   |  | 1  
   | 1  | 11   | 1   | - 14-   | 11   | 1   | H  |
| 143.52500   |   |   |  
   | H  | None  | 300.0 Hg  | 623  
   
  | off  | 2.40  | 1 14  | High  
   | 1  | H  
   | - H-   |  | 1   | - 11 -  |  | 1   |  |
|   |   | Au/00   |  
   | 11   | None  | 300.0 Pg  | 023  
   
  | 0 <sup>M</sup>   | 44,40   | 11  | High  
   | 100  | 11   
   | E E  | 171  | 11  | 10  | 171  | 11  | E.   |
| 143.53750   | Singlex   | Auto  |  
   | 11   | None  | \$00.0 mg   |  
   
  | Off  | AL AD   | 11  | High  
   | 171  | M  
   | M  | 11   | 11  | - Pl  | 171  | 11  | P  |
| 143.55000   | Smolex  | Auto  |  
   | 11   | None  | 300.0 Hz  | 0.23   
   
  | OH   | Auto .  | 1 12  | High  
   | 1  | 1  
   | 10   | 10   | 1   | -11-  | 1  | 1   | 1  |
| 143.56230   | Service   | Auto  |  
   | 11   | None  | 300.0 Ptr   | 923  
   
  | OH   | Auto .  | 1 11  | High  
   | 1  | E .  
   | 100  | 11   | 10  | - 6-  | 1  | 11  | 10   |
| 143.57500   | Simplex   | Auto  |  
   | 11   | None  | 100.0 Hz  | 822  
   
  | Off  | ALAD  | 1 21  | High  
   | 1  | 13   
   | 1 10   | 12   | 1   | - 61 -  | 12   | 10  | 13   |
| 143.58750   | Smplex  | Auto  |  
   | 13   | None  | 300.0Hz   | 623  
   
  | OH   | Auto  | 171   | High  
   | 171  | F1   
   | 10   | 171  | 171   | 10  | 171  | 171   | 10   |
| 143.60000   | Smplex  | Auto  |  
   | 11   | None  | 300.0 Hz  | 023  
   
  | OM   | Au/to-  | 171   | High  
   | 171  | 171  
   | 10   | 11   | 17  | 11  | 11   | 11  | 13   |
| 143.61280   | Serplex   | Au/00   |  
   | 1  | None  | 300.0 Hg  | 023  
   
  | off  | 44.40   | 1   | High  
   | 1  | 1  
   | 1 10   | 6  | E   | - 6-  | 10   | 10  | 10   |
| 143.63500   | Simplex   | Auto  |  
   | 13   | None  | 300.0 mg  | 823  
   
  | Off.   | ALAD  | 23  | High  
   | 1  | 12   
   | 10   | 10   | 13  | 13  | 10   | 13  | 13   |
| 143.63750   | Simplex   | Auto  |  
   | - 13   | None  | \$00.0 Hz   | 0.23   
   
  | Off  | Auto  | 13  | High  
   | 12   | 13   
   | 10   | 10   | 10  | 10  | 10   | 13  | 13   |
| 143.65000   | Singlex   | Auto  |  
   | 13   | None  | 300.0 Hz  | 023  
   
  | OH   | Au/o  | 13  | High  
   | 10   | E3   
   | 10   | 11   | 13  | 10  | 10   | 13  | 13   |
| 143.66290   | Singlex   | Au/00   |  
   | 11   | Nove  | 300.0 Mg  | 023  
   
  | ON .   | ALA0  | 73  | High  
   | 13   | 13   
   | 10   | 13   | 10  | 13  | 17   | 13  | 13   |
| 143.67500   | Simplex   | Auto  |  
   | 12   | None  | 300.0 Hz  | 823  
   
  | Off  | Auto  | 23  | High  
   | 13   | 13   
   | 13   | 12   | 13  | - 63  | 13   | . E   | 13   |
| 143.68750   | Smplex  | Auto  |  
   | E1   | None  | 300.0 Hz  | 023  
   
  | Off  | Auto  | 10  | High  
   | 10   | 10   
   | 1.1  | 1  | 10  | 13  | 10   | 1   | 13   |
| 143.70000   | Smplex  | Auto  |  
   | 11   | None  | 300.0 Hg  | 023  
   
  | Off  | Au/10   | 10  | High  
   | 13   | 10   
   | 10   | 10   | - 23  | - 13  | 10   | - 23  | 13   |
| 143.71290   |   |   |  
   | 1  | None  |   |  
   
  |  |   | 11  | Hgh   
   | - E  | 10   
   | - 6  | 12   | 1   | - 13  | 1  | 1   | 1  |
| 143.72500   | Singlex   | Auto  |  
   | -  | None  | 500.0 mg  | 823  
   
  |  | ALAD  | 1   | High  
   | 1  | 1  
   | 10   |  | 1   | 13  | 1  | E   | 13   |
| 143.73750   |   |   |  
   | 0  |   |   |  
   
  |  |   | 10  |   
   | 10   | 10   
   | 0  | 10   | - 60  | - 63  | 10   | - 53  | - 10   |
| 143.79000   | Service   | Auto  |  
   | - 12   | None  | 300.01%   | 023  
   
  |  | A,40  | 1   | High  
   |  |  
   |  | 13   |   | - 0   | 1  |   | - 13   |
| 143.76250   |   |   |  
   | - 11   |   |   |  
   
  |  |   | 10  |   
   | 1 12   |  
   | - 8-   | - 11   | 1   |   | - 11   | E   |  |
| 143.77500   |   |   |  
   |  |   |   |  
   
  |  |   |   |   
   |  |  
   |  | 1  | E.  |   | - 13   | E   |  |
| 143.78750   |   |   |  
   | - 61   |   |   |  
   
  |  |   | 1 12  |   
   | 1 10   | - 8-   
   | 8  | - 61   |   | -8-   | - 6  | - 5   | -8-  |
| 141.80000   |   |   |  
   |  |   |   |  
   
  |  |   | 1   |   
   | 10   | 1  
   |  | 10   | 10  |   | 10   |   |  |
| 143.81230   |   |   |  
   | - 11   |   |   |  
   
  |  |   | 1   |   
   |  |  
   | -8-  | 1  | 1   | -8-   | 10   |   |  |
| 143.82500   |   |   |  
   | -6   |   |   |  
   
  |  |   | - 8   |   
   | - 8-   | - 8-   
   | - 8-   |  |   | -8-   |  | - 5   |  |
| 143.83750   |   |   |  
   | -5   |   |   |  
   
  |  |   | 10  |   
   | 1 10   |  
   | - 8-   | 10   | 1   | - 8-  | - 10   |   |  |
|   |   |   | energe l   
   | -  | 14046   | 12011204  | 1443   
   
  | 100  | 14,40   | 0   | night.  
   | 10   |  
   | 1.10   | 12   | - 63  | - 10  | E.   | E.  | 1 12   |
| 143.7<br>143.7<br>143.7<br>143.7<br>143.7<br>143.7<br>143.7<br>143.8<br>143.8   | 12500<br>12750<br>1000<br>1220<br>1250<br>1250<br>1250<br>1250<br>1250<br>12  | Singlex         Singlex           1750         Singlex           1500         Singlex           1500         Singlex           1500         Singlex           1500         Singlex           1500         Singlex   | Stropke         Auto           2730         Singlex         Auto           7000         Singlex         Auto           7000         Singlex         Auto           7000         Singlex         Auto           7500         Singlex         Auto           7500         Singlex         Auto           7500         Singlex         Auto           0000         Singlex         Auto           1230         Singlex         Auto           1230         Singlex         Auto           1240         Singlex         Auto           12730         Singlex         Auto  | 1500         Simpler         Auto           20700         Simpler         Auto           20700         Simpler         Auto           20700         Simpler         Auto           20701         Simpler         Auto           20702         Simpler         Auto           20703         Simpler         Auto           20704         Simpler         Auto           20705         Simpler         Auto | 1950         Singler         Allo            2750         Singler         Allo            2750         Singler         Allo            2750         Singler         Allo             2750         Singler         Allo             2750         Singler         Allo             2750         Singler         Allo             2750         Singler         Allo             2750         Singler         Allo             2750         Singler         Allo             2750         Singler         Allo         13Mell            2750         Singler         Allo         13Mell            2750         Singler         Allo         13Mell            2750         Singler         Allo         12Mell | 1500         Singlike         Auto         □         Nore           1720         Singlike         Auto         □         □  | Stropke         Auto         Image         Notes         00.0 mm           2750         Singlex         Auto         Image         0         Notes         00.0 mm           3750         Singlex         Auto         SINMet         Image         Notes         00.0 mm           3750         Singlex         Auto         SINMet         Image         Notes         00.0 mm           3750         Singlex         Auto         SINMet         Image         Note         00.0 mm           3750         Singlex         Auto         SINMet <t< td=""><td>Structure         Antro         Import         Mone         Solid registry         23           Structure         Antro         Import         Import         202         202           Structure         Antro         Import         Mone         Solid registry         202           Structure         Antro         Import         Import         202         202           Structure         Antro         Import         Import         202         202           Structure         Antro         Import         Import         202         202         202           Structure         Antro         Import         Import         202</td><td>Strujke         Adv         E         Hore         Strujke         2.0         Off           3750         Strujke         Adv         Image         Strujke         Off         Off</td><td>Strophe         Advo         Image         None         Strophe         2.3         Off         Advo           Strophe         Advo         Image         Strophe         2.3         Off         Advo           Strophe         Advo         Image         Strophe         2.0         Off         Advo           Strophe         Advo         Image         Image         2.0         Off         Advo           Strophe         Advo         Strophe         Image         2.0         Off         Advo           Strophe         Advo         Str</td><td>Single         Adv         Image         Bone         20.0 mp         20.0 mp         Adv         Image           2000         Single         Adv         Image         0.0 mp         0.</td><td>Stropics         Adva         Image         None         Stropics         Adva         Image         None         Image         Image</td><td>Single         Adv         Image         None         20.0 mp         23.0 mp         Auto         Image         <t< td=""><td>Struke         Adv         Fib         Nove         Struke         Nove         Nove</td><td>Stropke         Adv         Pice         None         Stropke         Stropke         None         Stropke         Stropke         None         Stropke         Stropke         None         Stropke         &lt;</td><td>Single         Adv         File         Nove         Single         Adv         File         &lt;</td><td>Stroke         Adv         Nove         Store         3         Off         Adv         P         Nph         Image         Image</td><td>Single         Adv         En         None         Differ         <thdiffer< th="">         Differ         <thdiffer< th=""></thdiffer<></thdiffer<></td><td>Striple         Ado         Fib         Fib</td><td>Single         Adv         For         Nore         Off         Adv         Figh         C         <thc< th=""> <thc< th=""></thc<></thc<></td></t<></td></t<> | Structure         Antro         Import         Mone         Solid registry         23           Structure         Antro         Import         Import         202         202           Structure         Antro         Import         Mone         Solid registry         202           Structure         Antro         Import         Import         202         202           Structure         Antro         Import         Import         202         202           Structure         Antro         Import         Import         202         202         202           Structure         Antro         Import         Import         202 | Strujke         Adv         E         Hore         Strujke         2.0         Off           3750         Strujke         Adv         Image         Strujke         Off   | Strophe         Advo         Image         None         Strophe         2.3         Off         Advo           Strophe         Advo         Image         Strophe         2.3         Off         Advo           Strophe         Advo         Image         Strophe         2.0         Off         Advo           Strophe         Advo         Image         Image         2.0         Off         Advo           Strophe         Advo         Strophe         Image         2.0         Off         Advo           Strophe         Advo         Str | Single         Adv         Image         Bone         20.0 mp         20.0 mp         Adv         Image           2000         Single         Adv         Image         0.0 mp         0.  | Stropics         Adva         Image         None         Stropics         Adva         Image         None         Image         Image | Single         Adv         Image         None         20.0 mp         23.0 mp         Auto         Image         Image <t< td=""><td>Struke         Adv         Fib         Nove         Struke         Nove         Nove</td><td>Stropke         Adv         Pice         None         Stropke         Stropke         None         Stropke         Stropke         None         Stropke         Stropke         None         Stropke         &lt;</td><td>Single         Adv         File         Nove         Single         Adv         File         &lt;</td><td>Stroke         Adv         Nove         Store         3         Off         Adv         P         Nph         Image         Image</td><td>Single         Adv         En         None         Differ         <thdiffer< th="">         Differ         <thdiffer< th=""></thdiffer<></thdiffer<></td><td>Striple         Ado         Fib         Fib</td><td>Single         Adv         For         Nore         Off         Adv         Figh         C         <thc< th=""> <thc< th=""></thc<></thc<></td></t<> | Struke         Adv         Fib         Nove         Struke         Nove         Nove | Stropke         Adv         Pice         None         Stropke         Stropke         None         Stropke         Stropke         None         Stropke         Stropke         None         Stropke         < | Single         Adv         File         Nove         Single         Adv         File         < | Stroke         Adv         Nove         Store         3         Off         Adv         P         Nph         Image         Image | Single         Adv         En         None         Differ         Differ <thdiffer< th="">         Differ         <thdiffer< th=""></thdiffer<></thdiffer<> | Striple         Ado         Fib         Fib | Single         Adv         For         Nore         Off         Adv         Figh         C <thc< th=""> <thc< th=""></thc<></thc<> |

Select the data to be copied.

To select an **entire row**, point your mouse at the <u>number in the blue box at</u> <u>the left of the row</u>. Click and release the left mouse to select that row. The entire row will be highlighted when it is selected.

To select **multiple rows**, point your mouse at the number in the blue box at the left of the first row to be selected. Click and hold the left mouse button as you drag the pointer over the next several channels that you want to copy. The channels must be sequential for multi channel copying. All the selected channels will be highlighted.

To select **all rows**, point your mouse at the number in the blue box at the left of the first row. Left click the mouse. Release the mouse. Press Ctrl A to select all. The entire page will be highlighted. **Note:** If you have a lot of channels to select, rather than trying to select them with the mouse, simply select the first one and press Ctrl A. The copy and paste process does not care if blank channels are selected.

2	K 🖬 🕯	B 8 4	000	da 24	8																		
	FT-60 Und	Red1* ×																					
	Receive	Transmit Frequency	Offset Frequency	Offset	Operating Mode	Name	Show	Tone Mode	CTCSS	DCS	Skp	Shep	Ceck Shift	Tx Power	Tx Narrow	Pager Frable	Bank 1	Bank 2	Bank 3	Bank 4	Bank 5	Bank 6	Barik 7
	243.25000	143.25000		Sepiex	Auto	SINFLE	13	None	100.0 Hz	023	Off	Au/to	13	Hgh	13	13	13	123	12	13	13	10	13
	243.26250	143.26250		Snplex	Auto	SINPLE	13	None	100.0 Hz	023	011	Au/00	12	Hgh	E	13	1	E3	E	12	13	12	P3
	343.27500	143.27500		Simplex	Auto	SNPLE	11	None	100.0 Hz	023	Off	Au,to	13	High	13	13	13	11	11	13	13	11	11
	343.28753	143.28750		Sinplex	Auto	SINPLE	8	None	100.0 Hz	023	Off	Auto	13	High	13	13	13	13	13	1	13	13	13
	243.30000	143.30000		Snplex	Auto	SPIPLE	1	None	100.0 Hz	023	011	AURO	10	High	1	13	1		13	10	- E3		- 13
	343.31250	143.31250		Sinples	A.40	SNPLE	13	None	\$00.0 Hz	023	011	AL.CO	12	High	13	11	13	10	11	13	10	13	11
		143.32500		Sinplex	Auto	SINFLE	13	None	100.0 Hz	023	off	Auto	13	High	13	13	13	13	10	13	13	10	10
	243.33750	143.33750		Seplex	Auto	SPIPLE	1	None	100.0 Hz	023	OFF	Auto	1	High	1	1	<u> </u>		1	1			1
Ļ	\$43,39000	\$43.35000		Sinplex	Auto	SINFLE	13	None	100.0 Hz	023	Off	Auto	10	High	13	13	13	13	13	13	13	10	13
Ļ	343.36250	143.36250				SINFLE			100.0 Hz			w Auto	- E	High is	-	-		-	-	1		-	-
	143.37500	143.37500		Seplex	Auto	SINPLE	1	None	100.0 Hz		OFF	Auto	-	High	-	1	0		-	1			
	\$43.38750	147.78750		Sinplex	Auto	SINPLE	13	None	100.0 Hz	023	off	Au,to	1	High	-		10	10		13	10	10	
	343.40000	343.40000		Sepiex	Auto	SINFLE		None	100.0 Hz		Off	Auto		High	-		-		1	-			
	143.41250			Septex	Auto	GRAND	1	None	100.0 Hz			Auto		High	10		10	-	-	0			
	143,43750	143.42500 143.43750		Singles Singles	Auto Auto	DOWN	N	None	100.0 Hz 100.0 Hz		110	Auto		High	10	100		100		101	10		
	243.45000	143.45000		Singles	Auto	CANTON	N N	None	100.0 Hz		Off	AUto		High			8		8	8			8
	243.46250	143.46250		Singlex	Auto	KU43P	191	None	100.0 Hz		OFF	Auto		High	10	10	100	-	1	11	-	100	-
	143,47500	143,47500		Singles	Ada	100140	126	None	100.0112		Off	Auto		High	10		1	1	1	101	10		-
	243.48750	143.40750		Singles	Auto	newrop	1	None	100.0 Hz		off	Auto	- 24	High			100		100	10			
	243.50000	143.50000		Simplex	Auto		11	None	100.0 Hz		OFF	Auto	1	High	10	1	10	1	10	191	10	E III	m
	\$43.51250	143.51250		Sinplex	Auto			None	100.0 Hz		Off	Auto		High	-	1	10	1	1	10		-	1
	143,52500	143.52500		Sepiex	Auto		m	None	100.0 Hz		Off	ALC: N	P1	High	11	171	11	11	11	171	11	10	10
	543.53750	143.53750		Sergiex	Auto		11	Nome	100.0 Hz		OFF	Auto	171	High	11	1	10	11	11	171	100	11	11
	143.55000	143.55000		Sopies	Auto		m	None	300.0 Hz		ott	Auto	E I	High	ET.	1	13	E I	F	E	1		F
	143.56250	143.56250		Singles	Auto		m	None	100.0 Hr		Off	Auto	1	High	ET.	ET.	13	11	11	11	1	11	m
	143.57500	143.57500		Sepiex	Auto		1	None	100.0 Hz		Off	ALICO	1	Hoh	1	2	13	1	1	1	2	1	1
	143.58750	143.58750		Singles	Auto		1	None	100.0 Hz		off	44,00	1	Hoh		1	1	1	1	1	1	-	
	143.68000	143.60000		Sinplex	Auto		11	None	100.0 Hz		Off	Auto	12	High	11	11	1	11	12	13	1	1	1
	343.61250	141.61250		Sinclex	Auto		8	None	100.0 Hz		off	Auto	1	High	13	13	1		6	8	13	1	E
	143.62500	143.62500		Singles	Auto		11	None	100.0 Hz		OFF	Auto	1	High	1	1	13	11	11	13	13	13	
	\$43.63753	143.63750		Sinplex	Auto		11	None	100.0 Hz		Off	Auto	12	High	11	13	13	121	10	13	100	13	11
	343.65000	143.65000		Sinplex	Auto		13	None	100.0 Hz		off	Auto	12	High	1	1	13	1	1	123		13	1
	243.66250	143.66250		Serpiex	Auto		1	None	100.0 Hz		OFF	Auto		High	1	1			1	13	13		
	\$43.67500	\$43.67500		Sinplex	Auto		13	None	100.0 Hz	023	Off	Au,to	13	High	13	13	13	13	1	13	13	13	13
	143.68750	143.68750		Sepier	Auto			None	100.0 Hz		Off	Auto		High	1				1	1			
	\$43,70000	143.70000		Seplex	Auto		13	None	100.0 Hz		Off	Auto	13	High	13	13	13	13	13	13	1	13	1
	143.71250	143.71250		Sinplex	Auto		1	None	100.0 Hz		off	Auto		High	1	1	12	13	1	13		13	1
	343.72500	143.72500		Sinplex	Auto .			None	100.0 Hz		Off	Auto .		High		1	10		1	12	1	1	
	143.73750	143.73750		Sinplex	Auto		13	None	100.0 Hz	023	Off	Auto	1	High	1	1	13		1	13	13	13	6
	143.79000	143.75000		Sinplex	Auto			None	100.0 Hz		Off	AURO		High	- E	-			-	1	-		
	\$43.76250	143.76250		Sinplex	Auto		- 0-	None	100.0112		110	Auto		High		1	- 2-	- 6-	0	1			- G-
	343.77500	143.77500		Sinplex	Auto		10	None	100.0 Hz	023	off	Auto	1	High			100	10		10	-		
	243.78750	143.78750		Singlex	Auto			None	100.0 Hz		OFF	Auto		High	-		0	- 0-	0	-			
	\$43.80000	147.80000		Sinplex	Auto	-		None	100.0 Hz		0H	AL/to		High	-		- 8-			13	-		
	343.81250	143.81250		Simplex	Auto	SNPLE	1	None	100.0 Hz		Off	Auto	-	High	-		-	-		10	1	1	
	143.82500	143.82500		Serpiex	Auto	SIMPLE		None	100.0 Hz		OFF	Auto	-	High	-		-				10		
	\$43.83750	143.83750		Sinplex Sinplex	Auto Auto	SINFLE		None	100.0 Hz	023	011	Auto	1	High		1.1	1.1	in the second se	in the second	1	1.1	-	

#### Copy Command

From the menu at the top of the screen, use your mouse to left click on Edit. From the menu that opens, use the mouse to left click on Copy.

You can also copy by pressing Ctrl C on the keyboard.

Or while pointing at the screen of the programmer, right click and select Copy from the menu that opens.

10.0	Communications	Settings Window	v Belp											20
3	Undo .	Chi+2	24	8										
F	O/L Copy	ColeX ColeC	set chan	Operating Node	Nere	Show Name	Tone Mode	CTCSS	DCS	Skip	Step	Clock Shift	Tx Power	Te Nanov
Ο.	Paste	Colev	× •			1	None 📼				<ul> <li>25kHz</li> </ul>		High 📼	
				FN		<u> </u>	None			01	5kHz	<u> </u>	High	
	Simple Mode			FN			None			01	5kHz		High	<u> </u>
	End	CtriteF		FN		_ <u>_</u>	None			01	5kHz		High	
	Findfillent	112		FN			None			01	5kHz		High	
	Goto Channel	ChileG		FN			None			01	5kHz		High	<u> </u>
				FN			None			01	51Hz	<u> </u>	High	
	[nsert Channel	Shift+Ins		FN				100.0Hz	023	01	5kHz	_	High	
-	Delete Channel	Shift+Cel		FN FN		-		100.DH2	023	01	5kHz 5kHz	-	High	-
-	Gear Channel		-	FM		-	None	100.0Hz	023	01	5kHz	-	High	-
-	Move Up	Ctrl+U		FM		-	None	100.0Hz	023	01	5MHz	-	High High	-
-	Move Down	Ctri+D		FN		-	None	100.0Hz	023	01	5kHz	-	High	-
- 1			-	FM		-	None	100.0Hz	023	01	5kHz	1	High	-
-	Add Frequency Range	hini	-	EN		-	None	100.0Hz	023	01	5kHz	1	High	-
-	Sort			FN		1	None	100.0Hz	023	01	5kHz	1	High	-
-	Linda Sork		-	rn		1	none	100.0112	142.5	on	SINC	-	mgn	-
			-			1						1		-
						100					-	1		-
						1			-			1		-
						1						1		10
-						17			-			1		1
						17						1		1
						r.						1		10
						17			-			1		10
						E.						T.		1
						17			-			1		P.
-						E						T.		F
						17						1		P.
-						E.					_	E .		F
						E			-	-		1		F
		-				17	-		-			1		F
						17	-				-	T.		E
						17	-					17		E
		-				E.						17		P.
1.4.1	H Menories / Linit M	Annual Common	Home	· · · · ·			-	1	1					

It will appear that nothing has happened. The program in conjunction with built in commands of the operating system of the computer has copied the data. It is waiting for you to Paste it where you want it.

**Paste (Ctrl+V)** - Writes the selected data to the current position of the cursor overwriting the data from that point. The Version 3 and Version 4 programmers have the ability to copy and paste data in a single column as well as for an entire row.

Paste Complete Channels

Use the mouse to select the channel where you want the data to start. This can be in another file for the same radio or one for any radio for which you use an RT Systems Version 4 programmer.

Select the row that is the **first** into which the data is to be pasted. The Paste process will begin in that location with the first copied channel and continue in each channel after that with the rest of the channels that were copied.

-			10-91 UM														
Fre	equency	Frequency	Frequency	Direction	Operating Mode	Name	Tone Mode	CTCSS	Rx CTCSS	DCS	Polarity	Skip	Step	Bank	Bank Channel	Conment	
24	46.02000	146.03000		Simplex is	EN E		None ja	88,5Hz	88.5Hz	023	Bath N	017	25 kHz				
					-		-				_	_	-				
											_	-	_				
											-						
											-						
											-						
								-									
					-		-	-			-		-				
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From the menu at the top of the screen, use your mouse to left click on Edit. From the menu that appears, use the mouse to left click on Paste.

You can also paste by pressing Ctrl V with the mouse pointing within the selected area (i.e., just look at where the mouse pointer is on the screen. It must by within the black area on the screen of the programmer for this keystroke to have any effect.).

Or while pointing within the highlighted area, right click and select Paste from the menu that opens.

1	he .	Constantione	Settings Windo	ev Bels	1										- 6
3	3	<u>Undo</u>	Chi+2	24	8										
	F	O.¢ Sapy	Chi+X Chi+C	set ction	Operating Node	None	Show Name	Tane Made	CTCSS	DCS	Skap	Step	Clock. Shift	Tx Power	Te Narcev
t		Paste	ChileV	R.	FN		- F	None	103.0Hz	023	Off	25 kHz	E	High	E
2					FN			None	100.0Hz	023	Off	5kHz	E	High	Г
3		Simple Mode			FN			None	100.0Hz	023	Off	5kHz	L	High	E
4		Find	ChileF	-	FN		Г	None	100.0Hz	023	OIT	5kHz	L .	High	E
5		Findfillent	C0000		FM		- Г		100.0Hz	023	01	5kHz		High	Г
8					FN		Г	None	100.0Hz	023	01	5kHz	Г	High	E
1		Goto Channel	ChHG		FN		Г	None	100.0Hz	023	01	5kHz	Г	High	E
1		Insert Channel	Shift+Ins		FN		- Г	None	100.0Hz	023	01	5kHz	Г	High	- E
1		<b>Delete Channel</b>	Shift+Cel		FN		- Г.		100.DH2	023	01	5kHz	Г	High	17
Û		Gear Channel			FN		- Г.	None	100.DH2	023	01	5kHz	- F	High	15 I
1		Move Up	Chil+U		FN		- F		100.DHE	023	01	5kHz	- F	High	E
2		Move Down	Chi+D		FM		- E		100.0Hz	023	01	5kHz	Г	High	E
3		PIONE COMIN	CUMP	-	FN		- F		100.0Hz	023	01	5kHz	E	High	E
4		Add Frequency Rang	2		FN		- T	None	100.0Hz	023	01	5kHz		High	E
5		Sort			FN		- F	None	100.DHz	023	01	5kHz	Г	High	E
6		tindo Sort			FN		- F	None	100.0Hz	023	01	5kHz	Г	High	E.
7	1						- F						Г		E.
8							- F						Г		E I
9							- F.						Г		
0							- E -						Г		E.
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3							Г						Г		
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5							г						Г		
6							Г						Г		
Τ							Г						Г		
8							Г						Г		Г
9															
0					-		1.1						- E	- V	. <u>.</u> .
1							- E	_		-			Г		
2							E						Г		5
3							E	_					Г		5
4							- F						Г		Ē
5							- F						F		E
	E F	<b>H</b> Menories Linit	Menories / VFO	Hom	e/					41					

The information is pasted into the selected channels.

1	Receive	Transmit	IC-91 Und	Ciffuet	Operating				Rx		DCS				Bank		
	Frequency	Frequency	Frequency	Direction	Mode	Name		le CTCSS	CTCSS	DCS	Polarity	Skp	Step	Bank	Channel	Comment	
0	243.38250 243.37500			Simplex a	FH IS	STARLE STARLE		100.0 Hz	67.0 Hz	023	Bath N	017	5 kHz 🖉				
÷.,		143.38750		Sinplex	PH I	STARTE	None		67.0 Hz		Bath N Gath N	Off	5 kHz 5 kHz				
5	243.38750			Simplex Simplex	FM .	STIPLE	None	100.0 Hz	67.0Hz	023	Bath N	on	5 842				
÷		143,41250		Singlex	FM	57/912	None	100.0 Hz	67.0 Hz	023	Bath N	Off	Silver				
÷	543.42500			Simplex	<b>FM</b>	GRAND	None	100.0 Hz	67.0 Hz	023	Dath N	or	5 894				
é.		142.43750		Singlex	PM .	DOWN	None	100.0 Hz	67.0Hz	023	Dath N	off	Sieg				
2	243.45000			Simplex	FM	CANTON	None	100.0 Hz	67.0 Hz	023	Seth N	OFF	Silve				
8		142.46250		Simplex	EM	KLH3P	None	100.0 Hz	67.0 Hz		ButhN	Off	5 10 12				
9		143.47500		Singlex	FM .	100040	None	100.0 Hz	67.0 Hz	023	Doth N	off	Silver				
30	243.48750			Simplex	PM		None	100.0 Hz	67.0Hz	023	Bath N	OFF	5 kHz				
11		147.50000		Sinplex	FM		None	100.0 Hz	67.0 Hz	023	Sath N	Off	5 kHz				
12	143.51250			Simplex	PM		None	100.0 Hz	67.0 Hz		Sath N	Off	5 kHz				
13	143.53500	143.52500		Simplex	PM		None	100.0 Hz	67.0 Hz	023	BathN	Off	5 kHz				
24		143.53750		Singlex	FM		None	100.0 Hz	67.0 Hz	023	Bath N	Off	5 kHz				
15	\$43.55000			Sinplex	PM		None	100.0 Hz	62.0 Hz	023	Soth N	Off	5 8702				
35		143.56250		Singlex	PM		None	100.0 Hz	67.0 Hz	023	Sath N	off	5 kHz				
17	243.57500			Singlex	F94		None	100.0 Hz	67.0 Hz	023	50 EN N	OFF	5 892				
33		143.58750		Sinplex	FM		None	100.0 Hz	67.0 Hz	023	Suth N	Off	\$194				
29	343.680000			Sinplex	FM		None	100.0 Hz	67.0 Hz	023	Doth N	off	Sketz				
20	143.61250			Simplex	FM		None	100.0 Hz	67.0 Hz	023	Settin	OFF	5 kHz				
21		142.62500		Sinplex	FM		None	100.0 Hz	67.0 Hz	023	BathN	Off	\$ 1042				
22		143.63750		Sinplex	FM		None	100.0 Hz	67.0Hz	023	Dath N	off	Skitz				
23	143.65000			Simplex	FM		None	100.0 Hz	67.0 Hz	023	Bath N	Off	5 kHz				
24		143.66250		Sinplex	FM		None	100.0 Hz	67.0 Hz	023	Bath N	off	5 kHz				
25	343.67500			Simplex	PM .	-	None	100.0 Hz	67.0 Hz	023	Sath N	off	\$ kttr		-		
26		143.68750		Simplex	FM	-	None	100.0 Hz	67.0 Hz	023	Bath N	off	51842				
27		143.70000		Singlex	PH PH		None	100.0 Hz	67.0 Hz 67.0 Hz	023	Seth N Seth N	OT	5 kH2 5 kH2				
20 20		143.71250		Simplex	PN I	-	None	100.0 Hz	67.0 Hz	023	Doth N	off	580				
30		143.72500		Singlex Singlex	FN		None	100.0 Hz	67.0 Hz	023	Date N	OFF	5.892				
30	543,75750			Simplex Simplex	FN	-	None	100.0 Hz	67.0Hz	023	Bath N	Off	51912				
22		143.76250		Simplex	EN .	-	None	100.0 Hz	67.0 Hz	023	Dath N	off	Side				
33	243.77500			Singlex	PM	-	None	100.0 Hz	67.0 Hz	023	BathN	OFF	5 kHz				
34		142.78790		Sinplex	FM	-	None	100.0 Hz	67.0Hz	023	Bath N	Off	S kHz				
35		143.80000		Simplex	PM	1	None	100.0 Hr	67.0 Hz		Dath N	off	Silver				
36	143.81250			Singlex	PM	STYPLE	None	100.0 Hz	67.0Hz		BathN	Off	5 kHz				
37		143.82500		Singlex	FM	STYPLE	None	100.0 Hz	67.0 Hz		Bath N	Off	5 kHg				
38		143.83750		Singlex	PM	STAFLE	None	100.0 Hz	67.0 Hz		Sath N	Off	5 krtr				
29		143.85000		Singlex	PM	STIFLE	None	100.0 Hz	67.0 Hz		Soth N	Off	5 kHz				
40		143.86250		Singlex	PM	STYPLE	None	100.0 Hz	67.0 Hz		Bath N	Off	Sketz				
41		143.87500		Singlex	<b>FN</b>	STYPLE	None	100.0 Hr	67.0 Hz	023	Both N	Off	\$ 8997				
42																	
43																	
-64																	
45																	
46																	
47																	

You can make this process even easier by splitting the screen into two parts. Select Window New Vertical Tab Group for this result.

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1	Copy and	Parte ×										-	1	Copy and	Paste x										
	Receive Frequency		Weet quercy	Offset Direction	Operating Mode	Name	Shew Name	Tone Mode	CTCSS	DCS	Skp	Step 📍		Receive Frequency	Transmit Frequency	Offset Frequency	Offset Direction	Operation Mode	Nome	Tone Mode	CTCSS	Rx CTCSS	DCS	OCS Polarity	Skp
	143.25000	143.25000		Sinplex 💽	Auto .	SOMPLE	13	None w	100.0 Hz	023	w]Off	w Auto	0	143.36250	143.36250		Smplex [a	[FM	w SIMPLE	None (s	100.0 Hz	67.0 Hr	023	Both N	- Off
	143.26250	143.26250			A.00	SIMPLE	E	None	100.0 Hz	023	011	AL/10	1	143.37500			Simplex	FM	SIMPLE	None	\$00.0 Hz	67/0Hz	023	Both N	0#
	143.27500	143.27500			Auto	STYPUS	1	None	100.0 Hz	023	Off	AUTO	2	143.38750			Smplex	PM	SIMPLE	None	100.0 Hz	67.0 Hz		Both N	0#
		143.28750			Auto	STIPLE	10	None	100.0 Hz	023	Off	Auto	3	143.40000			Smplex	PM	SIMPLE	None	300.0 Hz	67.0 Hz	023	Both N	Off
		143.30000			AURO	STYPLE		None	100.0 Hz	023	off	AUTO		143.41250			Smplex	FM	STYPLE	None	100.0 Hz	67/0Hz	023	Both N	Off
5		143.31250			Auto Auto	STYPLE		None	100.0 Hz	023	off	Auto Auto	2	143.42500			Simplex Simplex	714	GRAND	None	100.0 Hz	67.0 Hz	023	Both N Doth N	off
-		143.32500			Auto	57915	- 8-	None	100.0 Hz	023	OFF	Auto	÷	143.45000			Smplex	795	CANYON	None	100.0 Pt	67,0 Hz	023	Both N	OF
0	143.35750	143.35000			Auto	SIMPLE	1	None	100.0 Hg	023	Off	A/02	1 é	143, 46250			Simplex	EM	KU40P	None	100.0 Hz	67.0 Hz	023	Both N	Off
10	343.36250				Auto .	STIPLE	10	None	100.0 Hz	023	Off	Auto	1	143, 47500			Simplex	FM	00040	None	100.014z	67.0 Hz	023	Both N	off
11		143.37500			Alto	50/4LE	171	None	100.0 Hz	023	OFF	Auto	10	143.48750			Smplex	FM		None	100.0 Hz	67.0 Hz	023	Both N	OF
12		143.38750			ALCO .	STAFLE	11	None	100.0 Hz	023	Off	Auto	11	143.50000			Simplex	FM		None	100.0Hz	67.0 Hz	023	Both N	Off
13		143.40000			Auto	STYPLE	11	None	100.0 Hz		Off	Auto	12	143.51250			Smplex	PM		None	100.0 Hz	67.0Hz		Both N	off
14	143.41250	143.41250	1	Simplex	Auto	SOMPLE	13	None	100.0 Hz	023	Off	Auto	13	143.52500	143.52500		Simplex	FM		None	100.0 Hz	67.0 Hz	023	Both N	Off
15	143.42500	143.42500	1	Sinplex	Auto	GRAND	1	None	100.0 Hz	023	Off	AU/10	14	143.53750	143.53750		Smplex	FM		None	100.0 Hz	67,0Hz	023	Both N	off
15	143.43758	143.43750	:	Sinplex	Auto	OOMN	10	None	100.0152	023	Off	Auto	15	143.55000	143.55000		Smplex	<b>PM</b>		None	100.0 Hz	67.0 Hz	023	Both N	Off
17	143.45000	143.45000		Sinplex	Auto	CANFON	¥	None	100.0 Hz	023	Off	Auto	16	143.56250	143.56250		Smplex	/FM		None	100.0 Hz	67.0 Hz	023	Both N	off
18		143.46250			Auto	KUH3P	1	None	100-0 Hg	023	Off	Auto	17	143.57500			Smplex	FM		none	100.0 Hz	67,0112	023	Both N	Off
19		143.47500			Auto	100040	1	None	100.0 Hz	023	Off	Auto	10	143.58750			Smplex	FM		None	\$00.0 Hz	67.0 Hz	0.2.3	Doth N	Off
0		143.40750			Auto			None	100.0 Hz	023	off	Auto	19	143.60000			Smplex	FM		None	100.0 Hz	67.0 Hz	023	Doth N	off
1	243.50000	143.50000			Alto		- 0-	None	100.0 Hz	023	OFF	Au/10	20	143.61250			Smplex	FM		None	100.0 Hz	67,0 Hz	023	Both N	Off
2		143.51250			Auto		13	None	100.0 Hz	023	Off	Auto	21	143.62500			Simplex	FM		None	\$00.0 Hz	67.0 Hz	022	Both N	off
3	143.52500				Auto			None	100.0 Hz	023	Off	Auto	22	143.63750			Smplex	PM	-	None	100.0 Hz	67.0Hz	023	Soth N	off
4	143.53750				A.00			None	100.0 Hz	023	Off	Ai/10	23	143.65000			Smplex	FM	-	None	100.0 Hz	67,0 Hz	023	Both N	0#
5	143.56250	143.55000			Auto			None	100.0 Hz	023	Off	4/10	24	143.6250			Smplex	FM	_	None	300.0 Hz	67.0 Hz 67.0 Hz	023	Both N Both N	0#
16 17		143.56250 143.57500			Auto Auto			None	100.0 Hz	023	off	Auto	28	143.67500			Smplex Smplex	FM	_	None	100.0 Hz	67,0 Hz		Both N	Off
8		143.57500			AUD ALTO			None	100.0 Hz	023	Off	4/10	27	143.88750			Smplex	PM		None	100.0 Hz	67.0 Hz		Soth N	off
29		143,60000			Auto		101	None	100.0102	023	off	AUD2	28	143.71250			Smplex	PM	_	None	100.0 Hz	67.0 Hz	023	Both N	off
10	143.61250				Auto		10	None	100.0112	023	Off	Auto	3	143.72500			Smplex	PM	-	None	100.0 Ht	67.0 Hz	023	Both N	Off
11	143.62500	143-52500			Alle		H	None	100.0 Hg		OFF	A./10	30	143.73750			Simplex	FM		None	100.0 Hz	67.0 Hz		Both N	OF
12		143.63750			Auto		- Pl	None	100.0 Hz	023	Off	Auto	31	143.75000			Simplex	FM		None	100.0Hz	67.0 Hz	023	Doth N	Off
13		143.65000			Auto		11	None	100.0 Hz	023	Off	Auto	32	143,76250			Service	PM		None	100.0 Hz	67.0 Hz	023	Both N	OF
14	\$43,66350	143.66250	1	Grapiew	4.40		121	None	100.0 Hz	023	Off	Au/10	33	143,77900	143.77900		Simplex	FM		None	\$30.0 Hz	67.0 Hz	023	Both N	Off
5	343.67500	143.67500	4	Sinplex	Auto		17	None	100.0 Hz	023	Off	duto	34	143.79750	143.79750		Simplex	FM		None	300.0 Hz	67.0Hr	023	Both N	off
6	143.68750	143.68750		Simplex	Auto		171	None	100.0 Hz	023	Off	Auto	35	143.80000	143.80000		Smplex	FM		None	100.0 Hz	67.0 Hz	023	Both N	Off
7	243.70000	143.70000	1	Sinplex	AL10		13	None	100.0 Hz	023	011	Au/10	36	143.81250	143.81250		Simplex	FM	SIMPLE	None	\$30.0 Hz	67.0 Hz	023	Both N	0#
8	143.71250	143.71250	1	Sinplex	Auto .		10	None	100.0 Hz		Off	AUTO	37	143.82500	143.82500		Smplex	PM	SIMPLE	None	100.0Hz	67.0 Hz	023	Soth N	0#
9		143.72500	1	Sinplex	Auto		13	None	100.0 Hz	023	Off	Auto	38	143.83750			Smplex	FM	SIMPLE	None	100.0 Hz	67.0 Hz	023	Both N	Off
0		143.73750			Auto		13	None	100.0 Hz	023	Off	AUTO	39	143.85000			Smplex	FM	STYPLE	None	100.0 Hz	67/0 Hz	023	Both N	off
1		143.75000			A,to		1	None	100-0 Hy	023	Off	Au/to	40	143.86250			Smplex	/M	SIMPLE	None	\$30.0 Mg	67.0 Hz	023	Soth N	or
12	343.76250				Auto		11	None	100.0 Hz	023	off	Auto	41	143.87500	143.87900		Simplex	PM	SZMPLE	None	200.0 Hz	67.0 Hz	023	Doth N	off
3		143.77500			Auto		1	None	100.0 Hz	023	Off	Auto	42						_	_		_	_	_	-
4		143.78750			Auto		0	None	500.0 Hg	023	Off	Auto	40						_	_			-	_	-
5		143.80008			Auto	Charles C.	- 8-	None	100.0 Hz	023	off	Auto	44						_		-	-	-		
5		143.81250			Auto	STIPLE		None	100.0 Hz	023	Off	Auto	45	-				-	-	-	-	-	-	-	-
7		143.82500			Auto	STYPLE	8	None	100.0 Hz	023	Off	4,10	47						_				-		-
0		143.83750 143.85000			Auto	5044.6	1	None	100.0 Hz		Off	Auto	47	-				-		-	-	-	-		-
2	143.85000	143.85000			Auto Auto	STATE		None	100.0 Hz	023	off	AU/10 AU/10	49							-	-	-	-	-	-
0	143.87500	143.87500			Auto	SPIPLE	1	None	100.0 Hz	023	off	Auto	50						_	-			-		-
2	243.8750				AUTO AUTO	50412	H	None	100.0 Hg	023	Off	Auto	51					-	-	-	-	-	-	-	-
13	143.90000				Alto	244.25	1	None	100.0 Hz	023	OFF	AUD -	52							-			-	-	
	> > Meno				~~~			4	secold's	100	~1								BandBLink						-

Copying details from one cell to change many rows at once.

• **Column editing:** This editing allows you to change the data in the same column of several rows at once. It works a little differently for columns with text (including those into which you enter text and those that you select text from a list) and check box fields. Each of these scenarios is presented here in an example.

<u>Text Cell Editing</u> - To change Tone Mode to Tone for several channels.

Select the Tone Mode field of the first of the channels to be changed.

Make the change by pulling the drop-down and selecting Tone from the list.

1	Copy and	Paste* ×										_		_						_		_		_
	Receive Frequency	Transmit Frequency	Offset Offset Frequency Direction	Operating Mode	Name	Shev/ Name	Tone Mode	CTCSS	DCS	Skp	Step	Clerk Shift	Tx Power	Tx Narrow	Pager Erwible	Bank 1	Bank 2	Bank 3	Bank 4	Bank 5	Sank 6	Barik 7	Bank 8	Beri
	343.25000		w Simplex w		STARLE	13		100.0 Hz 💌			w ctuA w	13	High 🐷	1	13	13	23	1	1	13	13	1	1	Ľ
2	143.26350	143.26250	Sinplex	A.00	SIMPLE		None a		023	off	Au/10	- 13	Hgh		- 13	10	13				- 13			- 5
2	143.27500	143.27500 143.28750	Singlex	Auto	SPIPLE		TSd H			Off	Au/10 Au/10	- 12	High		- 12	10			- 12		- 13	- 12		-
:	143.30000	143.30000	Singlex	A.00	STIPLE	10				Off	AU10	- 22	Hah	- 10	- 10	- 10	10	- 8-	- 14	- 10		171	- 14	-
2	143.31258	143.31250	Singlex	Auto	SIMPLE	10				orr	Auto	- 12	High	- 14	- 14	10	- 14-	- 24	10	- 14	10	- 14	- 24	
	243.32500	143.32500	Singlex	A.10	STATE	1				off	Auto	- 24	High	- 14 -	- M	10	- 21 -	- 14	Pl	1		- 14	- M-	
	243.33750	143.33750	Singlex	A.fp	57445	m				OFF	Auto	- 11	High	- 11	- Fi	ET .	10	10	11	M	11	17	10	
5	543.35000	143.35000	Singles	Auto	SOMPLE	11				Off	Auto	171	High	11	121	11	17	1	PI -	171	12	17	11	
0	343.36250	143.36250	Sinplex	Auto	STIPLE	11	None	100.0 Hz		Off	Auto	12	High	- 11	1	1	1	1	1	1	1	- 11		
1	243.37500	143.37500	Simplex	Auto	STYPLE	17	None	100.0 Hz		Off	Auto	12	High	1	11	12	10	1	12	11	13	1	11	
2	\$43.38753	142.28750	Sinplex	AL10	STYPLE	13	None	500.0 Hz	023	Off	Au/00	123	High	13	E3	13	12	100	- 13	13	23	12	12	
3	343.40000	143.40000	Sinplex	Auto	STYPLE	13				Off	AL/10	12	High	1	12	13	21	12	1	13	23	10	1	
4	143.41250	143.41250	Simplex	AL10	SIMPLE	13				Off	Auto	- 13	Hgh		13	12	13	1	13	13	13	13	- E	
5	143.42500	143.42500	Sinplex	Auto .	GRAND	N)	None		023	off	AL/10	- 13	High		- 13	13	- 13			13		13	13	
<u>.</u>	143.43758	143.43750	Sinplex	Auto	OOMN	8				Off	Auto	_8_	High				- 0-			<u> </u>	- 13			
7	143.45000	143.45000	Sinplex	Auto	CANTON	N.			023	Off	Auto	- 12	Hgh											
	243.46250 243.47900	143.46250 143.47500	Singlex	Auto Auto	KUH3P 100040	M				Off	Auto	- 63	High							- E3				
	343.48750	143.40750	Singlex	Auto	100.40	140				off	Auto	- 22-	High	- 21	- 12	- 12-	- 21	- 14 -	- 12	- 12	- 22		- 14	
	243.50000	143.50000	Singlex	Alto						Off	A./10	- 12	High		- 11	10	10	1		11	12	10		
	142.51250	142.51250	Singlex	Ato		1	None			Off	Auto	-14-	Hab	- 11-	1	10	- 11		1	1	10	- 10	- 14 -	
	343.52500	143.52500	Seplex	Auto		11				Off	Auto	-14	High	- 14	- H	171	11	100	11	11	11	10	14	
	243.53750	143.53750	Singlex	A.00		171				Off	A./10	11	High	10	11	171	171	100	171	11	171	171	11	
	143.55000	143.55000	Sinplex	A.to		Pl	None			Off	4.00	171	High	1	PI	E	10	1	P	P	10	10	1	
	143.56258	143.56250	Simplex	Auto		121	None			Off	Auto	121	High	17	11	173	121	11	11	17	19	173	121	
7	243.57500	143.57500	Sinplex	Auto		E	None	100.0 Hz		Off	AU00	12	High	E	E	E	10	E	E	E3	13	17	E	
5	143-58750	143.58750	Sinplex	Auto		13	None	100.0 Hz		Off	AU/10	123	High	12	13	13	13	10	13	13	13	10	11	
2	\$43.60000	143.60000	Sinplex	Auto		12	None		023	Off	Auto	123	High	10	13	12	13	12	13	13	12	123	10	
2	243.61250	143.61250	Sinplex	Auto		E.			023	Off	Auto	23	High	1	E	1	E	E	1	E	23	1	1	
1	243-62500	143.62500	Singlex	A.to		1				Off	Ar/10	- 13	High		- 11	1								_
2	\$43.63753	143.63750	Sinplex	Auto		13			023	Off	Auto	13	High		11	11	13		11	13	13	12		
3	243.65000	143.65000	Singlex	Auto						Off	Auto	- 13	High	_	1	1	13			1	- 13			
4	\$43.66250	143.66250 143.67500	Sinplex	Auto		10			023	Off	A./10	- 12	High		0	0	- 12		- 12	0	- 12			
	343.67900 243.68750	143.68750	Sinplex	Auto		111	None			Off	Auto Auto		Hgh			10				11				
,	243.70000	143.70000	Sinplex	ALTO		1				Off	4/10	- 22	Hgh	- 24	- 11	1					10		- 24	
-	143.71250	143.71250	Sinplex	Ato		H	None			off	Auto	-11	High	10	171	10	10	10	171	PI I	10	171	10	
	143.72500	143,72500	Singlex	Auto		11				Off	Auto	121	Hoh	10	Pl	Pl	10	1	11	Pl	121	10	10	
	143.73750	143.73750	Singlex	A.10		10				off	4,00	11	Hgh	17	E	E	10	E	E	E	23	173	1	
	143.75000	143.75000	Singlex	A.to		11	None			orr	Au/10	113	High	17	11	11	11	11	11	11	173	11	11	
	143.76250	143.76250	Sinplex	Auto		1	None		023	off	Auto	13	High	10	E	13	1	1	10	13	1	1	1	
	243.77500	143.77500	Singlex	Auto		17				Off	Auto	13	High	1	11	13		1	11	11	13	1	1	
	\$43.79750	143.78750	Sinplex	Auto		13				Off	Au/10	13	High	12	13	13	13	10	13	13	13	10	10	
	143.00000	143.00000	Sinplex	Auto		1			023	off	Auto	10	High	1	11	10	10	10	1	11	13	1	1	
	143.81250	143.81250	Sinplex	Auto	STAFLE	1				Off	Auto	- 61	High	1	1	1	1	1	1	1	1	1	1	
2	143.82500	142.82500	Sinplex	A.10	SIMPLE	10			023	Off	AL/10	-13-	Hgh		1	13	10	13	1	13	13	10	10	
1	143.83750	143.83750	Sinplex	Auto	STIPLE		None			Off	AUTO	- 12	High				10							-
2	143.85000	143.85000	Sinplex	Auto	STATE	0			023	011	Auto	-8	Hgh		10	10	- 61	1	1	- E	E]	- 10	- 51-	-
2	143.86250	143.86250 143.87500	Singlex	Auto	STYPLE		None			off	4/10	-6-	Hgh		10	10	10		10	- E1	10	10	10	-
2	143.88750		Singlex	Auto	57412	8				off	A/10 A/10	-8-	Hah	- 10-		1	- 10	- 61-	- 10	- E			- 14-	
5	243.90000		Singlex	Auto	274.75	1				Off	AUD AUD	- 10	High	- 22	10	10	10	10	1	E .	10	12	1	
			Henories / VID / Hon		-		- 10110		wit.	-		- 14		4	100	100		-	11	100	100	-	_	-

Once the selection is made, the focus will move to the next field. Click back into the Tone Mode field that displays the correct value. When you move back into the field you can copy the information if the field is highlighted with a ring around its border or if the text within is shaded (indicating that it is selected).

Press Ctrl + C, select Edit | Copy from the menu at the top of the screen, or right click and select Copy from the menu that appears. (Just as with row copying in the first example.)

Select the first cell to be changed by pressing Down arrow until that cell is highlighted (the cell will be in the same column so using the Down Arrow key will easily move you to another nearby cell). If you need to move quite a way in the file, move to the first cell to be changed and click the mouse to select that cell.

1	Copy and	Paste* ×																							_
	Frequency		Offset Frequency	Offset Direction	Operating Mode	Name	Shev/ Name	Tone Mode	CTCSS	DCS	Skp	Step	Cleak Shift	Tx Power	Тк Narrow	Pager Enable	Bank 1	Bank 2	Bark 3	Bank 4	Bank 5	Sank 6	Bark 7	Bank 8	
	343.25000			Sinplex	Auto	STYPLE	13	Tone	100.0 Hz	023	Off	Auto	13	High	1	13	13	23	1	12	13	173	1	1	
	143.26250	143.26250		Sinplex 🖉		STYPLE	10	None 👻	100.0 Hz 🖵			¥ 4/30 ¥	- 13	Hgh 🚽		13	0	13		13	0	- 13	- 13 -		
	143.27508 143.28758	143.27500 143.28750		Sinplex Sinplex	Auto	SPIPLE		None			Off	Au/10 Au/10	- 12	High									- 8-		
	143.30000	143.30000		Sinplex	Auto	STIPLE		None			off	4,00	- 12	Hgh								- 10-	- 24-		
	143.31250	143.31250		Singlex	Auto	SIMPLE	11	None			Off	A./to	- 12	High	100	- 21	1	- 14-	- 14	11	11	10	- 24	- 24-	
	243.32500	143.32500		Sinplex	A.10	STIFLE	- H	None			Off	Auto	- 21	High	1	- M	111	- 21 -	10	PI-	P	1	- 8-	1	
	243.33750	143.33750		Singlex	A.fp	57915	m	None			OFF	Au/10	- 11	High	10	M	ET .	10	1	11	Pl	11	10	11	
	543.35000	143.35000		Sinplex	ALIO	SINFLE	11	None			Off	Auto	121	High	11	121	171	11	11	171	121	12	17	17	
	343.36250	143.36250		Sinplex	Auto	STIPLE	12	None	100.0 Hz		off	Auto	12	High	1	1	1	1	10	1	10	1	10	1	
	243.37500	143.37500		Sinplex	Auto	504PLE	17	None	100.0 Hz		Off	Au/to	12	High	1	11	12	10	12	1	11	12	10	1	
	143.38750	142.28750		Sinplex	ALCO	SIMPLE	123	None	100.0 Hz	023	Off	Auto	123	High	10	12	123	12	10	123	13	23	12	1.12	
	343.40000	143.40000		Sinplex	Auto	STYPLE	13	None			Off	AU.135	13	High	10	- 13	13	23	10	1	13	23	12	12	
	143.41250	143.41250		Sinplex	Auto	SIMPLE	10	None			Off	Auto	- 63	High	10	13	10	13	13	13	13	13	- 13	10	
	143.42500	143.42500		Sinplex	Auto	GRAND	N	None		023	off	44,00	-63-	Hgh	- 6-	- 13 -	- 6	- 13	- 13	1	13	13	- 6-	- 6	
	143.43758	143.43750		Sinplex	Auto	OOMN	8	None			Off	Auto	_8_	High		- 0-	8	-8-			1		-8-	- 8-	
	243.45000	143.45000		Sinplex	Auto	CANTON	N.	None		023	Off	Auto	- 12	Hgh							10				
	243.46258 243.47508	143.46250 143.47500		Singlex Singlex	Auto	10004D	M	None			Off	Auto	- 12	High							10	10			
	343.48750	143.40750		Singlex	Auto	100/40	N.	None		023	off	Auto	- 22-	High	- 21-	- 8-	- 8-	- 21	- 61		- 10	- 21-	- 24	- 8-	
	243.50000	143.50000		Singlex	A.40		- 11	None			Off	A/10	10	High	100	11	10	10	10	10	11	11	10	10	
	542.51250	143.51250		Sinplex	Auto		1	None			Off	Auto	- 19	High	1	1	1	11	- 11	1	- H	10	10	- 14 -	
	343.52500	143.52500		Smplex	Auto		m	None			Off	Auto	171	High	10	m	- M	11	11	11	m	Pl	11	11	
	243.53750	143.53750		Singles	4.00		121	None			Off	4.00	171	High	11	11	11	171	11	171	11	171	10	11	
	343.55000	143.55000		Sinplex	ALCO.		17	None	100.0 Hz		Off	4.00	171	High	1	11	E	1	1	11	E	11	1	1	
	143.56258	143.56250		Simplex	Auto		121	None			Off	Auto	171	High	11	11	171	121	11	11	E	123	12	11	
	243.57500	143.57500		Sinplex	Auto		E	None	100.0 Hz		Off	AU00	12	High	E	E	E	10	10	E	10	63	1	E	
	143-58750	143.58750		Sinplex	Auto		10	None	100.0 Hz		Off	AL/10	123	High	10	13	13	13	10	13	13	13	10	13	
	343.60000	143.60000		Sinplex	Auto		12	None		023	Off	Auto	123	High	13	13	123	13	- 13	12	13	12	13	1.1	
	243.61250	143.61250		tinplex	Auto		E	None		023	Off	Auto	23	High	1.1	E	10	E	- E	12	12	1	1	1	
	243.62500	143.62500		Sinplex	A.to		1	None			Off	Ar/10	13	High	1	1	1	1	1	1	1	1	13	1	
	\$42.62750	142.62750		Sinplex	Auto		13	None		023	Off	Auto	13	High	1	11	11	13		12	13	13	13	1	
	243.65000	143.65000		Sinplex	Auto		1	None			Off	Auto	- 13	High			10	13			11	13			
	\$43.66250	143.66250		Sinplex	Auto .			None		023	Off	A/10	- 12	High		0	0	- 12			0			10	
	143.67900	143.67500		Sinplex	Auto		111	None			Off	Au/10		High			10			100	10	10	- 12		
	243.68758 243.70008	143.68750 143.70000		Simplex	Auto			None			off	Auto	- 53	High											-
	143.71258	143,71250		Sinplex Sinplex	Auto Auto		H	None			off	AU00	- 12	High	100	10	10	10	10	10	10	10	10	1	
	143.72500	143,72500		Singlex	Auto		10	None			Off	Au/10	-11	High	1	1 Pi	E E	10	10	1	Pl	10	10	10	
	143.73750	143.73750		Sinplex	A.10		E.	None			off	4,00	11	Hgh	1	FI	E	10	10	F	E	121	10	10	
	141.75000	143,75000		Sinplex	A.to		1PT	None			orr	A./10	175	High	11	PI	E FI	11	11	11	17	171	11	11	
	143.76250	143.76250		Sinplex	Auto		B	None			off	Auto	10	High	E	E	6	6	6	E	1	6	6	E	
	243.77500	143.77500		Sinplex	Auto		17	None	100.0 Hz		Off	Auto	173	High	1	11	173	13	10	17	17	12	10	1	
	\$43.78750	143.78758		Sinplex	Auto		10	None		023	Off	Au/to	13	High	12	13	15	13	10	11	13	13	13	10	
	343.00000	143.00000		Sinplex	Auto		12	None		023	off	Auto	12	High	1	12	12	1	10	12	13	10	1	10	
	143.81250	143.81250		Simplex	Auto	S0/91,E	11	None			Off	Auto	12	High	1	1	11	1	1	1	13	1	10	12	
	\$43.82500	143.82500		Sinplex	ALCO.	STARE	- 13	None		023	Off	AL/10	- 63	High	10	E	10	13	13	13	13	13	13	13	
	343.83750	143.83750		Sinplex	Auto	STIPLE	10	None			Off	Auto	- 63	High	1	1	10	1	1	1	1	1	- 6	1	
	143.85000	143.85000		Sinplex	Auto	50491.E	0	None		023	Off	Auto	10	High	10	0	10	13	10	0	10	13	10	10	
	143.86250	143.86250		Sinplex	ALIO	STYPLE	17	None			off	AU/10	-61	Hgh	- 6	10	- 61-	- 63	- 63	11	10	10	-6-	- 61	
	143.87500	143.87500		Sinplex	Auto	504918	8	None			off	Au/to	-8-	High	-8-		- 6-	- 61	- 6		1	- 6	-8-	- 6-	
	243.88750 243.90000	143.88750 143.90000		Sinplex Sinplex	Auto	STIFLE		None		023	Off	Auto	E	High		- 13	- El		- 63	61	10	- 63	- 63		

If several consecutive rows are to be changed, select them all by holding the Shift Key while you Down Arrow through them or hold the Left Mouse Key while you move your mouse over them (normal Windows selection processes). When they are selected, they will be highlighted in a color based on the scheme of your computer.

Press Ctrl + V, select Edit | Paste from the menu at the top of the screen, or Right Click and select Paste from the options in the menu that opens. The copied value will appear in each of the fields.

1	Copy and	Paste* ×																							
	Receive Frequency	Transmit Frequency	Offset Frequency	Offset Direction	Operating Mode	Name	Shew Name	Tone Mode	CTCSS	DCS	Skp	Step	Clerk Shift	Tx Power	Tx Narrow	Pager Enable	Sank 1	Bank 2	Bank 3	Bank 4	Bank S	Sank 6	Sarik 7	Bank 8	80
1	343.25000			Simplex	Auto	STYPLE	13	Tone	100.0 Hz	023	Off	Auto	13	High	1	1	13	13		10	13	12	10	1	
2	143.26350					SIMPLE	13	fone 👻	300.0 Hz 🚽			- 4,00 -	13	Hgh 🖵		E	13	13		- 13	E3	13		- 63	
2	143-27500			Sinplex	Auto	STYPL:	- 13	Tone	100.0Hz		Off	AL/35	- 13-	High				- 8-				- 8-	-8-	_	
4	143.28753 143.30003			Sinplex	Auto	STIPLE		Tone	100.0 Hz	023	Off	Auto Auto	- 22	Hgh Hgh			10				10				-
2	243.31258			Singlex Singlex	Alto	SIMPLE	111	Tane	100.0 Hz		orr	Auto	- 14	High	- 14	11	- 14-				10		10		
2	143.32500			Singlex	Auto	STIPLE	- 14	Tone	100.0 Hz	023	Off	Auto	-14-	Hah	- 8-	- 8-	1	- 21-	- 14 -	1	1	- 8-	- 21 -	- 14 -	
8	243.33750			Singlex	A.10	57915	11	Tone	100.0 Hz		OFF	Auto	- 11	High	- 11	11	ET.	10	10	11	Pl	11	11	10	
9	\$43,3\$000			Sinplex	Auto	SIMPLE	121	Tone	100.0 Hz		Off	Auto	175	High	11	171	11	11	1	11	121	12	17	11	
10	343.36353	143.36250		Sinplex	Auto	STIPLE	13	Tone	100.0 Hz	023	Off	Auto	12	High	10	1	10	10	1	1	10	1	10	1	
11	243.37500	143.37500		Sinplex	Auto	STIFLE	17	Tone	100.0 Hz		Off	Auto	12	High	10	11	1	1	1	1	12	123	1	1	
12	143.38750			Sinplex	ALCO	SINPLE	- 83	Tone	100.0 Hz	023	ott	Auto	23	High	- 23	13	13	12	10	13	13	123	13	- 23	
13	343.40000			Sinplex	Auto	STYPLE	13	Tone	100.0 Hz		Off	AL100	13	High	10	1	1	1	1	1	13	23	10		
14		143.41250		Sinplex	Auto	SIMPLE	13	Tone	100.0 Hz	023	Off	dtuto	13	High	- 0	10	13	- 63		10	13	10	- 13 -		
15	143.42500			Sinplex	Auto	GRAND	M	Tone	100.0 Hz	023	off	AU/00	- 13	Hgh		11	10				13	10			
35 17	143.43758 143.45008			Sinplex	Auto	CANTON	8	Tone	100.0 Hz		Off	Auto Auto		High	-8-			8			1		-8-		
17	243.46250			Singlex	Auto	KHP	(M)	Tone	100.0 Hz		Off	AU10	- 10	Hgh										- 14	
22	\$43,47500			Singlex	Auto	100040	100	Tone	100.0 Hz		off	Auto	10	Hah	- 10	- 11	11	- 10-	10	10	10	- 20-	- 14	100	
20	343,48750			Singlex	Auto	1001.00	171	Tone	100.0 Hz		off	Auto	- 24	High	- 24	11	10	10	- 24	10	PI	100	12	10	
21	243.50000			Singlex	A.40		11	Tone	100.0 Hz		Off	A./10	11	High	11	M	M	- M	11	m	m	M	11	11	
22	142.51250			Sinplex	Auto		10	Tone	100.0 Hz	023	Off	Auto	10	High	1	E I	1	10	1	1	E I	1	1	1	
23	343.52500	143.52500		Seplex	Auto		171	Tone	100.0 Hz		Off	Auto	173	High	11	11	11	11	11	11	171	12	12	171	
24	243.53750	143.53750		Sinplex	AL00		83	Tone	100.0 Hz	023	Off	AL/10	13	High	10	13	13	13	10	13	13	13	13	13	
25	143.55000	143.55000		Sinplex	Auto		123	Tone	100.0 Hz		Off	4,00	23	High	10	13	12	10	100	12	12	123	100	12	
26	143.56253			Sinplex	Auto		12	Tone	100.0 Hz		Off	Auto	123	High	10	13	12	12	1	12	13	12	12	1	
27	243.57500			Sinplex	Auto		13	Tone	100.0 Hz	023	Off	AURO	10	Hgh	- E	E	10	E		13	13	13	1	E	
28	143-58758			Sinplex	Auto		- 13	Tone	100.0192	023	Off	AU/10	_0_	High		- 10-	10				0	- 0-	- 6		
29	343.60000			Sinplex	Auto			Tone	100.0 Hz	023	Off	Auto		High		0	0				10				
30	243.61253 243.62503			Singlex Singlex	Auto Auto		11	Tone	100.0 Hz	023	Off	AU10 Au/10	- 11	Hgh						11		10		10	
31 22	143.62753			Singlex	Auto		- 14	Tone	100.0 Hz	023	Off	Auto	- 14 -	Hah	- 8-	- 14		- 8-			- 8-	- 8-			
33	243.65000			Simplex	Auto		11	Tone	100.0 Hz		Off	Auto	-14-	High	- 14	11	11	10	10	10	11	- 14-	10	10	
24	543,66250			Sepiex	6.00		11	Tone	100.0 Hz		Off	A-02	171	High	11	11	PI -	10	1	11	171	17	10	1	
25	141.67500			Sinplex	Auto		11	Tone	100.0 Hz		Off	Au/to	11	High	1	P	PI -	10	1	1	1 Pl	10	10		
36	243.68753	143.68750		Sergiex	Auto		171	Tone	100.0 Hz		Off	Auto	123	High	173	F1	171	173	171	171	171	173	177	171	
37	243.70000	143.70000		Sinplex	AL10		173	Tone	100.0 Hz		off	4,/10	173	High	10	E	2	12	1	E3	1 13	100	100	12	
38	143.71250			Sinplex	Auto		13	Tone	100.0 Hz		Off	AL/10	173	High	10	11	23	13	10	17	13	123	10	11	
9	143.72500			Sinplex	Auto		13	Tone	100.0 Hz	023	Off	Auto	123	High	10	13	13	13	1	13	13	13	13	13	
0	143.73750			Sinplex	Auto		13	Tone	100.0 Hz	023	Off	AUTO	13	Hgh	E3	1	10	C	1	13	63	13	- 63	10	
-1	143.75000			Singlex	Auto		13	Tone	3010.002	023	Off	Au/10	- 13	High	- 12	1	1		- 6		10	- 0-			
12		143.76250		Sinplex	Auto		11	Tone	100.0 Hz	023	off	Auto	- 13	High		11	10	10	1	- 11	- 13			- 13	
13	243.77508			Singlex	Auto		- 11	Tone	100.0 Hz		Off	Auto	- 12	High			- 11-	- 6-	1	1	-8-	- 6-	- 61	- 61	
64 15	343.80000			Singlex	Auto		- 61	Tone	100.0 Hz		off	A/to A/to	-12-	Hah	- 10-	- 6	- 10-	- 6-	- 51	1	- 8-	- 8-	- 8-	- 10-	
6	243.81250			Simplex	Auto	STATE	- 11	Tene	100.0 Hz		OFF	Auto	121	High	- 11	11	10	10	1	1	1	10	10	1	
0	542,82500			Singles	Alto	SING	11	Tene	100.0 Hz		Off	AL/10	-10-	Hab	10	1	10	10	1	1	1 10	100	10	1	-
8	143.83750			Simplex	Auto	STIFLE	H	Tone	100.0 Hz		off	Auto	171	High	1	E .	E	10	E.	H	ET.	E .	10	E.	
10	143.85000			Singlex	Auto	50415	12	Tone	100.0 Hz		Off	Au/10	123	High	17	12	12	123	11	11	12	1 12	12	1	
50	143.86250			Sinplex	A.10	STAR	171	Tone	100.0 Hz		off	A/10	173	Hgh	17	E	E1	1	1	E	E	11	17	1	
51	143.87500			Sinplex	Auto	STYPLE	11	Tone	100.0 Hz		off	Auto	171	High	10	11	173	10	11	17	1 13	12	13	17	
12	143.88750	143.88750		Sinplex	Auto	574718	E	Tone	100.0 Hz	023	Off	Auto	10	High	E	E	E	6	1	E	E	6	1	1	
53	243,90000	143.90000		Sinplex	A.10		171	None	100-0 Hg		OFF	AU/00	173	High	23	17	17	173	171	171	1 173	1 17	121	173	

Column editing will address a selection of consecutive cells all at once or individual cells repeatedly. If the items to be changed are not consecutive, you can select and paste repeatedly until all the cells are addresses. You do not have to copy again. The programmer retains the copied value.

<u>Check Box Cell Editing</u> - If you want to put several channels into a Bank, there is no reason to do this one row at a time.

This process varies from the other by how the cells are selected. Check box cells act differently than those that contain text. You can copy from one check box column into another.

In this example, put channels several into Bank 1 without checking the Bank 1 box for each channel.

First, select Settings from the menu at the top of the page. From that menu, select Bank Settings. Several columns of the screen will be hidden leaving only Receive Frequency, Name and Banks. This makes working on the screen easier since you no longer must scroll through several columns that you are not using now.

tot Communications												
Copy and Faste * X												
Receive Name	Bank 1	Bank 2	Bank 3	Barik 4	Bank S	Bank 6	Bank 7	Bank 8	Bank 9	Bank 30	Comment	
243.25000 S0VPLE	173	13	123	23	83	83	123	23	23	8		
243.26250 SIMPLE	13	12	12	23	E3	10	E3	1	13	12		
143.27500 SIMPLE	13	13	10	123	83	13	13	23	10	8		
143.28750 S2VPLE	13	1	10	10	8	8	6	10	- E3	8		
243.30000 STYPLE	13	E3	12	23	13	E	13	10	10			
143.31250 S04PLE	1	12	13	10	10	10	1	<u>[1]</u>	10	0		
143.32500 STYPLE	13	13	123	10	13	13	1	12	13			
243.33750 S3MPLE	1	1	1				1		<u> </u>			
\$43.39000 SIMPLE	13	13	13	13	13	13	13	13	13	<u> </u>		
343.36250 S3MPLE	1	10	1	1			100	1				
243.37500 SIMPLE	- 1	10	10			- 61	0	10	- 2	- 2		
143.38750 SIMPLE	13	13	10			13	10	10	-			
143.40000 S04PLE	- 12	- 13-	10		- 11-		1	10				
143.41250 SIMPLE	- 0	13	10			0	10	<u></u>				
143,41500 GRAND		0	10				10					
143.43750 DOWN		- 8-	8	- 8-	-8-	8	8		8	8		
243.45000 CANION			01	01		10		00				
243.46250 KU43P 543.47503 K004D		10								8		
242.40750	- 8-		- 8-			- 8-						
243.50000	11	10	101				101	01				
543.51250	- 11				- 8-					8		
243.52500	- 11	10	10	- 14	- 14	10	100	10	10	- 24		
243.53750	11	121	100		14	11	071	191	- 24	10		
243.55000	- 14	- M	100	100	- H	m	m	100	- 21	8		
243.56250	11	171	171	101	10	11	171	175	10	1		
243,57500	Pl	Pl	10	P	10	P	P	191	10	10		
243.58750	11	P1	171	871	11	m	171	171	10	Pi I		
243.68000	11	175	10	121	P	PI .	17	15	21	1		
343.61250	F	1 13	100	100	8	E	10	100	1	- Fi		
243.62500	11	E.1	123	875	23	173	F73	175	25	1		
\$43.63750	17	173	10	125	10	17	17	(7)	10	8		
343.65000	12	1	1	10	1.1	1	10	10	10	8		
243.66250	13	12	1	10	10	13	1	1	13	1		
\$42.67900	13	123	123	123	10	13	13	1	13	13		
243.68750	13	173	175	123	10	12	12	E3 -	13	12		
543.70000	13	103	13	10	10	10	13	13	13	0		
243.71250	23	12	12	123	10	23	13	E3	10			
143.72500	13	10	10	13	10	13	13	<u> </u>	13	13		
243.73750	13	18	10	1	10	6	10	E.	<u> </u>			
243.79000	13	- 63	13	10	E3	- 63	E3	13	13	0		
543.76250	13	10	10	10	10	10	10	C	<u> </u>			
243.77503	13	13	13	13	10	13	1	1	-			
243.78750	E	13	10		E			<u> </u>		1		
\$47.90000	13	10	10	10	E3	10	10	13	- 63	12		
343.01250 STYPLE	1	12	10	10	<u> </u>	1	1	13	- 6			
243.82500 S0MPLE	1	10	10	10	10	10	1	13	0			
243.83750 SIMPLE	13	- 13 -	13	13		10	13	13	- 6			
243.85000 S04PLE	63	1.1	100	100	- 63	10	100	10	100	13		

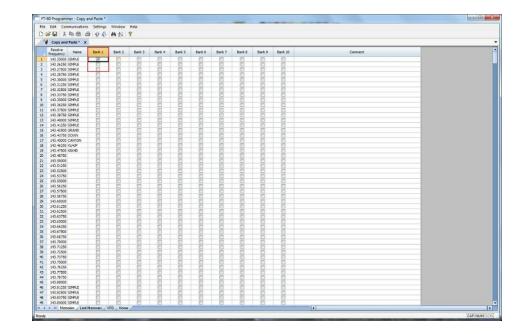
For Channel 1, put a check in the box under Bank 1.

			d4 24	8									
	Copy and Paste * X Receive	-											
f	requency name	Bank 1	Bank 2	Bank 3	Barik 4	Bank 5	Bank 6	Bank 7	Bank 8	Bank 9	Bank 20	Camment	-
	143.25000 SIMPLE	N	13	10					10	0			_
	143.26250 S3MPLE		10	100				10	100				
	143.27500 S3MPLE 143.28750 S3MPLE			8	8	8	8		- 10	- 8-	8		
	143.30000 STIPLE		11							- 22			
	143.31250 SD4PLE	191	12		1	- 22-	10	125	12				
	143.32500 STYPLE	1	- 24 -	- 24	1	- 24	10	100	100	- 24 -	8		
	143.33750 50VPLE	171	m	100	100	1	11	100	100	- 24-	8		
	543.39000 SIMPLE	1 Pl	11	10	10	1	E H	- H	m	M	8		
	143.36250 S2/PLE	11	11	11	10	11	10	M	m	M	14		
	143.37500 S04PLE	171	171	173	17	11	171	17	175	11	8		
	143.38750 SDVPLE	11	11	1	1 12	10	E)	1	13	10	8		
	143.40000 SIMPLE	10	10	1.12	1 10	10	10	10	13	10	E .		
	143.41250 SIMPLE	1 12	13	1.123	1.123	1 23	123	12	123	13	12		
	143.42500 (RAM)	E.3	10	123	123	10	E3	100	15	10	0		
	143.43750 DOMN	111	175	123	125	123	10	123	175	25			
	143.48000 CANTON	6	6	11	6	10	6	6	(f)	10	8		
	143.46250 KUAIP	63	10	100	100	10	10		13	- 63	0		
	\$43.47503 X0X4D	10	13	13	13		10	10	10	10	1		
	343.48750	63	12	12	123		13	100	13	- 23			
	243.50000	1	1	13	1			1			13		
	\$43.51250	13	13	13	13	13	13	10	13	- 13			
	143.52500	11	17	10	1	10	12	10	13	23	12		
	143.53750		10	10	1 23			13	13	- 0-			
	:43.55000	13	13	12	10	13	13	13	13		8		
	343.56250			10			0						_
	143.57500	10	13	10	10	- 13	13	10	0	<u> </u>			-
	143.58750	1.1	10				- 10			- 13-			
	143.68000				- 8-		8	8	8	- 2-	8		
	143.61250			10				10					
	143.62500 143.63750	12	10	10			- 8-	10					
	947.65000	10	- 10-	18	- 8-	- 8-	8	- 8-	10	- 24-			
	143.66250	100	11	121		100	10	125	0%	- 24			
	142.67900	1	1	1	1	8	- H	1	1	8	8		
	143.68750	11	11	100	100	11	H	10	171	14	8		
	143.70000	11	11	10	1 10	10	12	10	173	11	100		-
	143.71250	M	m	1 171	1 1	H	P	PI -	171	M	H		-
	143.72500	11	11	111	100	1	PI -	- H	175	191	10		
	143.73750	一首	H H	1 10	1	A A	E.	F	10	P	8		-
	143.79000	H H	m	111	100	100	m	101	175	m	100		-
	143.76250	1 Pl	PI -	1 Pl	PI	- M	PI	P1	P1	191	H		
	243.77500	E E	10	1	1	1	1	10	1	10	B		
	243.78750	11	11	10	11	M	10	11	11	17	8		-
	143.80000	1	11	1	1	1	1	10	10	0	1		-
	143.01250 STYPLE	1 M	11	1 Pl	1	M	- M	in .	17	M	M		
	143.83500 SDMPLE	171	171	11	11	11	171	121	01	11	17		
	143.83750 S3MPLE	1 12	10	1 12	1 23	1	10	110	12	12	E .		-
	43.85000 SIMPLE	100	100	1000	100		100	100	1000	100	8		

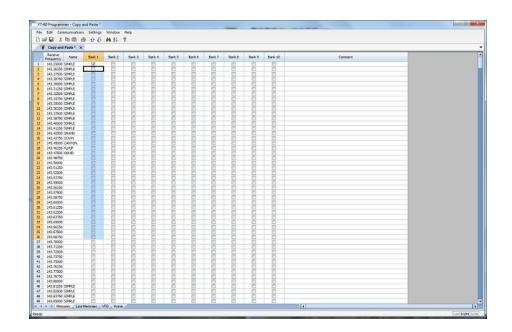
At this point you CANNOT copy this field. Press Tab or Enter to move out of the field.

The process is more easily done now with the keyboard rather than the mouse.

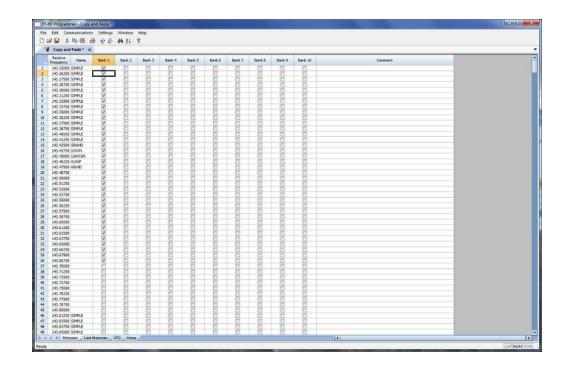
Press Right Arrow to move focus back into the Bank 1 column. Notice that there is now a black border on that cell. The cell is now ready to be copied. Press Ctrl C or select Edit from the menu then copy from the list that opens to copy the cell.



Press and Hold the Shift key while pressing the Down Arrow key to select the rows that will be set with this information.



Press Ctrl V to paste the selecting into the fields.



**Simple Mode**: Hides several of the columns for each memory channel. Those remaining are the ones that are most needed for any memory channel. Those remaining include:

Receive Frequency - A channel cannot be programmed without a receive frequency. This is the frequency you listen to.

Transmit Frequency - The programmer will complete this automatically. The column is included in case you need to enter the value other than the default for the receive frequency based on the band plan (i.e., an odd split pair).

Offset Direction - Again, the programmer will complete this automatically based on the band plan for the receive frequency. However, an occasional repeater will differ from the band plan. Including this column gives you the ability to address that difference.

Name - This column is for personalized information to identify the channel.

Tone Mode - The repeater operator controls this detail for the repeater. There is nothing standard that can be completed automatically. You need to select the Tone Mode then assign the CTCSS frequency or DCS code as needed for a particular repeater.

Skip - Use at your discretion to include or exclude a frequency during memory channel scanning.

Comment - Personalized notes up to 80 characters. This information remains a part of the file and is not transferred to the radio.

			011					_		
		Transmit Frequency		Name	Tone Mode		DCS	Skip	Comment	
	430.00000	430.00000	Simplex 💌		None -	100.0 Hz 👻	023 👻	Off 👻		
2										
5										
5										
5										
7										
3										
9										
1										
2										
3										
4										
5 6										
7										
8										
9										
0					-					
1						-				
1	▶ N Mer	mories / Limi	t Memories / \	/FO / Hom	e /				i i i i i i i i i i i i i i i i i i i	
_										

Note: While in Simple Mode, you cannot access the Preferences screen (Settings | Preferences). The columns that are hidden in Simple mode are predetermined by the programmer.

All columns are visible on the screen when you are no longer in Simple Mode. If you want to hide other columns, you can do that through individual selection on the Settings | Preferences page.

**Find (Ctrl+F)** - Finds specific text in a specified column. Once you select this command or press Ctrl+F a screen opens into which you enter the text (or number) to be found.

Find	
Look in:	ОК
Receive Frequency	Cancel
Find text:	

Select the field to be searched (i.e., Receive frequency, Transmit frequency, etc.)

Enter the text (or numbers) to be found.

Click OK to move to the first item found. The search always begins at the top of the list and stops at the end.

**Find Next (F3)** - Use the F3 function key to repeat the specified find and move to the next item. For example: You choose to search for 145 in the Receive Frequency column in a file with 5 channels beginning with 145. OK in the Find box takes you to the first one. F3 takes you to the second; then the third; then the fourth: and so on until you have stopped at each of those that match the criteria.

**Goto Channel (Ctrl+G)** - Moves to the indicated channel number. When this option is selected a screen opens into which you enter the channel number. Enter the number and click OK to move to that memory channel (programmed or not).

Goto Channel	
Enter channel number to move to.	ОК
Channel	Cancel

**Insert Channel (Shift+Ins)** - Inserts a blank row without deleting information present. The current information and all that follows is "pushed-down" to make room. The number of rows inserted will equal the number of rows selected. This is a great way to slip channel information into a list of channels.

Note: Insertion of rows can result in the loss of data from the bottom of the list. You will be warned if there is danger of data loss and given the opportunity to cancel the process to prevent this loss.

**Delete Channel (Shift+Del)** - Removes the selected row. All the data following the deleted row is "pulled-up" to eliminate the blank row. Beware!! Deleted data cannot be recovered. Neither the Insert nor the Paste commands write the data to the grid. If you accidentally delete data, exit the Programmer WITHOUT saving. The file will be restored to its condition when you last saved and the last deleted data will be restored. Multiple channels can be deleted by selecting them all at once and selecting delete.

**Clear Channel** - Removes the data from the selected channel without moving all those that follow up to fill this space. Leaves the channel blank.

**Move Up (Ctrl+U)** - The ability to select a channel and have it "change places" with the channel immediately preceding it. Repeat this command on a selected channel to "walk" it into place in your list. Sequential channels can be selected and moved at once. The group will move up one channel at a time. The displaced memory channel will move to the end of the group being moved.

**Move Down (Ctrl+D)** - The ability to select a channel and have it "change places" with the channel immediately following it. Repeat this command on a selected channel to "walk" it into place in your list. Sequential channels can be selected and moved at once. The group will move down one channel at a time. The displaced memory channel will move to the top of the group being moved.

Add Frequency Range - A convenient way to add lots of channels at once. This is great for setting up a radio for scanning a certain range of channels. When this option is selected you are presented with a window into which you enter the details of the channels to be entered.

Add Frequency List
Starting Frequency MHz
Number of channels 1
Frequency Step 5 kHz 💌
Cancel

<u>Enter Starting Frequency</u>: The value of the first frequency of the list to be entered. Any allowable frequency of the radio being programmed.

<u>Number of channels</u> - Enter the number of channels to be entered. You can insert as few as 1 to as many as 1000 channels at once. You are not warned if you select more than the number of memory channels. The process just inserts all that it can and ignores the rest.

<u>Frequency Step</u> - Enter the value that will separate each of the frequencies in these channels. Select 5kHz to 200 kHz.

Click OK and watch the screen fill. Or Cancel to exit the process without change to your file.

The channels are inserted beginning at the currently selected channel (i.e., if you have selected channel 40, the first channel will be added at channel 40).

You are warned if a channel will be overwritten and given the ability to not overwrite or to cancel the process. If you choose No to prevent loss of the current channel information, the skipped frequency is entered into the next available space and not lost.

**Sort** - Great for data management or to arrange your channels permanently for a special use. The version 3 and Version 4 programmers have the ability to Undo a sort. You can now sort the list on a given parameter, touch-up a group of entries, then put the list back in its original order with the changes that you made. When this option is selected you are presented with a window for selection of the options.

Sort	
Sort by Receive Frequency	■ OK
Then sort by None	Cancel
Sort Mode Ascending Decsending	Channel Sort Selection Selected channels All Channels

Sort by - Select a column for the initial sort.

Then Sort By - Select a second column for a secondary sort.

<u>Sort Mode</u> - Ascending for lowest to highest. Descending for highest to lowest.

<u>Channel Sort Selection</u> - Selected Channels to sort only a group form the file. All Channels to sort all the channels in the file.

If the result is not quite what you expected, select the Undo Sort option to return the list to the point you left it last.

Always save your file before you sort. At the very worst you can exit the file without saving to return to the order of that last save.

Blank memory channels are always sorted to the top of bottom of the list based on the Ascending or Descending selection.

Different fields sort differently. If a field is a text field in one programmer and a drop down list in another, the sort results will be different. It has to do with how the computer interprets the values in these different types of fields. While this was present in the older programmers, it should not be a problem in the Version 3 or Version 4 programmers where the fields are consistent between the radio programmers.

**Unsort** - For use after sorting to return the list to the last saved order. Use Sort and Unsort to easily edit channels with the same info that needs to be changed. Sort to bring those channels together. Edit the details (see cell editing). Then unsort to return the list to the last saved order with the edits in place.

### **Quick File Access Commands**

- Ctrl 0 (Control zero) Open existing file for same radio. Calls the Open dialog for the programmer being used allowing you to select a file to be opened without having to select the file type first. This is especially helpful when several programmers are loaded on one system. (i.e., Lets you select another FT-7800 file without having to select that file type first from the open box.)
- **Ctrl O (Control letter "O")** File | Open. Presents the box from which the file type is selected just as File | Open. Select the type of file to be opened. The programmer will look in the location of that last file for that particular file type. (i.e., you can open an FT-60 file while working with the FT-7800 programmer as long as you have the Version 3 or Version 4 module for the FT-60. With both open, you can copy and paste between the files or send each to the proper radio without having to close and reopen the Version 3 or Version 4 programmers separately.)
- **Ctrl M** Automatically create a new file for the programmer being used. Eliminates having to select the file type first.
- Ctrl N File | New. Presents the box from which the file type is selected just as in File | New in the menu. Select the file type for the programmer to create a new file for that radio (the same as the one you're working with now or for a different radio for which you have the Version 3 or Version 4 module.)



## 6 Screen Appearance and Default Options

The screen of the programmer can be customized to make data entry that much easier. Options for screen appearance are accessed under Settings | Preferences from the menu on the main screen of the programmer. This screen appears when that option is selected:

<b>F</b>	Mark the columns to hi	de.
Freeze Columns 1 📩	Column	Hide 🔺
- A.B	Transmit Frequency	
Alternate row colors	Offset Frequency	
1 Row 1	Offset Direction	
2 Row 2	Operating Mode	
3 Row 3	Name	
4 Row 4	Show Name	
	Tone Mode	Г
Fore Back	CTCSS	
	DCS	
Radio Menu Settings	Step	E I
Use Separate file for	Clock Shift	
menu settings.	Tx Power	- F
	Skip	
Keep menu settings and	Skip HM 2	E I
frequencies in a single file.	Skip HM 3	Г <del>,</del>

### Freeze Columns

The option to "freeze" can be applied to any or all columns. Select the number of columns to remain on the screen at all times as you scroll to the right of the spreadsheet.

Having these columns always available for reference can be a great help for identifying the memory channel being edited.

### Hidden Columns (Mark the columns to hide)

Selected columns can be marked as hidden which removes them from the screen display. During editing, these fields are completed with default

information for the radio. This option is a global setting and will affect every file, new or existing.

In an existing file the data in these columns is not lost: it is simply not displayed.

In a new file, a hidden column is filled with a default value.

Hidden column data is not printed. Columns can be marked as hidden to customize printed output and then restored for additional data management.

Note: Several columns are hidden and unhidden with the Simple Mode option found under Edit from the menu of the main screen. Simple mode hides all but the columns required for memory channel operations. When you leave Simple Mode, all columns will again be visible.

#### Alternate row colors

Select a color for the text (Fore) and/or background (Back) for rows 2, 4, 6, etc. This can help the readability of the spreadsheet.

#### Radio Menu Settings

Sets the option for how the global settings of the radio are saved in the file. These options for saving are explained in great detail in the Using the Programmer - Overview section of this help.

Briefly, the radio settings contained on the Settings screen are options that are not specific to any one memory channel. The radio uses this setting whether it is in memory mode, VFO, on a Home channel, or, basically, whenever it is on. The settings for these options are sent automatically to the radio with the channel information.

The Settings can be saved as part of the channel data file or in a separate file.

As part of the channel data file, they are reset to defaults each time you start a new file. You set them to your specifications for the file that is being created.

As a separate file, they are set once, saved, then sent to the radio with every saved channel data file.

The pros and cons of both of these option are discussed in detail in the Using the Programmer - Overview section of this help.

### Memory Defaults

You have complete control of the programmer. These options control default values for the channel data for memory channels, VFOs, Limits, Home, etc. Making one change here controls how a channel will be completed when a frequency is entered.

To access the Memory Defaults screen,

- Select Settings from the menu at the top of the screen.
- Select Preferences
- Once on the Preferences screen select the Memory Defaults tab.

	Check ShowName Automatically Convert Split offsets to standard Plus or Minus when available.	Offset Fre	quency Default	
V	Disable CTCSS, DCS and other Tone	om 2m	600 kHz	-
14	columns according to the Tone Mode selection.	1.23cm	1.60 MHz	-
		70cm	5.00 MHz	-

<u>Check Show Name Automatically</u> - For radios with an extra column for show name, having this option selected (checked) lets the programmer mark that check automatically when you enter a name for that memory channel. this eliminates that extra step.

With this option checked, you can uncheck a Show Name box at any time if you would rather display the frequency for a given memory channel.

<u>Convert Split Offsets to standard Plus and Minus when available</u> - This option is for programming Yaesu radios only as lcom radios work only with Plus (+Dup) and Minus (-Dup) offsets. See the discussion of Non-standard offsets in the Programmer Main Window section of this help for a complete explanation.

<u>Disable CTCSS, DCS and other Tone columns according to the Tone Mode</u> <u>selection</u> - Beginning in the Version 3 programmer and continuing into future versions, the programmers have been designed to help you enter information for tones used for repeater access. You cannot enter a tone unless you have selected a Tone Mode which tells the radio to use that tone. The tone value columns are disabled until you turn the tone on. Then only the appropriate column is made active. When this option in unchecked, you will be able to adjust the tone value even if the Tone Mode has not been set for that memory channel.

<u>Offset Frequency Defaults</u> - Defaults are set for US radios. Others are presented to make data entry easier in other countries where those defaults are different.



## 7 Split Screen for Multiple Files

The Version 4 programmer can display more than one file simultaneously in the programmer's main window. Opening several files at once makes it even easier to copy and paste between them (even files for different radios from different manufacturers) or just to compare the frequency lists.

		BB & & &														_						
*		ot coming from radio	and the second second		-								-		IC-91 Unt	and the second se						_
	Receive Frequency	Transmit Offset Frequency Frequency			Name		Receive Frequency	Transmit Frequency	Offset Frequency	Offset Direction	Operating Mode	Name	^	1	Receive Frequency	Transmit Frequency		Offset Direction	Operating Mode	Name	Tone Mode	C
1	145.00000	145.00000 600 kHz	ARS		TEST	1	145.00000	145.60000				TEST		0	146.01000	146.01000		Simplex 🖌			None 💌	88.5
	139.00000		Simplex	FM	TORI	2	450.00000	447.00000	3.00 MHz	Minus	FM	TEST2		1	440.00000	440.00000		Simplex	FM		None	88.
3		144.00000	Simplex	PM	OTHER	3	450.00500	450.00500		Simplex	FM	TEST3		2								
ŧ	165.00000		Simplex	FM	TEST	4	450.01000	449.51000	500 kHz	Minus	RM			3								
5	170.00000		Simplex	FM	OTHER	5	450.01500	450.01500		Simplex	FM			4								-
5	174.00000		Simplex	FM	TORI	6	450.02000	450.02000		Simplex	FM.			5								
7	134.00000	134.00000	Simplex	FM	OTHER	7	450.02500	450.02500		Simplex	FM			6	-						-	
			1.00			8	450.03000	450.03000		Simplex	FM			7								-
9						9	450.03500	450.03500		Simplex	FM			8								-
0						10	450.04000	450.04000		Simplex	FM			9								-
1						11	450.04500	450.04500		Simplex	FM			10								-
2						12					10.000			11								-
3	-					13	142.00000	142.00000 142.00500		Simplex	Auto			12								-
4						14		142.00500		Simplex				13								-
5				-		15	142.01000	142.01000		Simplex Simplex	Auto			14								-
5 7						16	142.01000	142.02000		Simplex	Auto			15								-
8						18	142.02900	142.02500		Simplex	Auto			10								-
9				-		19	142.03000	142.02300		Simplex	Auto			18							-	-
0			-	-		20	142.03900	142.03900		Simplex	Auto			19								-
1						21	142.04000	142.04000		Simplex	Auto			20	1							-
2						22	142.04500	142.04500		Simplex	Auto			21								-
3						23	142.05000	142.05000		Simplex	Auto			22								-
4						24	142.05500	142.05500		Simplex	Auto			23								-
5	-					25	142.05000	142.06000		Simplex	Auto			24								-
6						26	142.06500	142.06500		Simplex	Auto			25								1
7						27	142.07000	142.07000		Simplex	Auto			26								-
8						28				0.00		1		27								1
9						29								28								
0						30								29								1
1						31								30								-
2						32								31								
3					-	33								32								
4	N N Mem	ories / Limit Memories	VELA		•	14 4	+ H Mem	nies (Link)	femories	VED 4	2	100 million (100 million)	<b>B</b>	14 4	H Band	A Memories	BandALim	Band B	Memories	1	(	

Open the files

From the menu at the top of the main screen, select Window | New Vertical tab group

The screen will separate into two parts taking the selected file to the new group.

To work with three as shown above, simple select another file and repeat the process.

A horizontal split is also possible.

	and do	10 IB 6	5 P B	Øb 21	?												
F	T-2600 Un	titled1	FT-90 UK	titledi ×													
R	leceive equency	Transmit Frequency 145.00000	Offset Frequency	Offset Direction	Operating Mode	Name	Show	Tone Mode		DCS	PUNE	Skip	Step	ARTS Mode	Packet Speed 1200 bos	Comment	
1.	45.00000	145.00000		Subsex 14	Auto 💌		6	None 🖌	100.0 Hz 💽	023	+Hgh +	dou. De	SkHz 💽	-Jon [	1200 bbs 💌		
	_				-							-	-				
	K Hend	nies /Linit	Memories	VF0 Home	1		1973					1	1				-
		tled2 x															
R	leceive equency	Transmit Frequency	Offset Frequency		Operating Mode	Name	Show Name	Tone Mode		DCS	Power	Skip	Step	ARTS Mode	Packet Speed	Comment	
14	45.00000	145.00000	-	Simplex -	Auto 💌		- E	None 💽	100.0 Hz	023	High .	Off .	SkHz 💽	off 💽	1200 bps 💌		
							1										
											-						
							1										
•	N Marrie	vian (1993)	Manufat	VFG Home			1 13						4				_
	IC-91 Until												11.51				
-	100016-0015	Transmit	Offset	Offset	Operating		-	_	Rx	-	DCS			-	Bank		
Fre	equency	Frequency	Frequency	Direction	Mode	Name	Tone Mode		CTCSS	DCS	Polarity	Skip	Step	Bank	Channel	Comment	
		146.01000		Simplex 💂					88.5Hz 💌		Soth N		15 kHz				
*	40.00000	440.00000		Simplex	FM		None	88,5Hz	88.5 Hz	023	Bath N	off	25 kHz				
					1						-						
							_				_		-	_			
	-										-			-			

Open the files

From the menu at the top of the main screen, select Window | New Horizontal tab group

The screen will separate into two parts taking the selected file to the new group.

To work with three as shown above, simple select another file and repeat the process.

Note: Once you divide the screen horizontally or vertically, the other separation is not available. Selections for vertical and horizontal groups will be enabled and disabled in the menu as necessary.



# 8 Menu Item Cross Reference

The Programmer presents all the options for the radio in easy to use grid, check box, list and combo box formats. Most radios these days have so many options that organizing them in the Programmer can be a challenging task.

The location in the Programmer is described as a "path". For example.

Settings | Radio Menu Settings | Common tab | Auto Power Off

- Click on Settings at the top of the screen
- Select Radio Menu Settings from the menu that opens
- Select the Common tab by clicking in the box
- The option is named Auto Power Off on the Common tab.

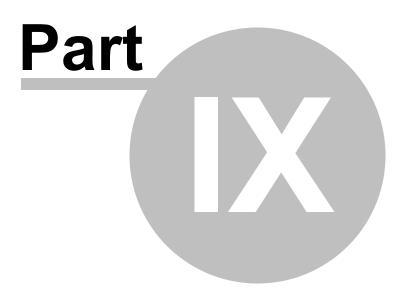
		Set Mode
Men	u Item	Programmer Item
1	EXTMENU	Settings   Radio Menu Settings   Common tab   Extended Menu
2	144 Hz ARS	Settings   Radio Menu Settings   Common tab   144 Auto Repeater Shift
3	430 Hz ARS	Settings   Radio Menu Settings   Common tab   440 Auto Repeater Shift
4	AM&FM DIAL	Settings   Radio Menu Settings   Common tab   AM/FM Dial
5	AM MIC GAIN	Settings   Radio Menu Settings   Mic and Shifts tab   Microphone Gain section   AM
6	AM STEP	
7	APO TIME	Settings   Radio Menu Settings   Common tab   Auto Power Off
8	ARTS BEEP	Settings   Radio Menu Settings   CW and ARTS tab   ARTS section   ARTS Beep
9	ARTS ID	Settings   Radio Menu Settings   CW and ARTS tab   ARTS section   CW ID
10	ARTS IDW	Settings   Radio Menu Settings   CW and ARTS tab   ARTS section   CW ID Text
11	BEACON TEXT 1	Settings   Radio Menu Settings   CW and ARTS tab   Beacon section   Text 1
12	BEACON TIME	Settings   Radio Menu Settings   CW and ARTS tab

		Beacon section   Interval
13	BEEP TONE	Settings   Radio Menu Settings   Common tab   Beep
		Frequency
14	BEEP VOL	Settings   Radio Menu Settings   Common tab   Beep
'-		Volume
15		
15	CAR LSB R	Settings   Radio Menu Settings   Mic and Shifts tab
		Carrier Offset section   RX LSB
16	CAR LSB T	Settings   Radio Menu Settings   Mic and Shifts tab
		Carrier Offset section   TX LSB
17	CAR USB R	Settings   Radio Menu Settings   Mic and Shifts tab
		Carrier Offset section   RX USB
18	CAR USB T	Settings   Radio Menu Settings   Mic and Shifts tab
		Carrier Offset section   TX USB
19	CAT RATE	Settings   Radio Menu Settings   Common tab   CAT
		Rate
20	CAT/LIN/T UN	Settings   Radio Menu Settings   Common tab   CAT/
20		Linear
21		
21	CLAR DIAL SEL	Settings   Radio Menu Settings   Common tab   Clarifier
22	CW AUTO MODE	Settings   Radio Menu Settings   CW and ARTS tab
L		CW section   CW Auto Mode
23	CW BFO	Settings   Radio Menu Settings   CW and ARTS tab
		CW section   CW BFO
24	CW DELAY	Settings   Radio Menu Settings   CW and ARTS tab
		CW section   CW Delay
25	CW KEY REV	Settings   Radio Menu Settings   CW and ARTS tab
		CW section   Reverse CW Paddle
26	CW PADDLE	Settings   Radio Menu Settings   CW and ARTS tab
		CW section   Mic CW Key
27	CW PITCH	Settings   Radio Menu Settings   CW and ARTS tab
		CW section   Pitch
28	CWQSK	
20		Settings   Radio Menu Settings   CW and ARTS tab
		CW section   CW QSK
29	CW SIDE TONE	Settings   Radio Menu Settings   CW and ARTS tab
		CW section   CW Sidetone
30	CW SPEED	Settings   Radio Menu Settings   CW and ARTS tab
L		CW section   CW Speed
31	CW TRAINING	Settings   Radio Menu Settings   CW and ARTS tab
		CW section   CW Training
32	CW WEIGHT	Settings   Radio Menu Settings   CW and ARTS tab
		CW section   CW Weight
33	DCS CODE	Main page   DCS. This item is set independently for
		each memory channel. Can be set only after Tone
		Mode has been set to a selection that uses a DCS
		code.
34	DCS INV	
34		Settings   Radio Menu Settings   Common tab   DCS
		Invert

35	DIAL STEP	Settings   Radio Menu Settings   Common tab   Dial Step
36	DIGDISP	Settings   Radio Menu Settings   Mic and Shifts tab   Digital section   Digital DISP
37	DIG GAIN	Settings   Radio Menu Settings   Mic and Shifts tab   Microphone Gain section   Digital
38	DIG MODE	Settings   Radio Menu Settings   Common tab   Digital Mode
39	DIGSHIFT	Settings   Radio Menu Settings   Mic and Shifts tab   Digital section   Digital Shift
40	DIG VOX	Settings   Radio Menu Settings   Mic and Shifts tab   Digital section   Digital VOX
41	DISP COLOR	Settings   Radio Menu Settings   Display and Power tab   Color section
42	DISP CONTRAST	Settings   Radio Menu Settings   Display and Power tab   Display section   Contrast
43		Settings   Radio Menu Settings   Display and Power tab
44		Settings   Radio Menu Settings   Display and Power tab   Display section   Mode
45		Settings   Radio Menu Settings   Mic and Shifts tab   DSP section   DSP BPF Width
46	DSP HPF CUTOFF	Settings   Radio Menu Settings   Mic and Shifts tab   DSP section   DSP HPF Cutoff
47	DSP LPF CUTOFF	Settings   Radio Menu Settings   Mic and Shifts tab   DSP section   DSP LPF Cutoff
48	DSP MIC EQ	Settings   Radio Menu Settings   Mic and Shifts tab   DSP section   Mic Equalizer
49	DSP NR LEVEL	Settings   Radio Menu Settings   Mic and Shifts tab   DSP section   DSP NR Level
50	EMERGENCY	Settings   Radio Menu Settings   Common tab   Emergency
	FM MIC GAIN	Settings   Radio Menu Settings   Mic and Shifts tab   Microphone Gain section   FM
52	FMSTEP	
53	HOME->VFO	Settings   Radio Menu Settings   Common tab   Home - >VFO
54	LOCK MODE	Settings   Radio Menu Settings   Common tab   Lock
55	MEM GROUP	Settings   Radio Menu Settings   Common tab   Memory Group
56	MEM TAG	Main page   Name. This item is set independently for each memory channel.
57	MEM/VFO DIAL MODE	Settings   Radio Menu Settings   Common tab   Mem/ VFO Dial
58	MIC SCAN	Settings   Radio Menu Settings   Common tab   Mic Scan
59	MIC SEL	Settings   Radio Menu Settings   Common tab   Mic

		Select
60	MTR ARX SEL	Settings   Radio Menu Settings   Common tab   Meter ARx Selection
61	MTR ATX SEL	Settings   Radio Menu Settings   Common tab   Meter ATx Selection
62	MTR PEAK HOLD	Settings   Radio Menu Settings   Common tab   Meter Peak Hold
63	NB LEVEL	Settings   Radio Menu Settings   Common tab   NB Level
64	OP FILTER 1	Settings   Radio Menu Settings   Common tab   Filter
65	PG A	Settings   Radio Menu Settings   Display and Power tab   PG Buttons section   A
66	PGB	Settings   Radio Menu Settings   Display and Power tab   PG Buttons section   B
67	PGC	Settings   Radio Menu Settings   Display and Power tab   PG Buttons section   C
68	PG ACC	Settings   Radio Menu Settings   Display and Power tab   PG Buttons section   ACC
69	PG P1	Settings   Radio Menu Settings   Display and Power tab   PG Buttons section   P1
70	PG P2	Settings   Radio Menu Settings   Display and Power tab   PG Buttons section   P2
71	PKT 1200	Settings   Radio Menu Settings   Common tab   Packet Rate
72	РКТ 9600	Settings   Radio Menu Settings   Common tab   Packet Rate
73	PKT RATE	Settings   Radio Menu Settings   Common tab   Packet Rate
74	PROC LEVEL	Settings   Radio Menu Settings   Mic and Shifts tab   Processor Level
75	RF POWER SET	Settings   Radio Menu Settings   Display and Power tab   RF Power section
76	RPT SHIFT	Main page   Offset Frequency. This item is set independently for each memory channel.
77	SCAN MODE	Settings   Radio Menu Settings   Common tab   Scan Mode
78	SCAN RESUME	Settings   Radio Menu Settings   Common tab   Scan Resume
79	SPLIT TONE	Main page   Tone Mode. This item is set independently for each memory channel. Must be set before a CTCSS frequency or DCS code can be set.
80	SQL/RF GAIN	Settings   Radio Menu Settings   Common tab   SQL Knob
81	SSB MIC GAIN	Settings   Radio Menu Settings   Mic and Shifts tab   Microphone Gain section   SSB
82	SSB STEP	
83	TONE FREQ	Main page   CTCSS. This item is set independently for

		each memory channel. Can be set only after Tone Mode has been set to a selection that uses a CTCSS option.
84	TOT TIME	Settings   Radio Menu Settings   Common tab   Time Out Timer
85	TUNER/ATAS	Settings   Radio Menu Settings   Common tab   Tuner/ ATAS
86	TX IF FILTER	Settings   Radio Menu Settings   Common tab   Filter
87	VOX DELAY	Settings   Radio Menu Settings   Mic and Shifts tab   VOX section   Delay
88	VOX GAIN	Settings   Radio Menu Settings   Mic and Shifts tab   VOX section   Gain
89	XVTR A FREQ	Not in Programmer
90	XVTR B FREQ	Not in Programmer
91	XVTR SEL	Not in Programmer



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## 9 Alaska Emergency Frequency

The FT-857D/FT-897D include the capability for transmission and reception on 5167.5 kHz under emergency conditions.

97.401(d) of the governing regulations for amateur radio in the U.S. permits emergency amateur communications on the spot freqency of 5167.5 kHz by stations in (or within 92.6 kilometers (57.5 miles)) the state of Alaska.

# Note: This frequency is only to be used when the immediate safety of human life and/or property are threatened, and is <u>NEVER</u> to be used for routine communications.

In an emergency, a half-wave dipole cut for this frequency should be approximately 45' 3" on each leg (90' 6" total length).

Emergency operations on 5167.5 kHz is shared with the Alaska-Fixed Service. This transceiver is not authorized for operation, under the FCC's Part 87, for aeronautical communications.

To activate this feature on the FT-857:

- Press and hold the [FUNC] key for one second to activate Menu mode
- Rotate the SELECT knob to Menu mode No. 001
- Rotate the DIAL knob to change the setting to ON
- Rotate the SELECT knob to Menu mode No. 050
- Rotate the DIAL knob to ON
- Press and hold the [FUNC] key to exit the Menu mode

To activiate this feature on the FT-897:

- Press and hold the [F] button for one second to activate Menu mode
- Rotate the MEM/VFO CH knob to Menu mode No. 050
- Rotate the DIAL knob to ON
- Press and hold the [F] button for one second to exit Menu mode.

Emergency communication on the spot frequency 5167.5 kHz is now possible. To

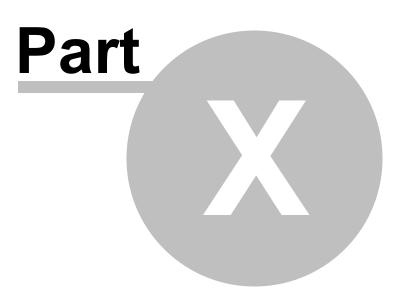
disable the operation, repeat the above steps and rotate DIAL knob to OFF in Menu mode No. 050.

To operate **FT-857**, press the [V/M] key, as necessary, to enter the Memory mode, then rotate the SELECT knob to the emergency channel "M-EMG".

To operate **FT-897**, press the [V/M] key, as necessary, to enter the Memory mode, then rotate the MEM/VFO CH knob to the emergency channel "M-EMG".

Note: the receive-mode CLARIFIER functions normally while using this frequency, but variation of the transmit frequency is not possible.

Activation of this emergency feature does not enable any other outof-amateur-band capability on the transceiver. The full specifications of the radio are not guaranteed on this frequency, but power output and receiver sensitivity should be fully satisfactory for emergency communication.



## 10 Memory Channel Programming

The radio has lots of different types of memory channels. In the Programmer, these all program in a spreadsheet dedicated to that "type" of memory.

Use the links to access details for any one of these.

<u>Regular memory channels</u> - The memory channels that all radios have these days, the ones you will use most often.

<u>Home Channels</u> - There are two home channels that store and then provide for one touch recall of one prime frequency on each operating band.

<u>VFO Memories</u> - Settings for VFO operations when the file is first sent to the radio. This channel has no one button recall on the radio and will change when the tuning knob is used. To be able to recall settings at any time, use the Regular Memory Channels.

<u>Limit Memories</u> - These memory channels can be used as "regular" memories giving you that many more memory channels for individual use; however, these also control the top and bottom range of scanning when you begin scanning on one of these.

Details on the special editing abilities of the Programmer are included in the *Easy Editing in the Grid* section. Review these details to make data entry even easier. At any time topics are available from the Table of Contents at the left.

## 10.1 Regular Memory Channels

The Main window of the Programmer is designed for memory channel entry.

The screen is designed as a spreadsheet for easy data entry, review, and management. All details associated with the memory channels are programmed from this screen.

Columns continue off the right side of the window. Use the bar at the bottom of the screen to move to these columns or press ENTER to step through each column.

Columns can be hidden using the selections of the Preferences screen. Select Settings | Preferences in the menu to access this screen. These columns remain hidden in this and any other file (new or otherwise) until they are "unhidden" on the Preferences screen. Information is entered into these columns automatically when a new frequency is entered. The information in a hidden column is always there: it is just not visible. The Programmers has a "**Simple Mode**" for quick memory channel data entry. In Simple Mode the columns for the minimum information needed to set up the channel are included on the screen. Extra columns are hidden and filled with default information. To put the screen into Simple Mode, select Edit | Simple Mode from the menu. While in Simple Mode, you cannot access the Preferences screen. The Programmer controls what columns are hidden while in this mode.

## **Details to be entered for Memory Channels**

**Receive Frequency**: Enter a receive frequency for the memory channel. Unacceptable frequencies cannot be entered into the Programmer. Cellular frequencies are blocked. Memory channels can store any acceptable frequency in any order (i.e., UHF can follow VHF or any other band order). The first memory channel must be programmed.

**Transmit Frequency:** Enter a specific transmit frequency or let the Programmer calculate this frequency based on the offset. This field is always available; however the transmit frequency for an "odd split" is the only value that must be manually entered.

## Note: In the Programmer you can enter details for frequencies outside the transmission abilities of the radio. However, the software will not enable transmission on these frequencies. Transmission will be possible only if the radio has been properly modified.

**Entering a "Split" pair**: When you are given information to program your radio, you may be given a "pair" of frequencies (one for transmit and a different one for receive). This pair is referred to as a split.

This information is easily entered into the Programmer and sent to the radio.

- First, enter the Receive Frequency into that column of the Programmer. This will be the frequency that you list on.
- Press Enter. The Programmer will fill the remaining columns with default information which may or may not be right for your particular situation.
- The Transmit field will be active as indicated by the dark border. Enter the Transmit Frequency from the information you have into this field. (Note: Simply type the first number of that frequency. The field will change without having to erase what is there.)
- Press Enter.
- The Programmer will set the Offset Frequency and Offset Direction as needed for this pair. Ignore these two columns. The information in these

two columns may change when the file is opened again if the offset can be figured to a 50kHz value and the direction set to plus or minus. This gives you back functionality on the radio that is lost with a channel marked "Split". If you see this change, ignore it. The radio will function exactly the same when you use it with these different settings.

You are finished with this entry unless you need to enter Name, Tone or other details for this memory channel.

**Offset Frequency:** Standard offsets include 100, 500, and 600 kHz and 1.0, 1.6, 3.0, 5.0, and 7.6 MHz. Although an Offset Frequency is displayed for every memory channel, it is not used by the radio if the Offset direction is set to Simplex.

Yaesu radios can use an Offset Frequency of any value in 50 kHz steps (i.e., any value ending in .x00 or .x50 where x is any digit from 0 to 9) with a Plus or Minus Offset Direction. This gives you the ability to use the Reverse function of the radio although your frequency pair is not separated by a standard offset value.

A **nonstandard Offset Frequency** value is entered by typing it into the Offset Frequency field after the Receive Frequency has been entered. Then select Plus or Minus in the Offset Direction column and watch the Programmer calculate the Transmit Frequency.

Values would be entered as an exact value including the decimal to denote kHz. For example, given the pair 146.650 and 147.300, the Offset Frequency entered would be .650 (decimal – six – five – zero) with a Plus Offset Direction. Without the decimal, an error is raised in the Programmer that a valid Offset Frequency should be entered.

As another example, given the pair 147.255 and 145.940 could not be entered with an Offset Frequency and an Offset Direction. The resulting offset for this pair us 1.315 MHz, which is not on a 50 kHz step. This pair requires entry of both the Receive and Transmit frequency with the Offset Direction set to Split. In this case, any value that appears in the Offset Frequency column will be ignored by the radio when it uses this memory channel.

The default Offset Frequency depends on the band of the Receive Frequency being entered (i.e., 2M Band is always 600 kHz, 430 Band is always 5.0 MHz, etc)

As in Splits, the Offset Frequency value is ignored when the Offset Direction is set to Simplex.

## Offset Direction: Select

Simplex - transmit and receive frequencies are the same;

Minus - the offset is subtracted from the receive frequency;

Plus - the offset frequency is added to the receive frequency;

<u>Split</u> - for a non-standard offset. The user enters both the receive and transmit frequencies.

**Operating Mode:** Assign appropriate operating mode for the frequency. While a selection will be made by default, this can be changed as needed for how you will use the radio on that frequency.

**Name:** Enter an Alpha/Numeric tag (up to 8 characters) to a memory channel to provide an easy reminder of the function of a particular channel.

**Show Name:** Check the box to have the Name displayed on the radio rather than the operating frequency. This option is checked (ON) automatically by default in the Programmer when a name is entered. The option to set this field automatically can be changed on the Memory Defaults tab of the Preferences screen. To access the Preferences screen in the Programmer, select Settings | Preferences from the menu at the top of the screen.

Note: While using the radio, you can toggle between the frequency and name display by pressing the [C](TAG) key. To access the (TAG) menu option for the [C] key, press [FUNC] key momentarily then rotate SELECT knob as needed until [MW SKIP TAG] appears above the A B C keys. Now the [C] key is ready for the (TAG) function.

**Tone Mode:** Use of the tone systems of the radio allows for silent monitoring until a call is received with a corresponding tone. Tone mode also allows access to repeaters that are made private with a PL tone. The FT-857 and FT-897 offer a "Split Tone' feature that allows you to transmit with one tone and use a different tone when receiving.

The radio offers CTCSS (Continuous Tone Coded Squelch System) or DCS (Digital Coded Squelch) to be tailored to your particular needs. Use of either of the tone systems requires two steps:

1) Turning on the Tone Mode with the Tone Mode setting and

2) Selecting the CTCSS tone or DCS code to be used by the radio with the selections in the next four columns. Note: The columns will become available depending on the Tone Mode selected. Be sure to make a selection from each of the active columns. Any value seen in a disabled column is not used by the radio on this memory channel.

The Tone Modes include:

<u>None</u> - No tone system activated. The values in the CTCSS and DCS columns are NOT used by the radio for transmission or reception.

<u>Tone</u> - CTCSS tone generator is activated for **transmission** only (**this mode is used for many, if not most, repeater operations**). When this option is selected, the CTCSS column becomes available. Select the tone frequency from those in the list. The value must be in the list. With Tone selected as the Tone Mode, the values that appear in the disabled RX CTCSS and the DCS columns are ignored by the radio.

<u>TSql</u> - CTCSS tone generator is activated for **both transmission and reception** (only signals "encoded" with the matching tone will open the squelch. Your radio will remain silent otherwise). When this option is selected, the CTCSS and Rx CTCSS columns become active. Select the tone frequency from those in the list in EACH column (even if it is the SAME value in each. These two values are used independently by the radio). The value must be in the list. The radio uses the frequency set in the CTCSS column for Encode (transmission) and that in the RX CTCSS column for Decode (reception). With TSql selected as the Tone Mode, the values that appears in the disabled DCS code columns are ignored by the radio.

<u>DCS</u> - Digital Coded Squelch mode is activated for **transmission and reception**. When this option is selected, the DCS and RX DCS columns become active. Select the code from those in the list in EACH column. The value must be in the list. The radio uses the DCS code for Encode (transmission) and the RX DCS code for Decode (reception). With DCS selected as the Tone Mode, the values that appears in the disabled CTCSS tone columns are ignored by the radio.

<u>D-Code</u> – Digital Coded Squelch mode is activated for **transmission only**. When this option is selected, the DCS column becomes active. Select the code from those in the list. The value must be in the list. The radio uses the DCS code for Encode (transmission) only. Reception is open for any signal. With D Code selected as the Tone Mode, the value that appears in the disabled CTCSS columns and the RX DCS column are ignored by the radio.

<u>T-DCS</u> – CTCSS encode is activated for **transmission** and Digital Coded Squelch for **reception**. When this option is selected, the CTCSS and Rx DCS columns become active. Select a value from those in the list for EACH of the columns. The values must be in the lists. The radio uses the CTCSS tone for Encode (transmission) and the RX DCS code for decode (reception). With T-DCS selected as the Tone Mode, the values that appear in the disabled RX CTCSS and DCS columns are ignored by the radio.

**CTCSS:** Select one of 50 tone frequencies to be used in Encode mode (transmission to the repeater or to someone else). This value is set independently for each memory

channel. This field is active only if Tone Mode is set a mode that uses a CTCSS tone. A value that appears in this field is ignored by the radio if the field is disabled.

**Rx CTCSS:** Select one of 50 tone frequencies to be used in Decode mode (reception). This value is set independently for each memory channel. This field is active only if Tone Mode is set to use a CTCSS tone for reception. A value that appears in this field when it is disabled is ignored by the radio.

**DCS:** Select one of the 104 codes available for use when the radio is a DCS transmission mode. This value is set independently for each memory channel. This field is active only when a Tone Mode for DCS transmission is selected. A value that appears in this field when it is disabled is ignored by the radio.

**Rx DCS:** Select one of the 104 codes available for use when the radio is a DCS reception mode. This value is set independently for each memory channel. This field is active only when a Tone Mode for DCS reception is selected. A value that appears in this field when it is disabled is ignored by the radio.

**Step:** The frequency that the radio is on changes by the value of the step when tuning manually. This value is used by the radio in Memory Tune mode. This value is not critical in memory mode since the original memory channel frequency can be retrieved by exiting Memory Tune mode. In VFO, this value could keep you from returning to your original frequency. Select from 5|6.25|10|12.5|15|20|25|50 kHz steps as needed.

**Skip:** Marks selected memory channel to be *skipped during scanning*. These channels remain available for manual selection by turning the knob. Check the box to mark the channel as skipped. Unchecked results in the channel being included when the radio is scanning the memory channels.

**Attenuator:** The attenuator will reduce all signals (and noise) by 10 dB, and it may be used to make reception more pleasant under extremely crowded conditions. This option can be set for each memory channel. This feature is not used by the radio in the 144 MHz and 430 MHz bands.

**IPO:** Intercept Point Optimization feature causes the signal to bypass the receiver's RF preamplifier thereby eliminating the gain of the preamp. This feature is not used by the radio in the 144 MHz and 430 MHz bands.

**Mask:** A masked channel is not available for use either during scanning or when the radio is tuned manually in memory mode.

 Masking a channel "hides" it until you "unmask" it from the face of the radio or by sending a file with this option unchecked. Only then will it be available for use. This is a good way to prevent another user from accidentally accessing a channel or to store memories for another area that are used only when you visit that place. • A masked channel is easily overwritten when programming from the face of the radio since it appears to be a blank memory space.

**Comments:** An identifying comment up to 80 characters. This information is not transferred to the radio.

#### **10.2 Home Channels**

The Home channel memory provides convenient, one-touch access to your most often used frequency in each band. Home channel memories are programmed on the Home tab of the Programmer.

The information to be programmed for the Home Channels is the same as that for the regular Memories. See <u>Regular Memory Channels</u> for the details

# **10.3 VFO Memories**

The VFO memories provide "temporary" memory channels for quick access. The VFO memory is temporary since it is lost when the radio is tuned while in VFO mode.

Note: Remember, the VFO memory is temporary. The programmed frequencies appear immediately after the file is sent to the radio. When the radio is manually tuned in VFO mode, the programmed frequency cannot be recalled as a memory channel frequency will be.

Programming the VFO memory from the Programmer can be particularly helpful for reoccurring events for which the details of this channel are needed along with other memory channels.

Memories do not have to be programmed into VFO before being programmed into the memory channels when entering details in the Programmer. Memory channels are programmed directly into the spreadsheet that appears when the Programmer opens.

To program the VFO memory, select the VFO tab at the bottom of the screen. Enter a frequency that is appropriate for the band. The information to be entered is the same as that for regular Memories except that the VFO's do not have an alpha label available to be programmed. See <u>Regular Memory Channels</u> for details of the fields.

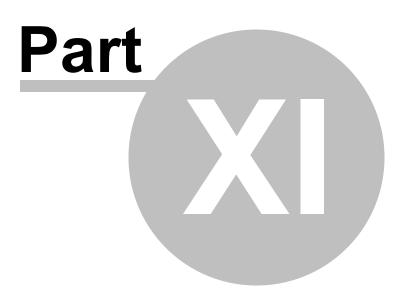
#### **10.4 Limit Memories**

This feature allows you to set sub-band limits for either scanning or manual VFO operation.

For example, you might wish to set up a limit (in North America) of 144.300 MHz to 148.000 MHz so as to prevent encroachment into the SSB/CW "Weak Signal" portion of the band below 144.300 MHz. Then when you scan using this limit pair, you will begin scanning at 144.300 and continue to scan up to 148.000 before returning to 144.300 to begin the cycle again.

The Limit Memory channels are entered on the Limit Memories page accessed through the tab of the same name at the bottom of the screen. The same information as that entered for any memory channel is entered for these. See the <u>Regular Memory</u> <u>Channels</u> section in the Programming Memory Channels book of this Help for the details about the information to be entered. In the Limit Memory channels, **Step** becomes much more important since you plan to begin scanning from one of these channels. Remember that scanning will increment the frequency by the value in the Step field. Choose your value to be sure you do not miss channels in your range.

Some options for scanning can be set from the Programmer. These are global items that are accessed from Settings | Radio Menu Settings from the menu at the top of the screen. Once on the Settings screen, scanning functions are found on the first screen that opens, the Common tab.



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# 11 Programming Other Set Menu Items

Programming any radio involves details for each memory channel and settings that are global to the radio no matter which memory channel, VFO, or Call channel you're operating on.

The Memory Channel details are entered on the grid that appears when the Programmer is first opened. This is only part of what needs to be done to make your radio your own.

The global settings are entered on the screens accessed from **Settings** | **Radio Menu Settings** in the menu at the top of the main screen. Don't miss these settings. Getting them the way you want them can significantly enhance the performance of your radio.

Details for the options are found in sections of this help that correspond to the screens in the Programmer where you will find that option. Everything starts in the Programmer from Settings | Radio Menu Settings from the menu at the top of the main screen.

<u>Radio Menu Settings - Common</u> - The screen that opens when you select Settings | Radio Menu Settings. This screen contains the more commonly changed settings such as Beep, Lock and options for Scanning functions.

Radio Menu Settings - CW and ARTS - This screen contains the settings for the CW, ARTS and Beaconing.

Radio Menu Settings - Mic and Shift - This screen contains the settings for Vox, Mic Gain, Digital settings, Carrier Offset and DSP.

<u>Radio Menu Settings - Display and Power</u> - This screen contains settings controlling display contrast and text size, Color, RF power settings and settings for programmable buttons.

You will find that these headers correspond with screen names in the Programmer. This makes finding the details for the settings on a certain screen easier.

#### 11.1 Radio Menu Settings - Common

Included here are brief descriptions of the features to be controlled and the function of the Programmer control.

**144 Auto Repeater Shift** - The Auto Repeater Shift feature sets the direction of the offset for a frequency of the 144 MHz band automatically. This option controls performance of the radio when tuning in VFO. The Programmer is not affected by

changing this setting. The default for this feature is On (checked). The offset direction and offset frequency are set automatically in the radio when a new frequency is selected in VFO.

**440 Auto Repeater Shift** - The same as the 144 Auto Repeater Shift in the 440 MHz band. Default is On (Checked).

**AM/FM Dial** - Enables (checked) or disables (unchecked) the DIAL knob when operating in the AM or FM modes. Basically, you are disabling the normal functionality of the DIAL knob since you do not need the fine and sensitive tuning it provides. The default is Disabled (unchecked)

**Emergency** – This option is included indicating that the radio has the ability to transmit on the Alaska Emergency Channel, 5167.5 kHz; however, it is not available for activation from the Programmer to prevent accidental use. The option is available as a menu setting in the radio and care should be taken to understand its use.

**Extended Menu** - Accesses all the details of the menu. The default is Off (unchecked). While the options of the Extended Menu are always available in the Programmer, enabling this option makes those options available in the menu of the radio.

**Fast Tune** – Change the tuning steps for the Main dial for quicker navigation. This feature can be engaged and disengaged in the radio by momentarily pressing the Power button while the radio is on (do not press it for too long or the radio will go off without engaging the option). A small icon that looks like a man running will appear in the lower right corner of the display when the radio is programmed with this option on. The default is Off (unchecked) for fine-tuning.

**Home ->VFO** – Enables (checked) or disables (unchecked) the ability to copy the Home channel data to the VFO automatically. When the Home channel is recalled with this option enabled, rotation of the DIAL or Select knob will cause the information from the Home memory channel to be copied to the current VFO. The original Home memory channel details remain unchanged when the information is copied to VFO. If you make changes to the information for the Home memory channel after it is copied to the VFO, you will need to resave those changes to the Home memory channel to make them permanent.

**Memory Group** - With the Memory Group feature On (Checked), the 200 'standard' memory channels are partitioned into ten Memory Groups of 20 each. These Groups are preset to include memories 1-20 in the first, 21-40 in the second, 41 through 60 in the third, and so on to 200. To take advantage of the Groups, memory channels would be entered into a predefined group (i.e., HF entered from 1-20, 2M entered from 21-40, etc. Although you might not have 20 HF channels to enter, skip to memory channel 21 to enter the first 2M memory to take advantage of Group functionality.) The default for this feature is Off (Unchecked)

Meter Peak Hold - Enables (checked) or disables (unchecked) the "Peak hold"

function of the meter. The default is enabled.

**Mic Scan** - Enables (Checked) or Disables (Unchecked) scanning access via the Up / Down keys on the microphone. The default is Enabled (Checked).

**Noise Blanker** – The Noise Blanker may be useful in reducing or eliminating some types of impulse noise, especially noise generated by automotive ignition systems. As in many options for the radio, use requires two steps: turning it on and setting its operating value. The checkbox activates (checked) or deactivates (unchecked) the option. The value in the **NB** Level field sets the "blanking level". The default for this setting is deactivated (unchecked).

#### Note: During very crowded band conditions, you may wish to turn the Noise Blanker off. Use of the Noise Blanker somewhat degrades the strong-signal-handling capability of the receiver.

**Auto Power Off** - Automatically shuts off the transceiver after a designated period of non-use. Option settings include Off, or 1 to 6 hours. Default is Off.

**AGC** – Automatic Gain Control controls the recovery time. The settings for this option include Auto / Fast / Slow / or Off. Choose the setting that best fits your operating needs. The default is Auto.

#### Note: The AGC system can be disabled from the face of the receiver by pressing the B key while the Multi Function Row "I" menu is engaged. Normally, the AGC should be left On.

**Beep Frequency** - Select the frequency (tone) of the beep. Option settings include 440Hz, 880Hz, and 1760Hz. Default is 880 Hz. This setting controls only the sound that is heard when a key is pressed. This is **not** CW Sidetone, which is controlled through its own settings on the "CW and ARTS" tab.

**Beep Volume** - Select the volume for the beep tone heard when a key is pressed on the transceiver. Option settings include 0 to 100. Default is 50.

**CAT/Linear** – Selects the device to be connected to the CAT/LINEAR jack on the rear panel of the radio. Options include CAT, Linear, and Tuner. Default is CAT.

**CAT Rate** – Set the CAT baud rate. Settings include 4800, 9600, and 38400 bps. The default is 4800 bps.

**Clarifier Dial Selection** – Defines the knob to use for setting the clarifier-offset frequency during radio operations. This is the one option that is different between the FT-897 and FT-857. The correct options for your radio will appear in the list once you have read from the radio to identify it to the Programmer. The options for the FT-857 include the Selector and the Main Dial knobs. The options for the FT-897 include the

Clarifier, Selector and the Main Dial knobs.

**Dial Step** – Set the tuning speed of the DIAL knob. Default is Fine. Options are:

Fine – 10 Hz step for SSB and CW modes and 100 Hz step for Am or FM

Course - 20 Hz step for SSB and CW modes and 200 Hz step for Am or FM

**Digital Mode** - Set the mode and sideband selection (if applicable) for use in Digital mode. Select from:

<u>RTTY-L</u>: AFSK RTTY operation in LSB mode

RTTY-U: AFSK RTTY operation in USB mode

PSK31-L: PSK-31 operation in LSB mode

PSK31-U: PSK-31 operation in USB mode

<u>USER-L</u>: User programmed custom operation in LSB mode

<u>USER-U</u>: User programmed custom operation in USB mode

# Note: In the USER-L and User-U modes you can define the displayed frequency offset and carrier offset frequency using the DIG DISP and DIG Shift options found on the "Mic and Shifts" tab of the Settings screen in the Programmer.

**DCS Invert** - Operations using DCS tones occasionally require inversion for successful operations. If you find that your receiver squelch does not open when both you and the other station are using a common DCS code, you or the other station (but not both) should try an inversion combination such as:

<u>Tn-Rn</u> - Normal / Decoder: Normal

Tn-Riv - Normal / Decoder: Reverse (Inverted)

Tiv-Rn - Reverse (Inverted) / Decoder: Normal

<u>Tiv-Riv</u> - Reverse (Inverted) / Decoder: Reverse (Inverted)

**Filter** - Selects the location into which the options Transmit IF filter is installed. Select None, Fil1 or Fil2 indicating that no optional filters are installed or that your filter of choice is installed into Fil1 or Fil2.

**Lock** - Select the operation of the LOCK button. Lock cannot be activated from the Programmer. To Lock the radio, press the LOCK button on the face of the radio. The Lock function can control:

Dial - Locks the DIAL knob only

<u>Frequency</u> – Locks the front panel keys and knobs related to frequency control

<u>Panel</u> – Locks all front panel keys and knobs except POWER and LOCK

<u>All</u> - Locks all microphone and front panel keys and knobs (except POWER and LOCK on the radio.

**Mem/VFO Dial** – Select the function that is engaged by pressing the Select knob (lower left on face of radio). This option allows quick access to a menu setting through the secondary function of this knob. The settings that can be controlled include:

- CW Sidetone
- CW Speed
- MHz/Mem Group (tuning)
- NB Level
- RF Power
- Step
- Mic Gain

**Meter** - Select the display function of the meter while the radio is transmitting. This setting corresponds to the B key of Multi Function Row "i". Available selection include:

<u>PWR</u> - Transmit Power

<u>ACL</u> – Automatic Level Control voltage

<u>SWR</u> – Standing Wave Ratio (forward:reflected)

MOD – Deviation level

**Meter Tx Selection** – Select the display configuration for the analog meter while the transceiver is transmitting. This option corresponds to Menu Item 61 in the radio. Option settings include

PWR – Transmit power

<u>ALC</u> – Automatic Level Control voltage

<u>MOD</u> – Deviation level

<u>SWR</u> – Standing Wave Ratio (forward:reflected)

<u>VLT</u> – Battery voltage (DC source voltage)

N/A – Not available at this time

Off – Disables the meter

**Meter Rx Selection** - Select the display configuration for the analog meter while the transceiver is receiving. This option corresponds to Menu Item 60 in the radio. Option settings include:

<u>SIG</u> – Incoming signal strength

CTR – Discriminator center meter

<u>VLT</u> – Battery voltage (DC source voltage)

N/A – Not available at this time

 $\underline{FS}$  – Applies a calibration signal (1 mA for full scale) at the METER jack on the bottom of the radio for adjustment to the calibration of an external meter. This lets you adjust the potentiometer in your metering system so that the external meter reading is full scale.

Off – Disables the meter

**Mic Select** – Defines the choice of equipment which will be connected to the mic jack of the radio. The options include

Normal – Normal microphone

<u>Remote</u> – Options MH-59A8J remote microphone: Note: You cannot address the radio with the Programmer when using the MH-59A8J mic since you cannot access Clone mode when that mic is connected. Functions transferred to the microphone make it impossible to access Clone mode through the keys on the face of the radio. Disconnect the microphone to access Clone mode as described in the Programmer.

 $\underline{CAT}$  – Optional CAT system. Note: If you are using the options FC-30 antenna tuner, you can still use the CAT system by connecting the serial data cable to the mic jack.

**Packet Rate** - Set the Packet baud rate to be used. Option settings include 1200 and 9600 bps. The default is 1200 bps.

**Scan Mode** – Set the mode for resuming scanning. Default is Time. Other options include:

<u>Time</u> - Scanning will hold for a fixed length of time (set via Scan Resume option) then will resume whether or not the other station is still transmitting.

<u>Busy</u> – Scanning will hold until the signal disappears for 1 second.

<u>Stop</u> – Scanning will stop and not resume when a signal is heard.

**Scan Resume** – Set the delay time for scanning resumption when the radio is using Time for Scan Mode. Option settings include 1 – 10 seconds. Default is 5 seconds.

**SQL Knob** – Defines the functionality of the SQL/RF knob (upper left on face of radio). Options include RF Gain or SQL (Squelch).

**Time-Out Timer** - Automatically stops continuous transmission in the event that the PTT switch is accidentally locked in the "TX" condition. This feature prevents your transceiver from transmitting a "dead carrier" for a long period of time. Transmission will be stopped after 1 to 20 minutes or this feature may be disabled (0 setting). The default is Off (0 setting).

**Tuner/ATAS** – Selects the device (FC-30 tuner or ATAS-100/-200 antenna) to be controlled via the [A](Tune) key on the front panel of the radio (in the Multi Function Keys row 'k' [Tune, Down, Up]. Options include:

<u>Off</u> – The default. The [A](Tune) key is disabled when the 'k' menu is selected.

<u>ATAS(HF)</u> - The [A](Tune) key will activate the options ATAS-100/-200 on the HF amateur bands.

<u>ATAS(HF&50)</u> - The [A](Tune) key will activate the options ATAS-100/-200 on the HF amateur bands and the 50 MHz amateur band.

<u>ATAS(ALL)</u> - The [A](Tune) key will activate the options ATAS-100/-200 on the HF, VHF (6/2M), and the 430 MHz bands.

<u>Tuner</u> - The [A](Tune) key will the options FC-30 tuner.

#### 11.2 Radio Menu Settings - CW and ARTS

Settings for the CW and ARTS functions of the FT-857/897 are entered on this page. These settings are

**CW Break-in** – Engage (checked) or disengage (unchecked) the "break-in" system for CW transmissions. Having "break-in" engaged causes CW transmissions to be made.

With this option disengaged, the CW sidetone is emitted from the speaker of the radio but no transmission is made. Having "break-in" disengaged is useful for CW practice in the shack. The default is engaged.

**CW Auto Mode** – Enables (checked) or disables (unchecked) the KEY jack in modes other than CW. When enabled, the KEY jack is on in all modes (SSB mode: A1 and FM mode: F2). When disabled the KEY jack is works in CW mode only. The default is disabled.

**Keyer** – Activate (checked) or deactivate (unchecked) the electronic keyer of the radio. The default is deactivated

**Mic CW Key** – Engage (checked) or disengage (unchecked) the use of the [UP] and [DOWN] keys on the microphone as the CW keyer. With this option engaged, the [UP] key sends a "dot" and the [DOWN] key sends a "dash". The Keyer option should be checked to use this option. The default of the Mic CW Key option is disengaged.

**Reverse CW Paddles** – Normal (unchecked) or Reverse (checked) to reverse the "dot" and "dash" paddles of an electronic keyer. Through this setting, anyone using the paddles can be accommodated without having to rewire.

<u>Normal</u>: The "tip" plug connection produces dots and the "ring" plug connection produces dashes.

<u>Reverse</u>: The "tip" plug connection produces dashes and the "ring" paddle produces dots.

**CW BFO** – Set the CW carrier oscillation injection side for the CW mode. Available settings for this option include

<u>USB</u> – Injects the CW carrier oscillator on the USB side

<u>LSB</u> – Injects the CW carrier oscillator on the LSB side

 $\underline{AUTO}$  – Injects the CW carrier oscillator on the LSB side while operating on the 10 MHz band and below and USB side while operating on the 10 MHz band and above.

**CW Delay** – Set the receiver recovery time during pseudo-VOX CW semi-break-in operation. Available values are 10 to 500 milliseconds. The default value is 250 ms.

**CW Pitch** – Set the pitch of the CW sidetone, BFO offset, and CW filter center frequencies with this one option. In actuality, you are setting the pitch that you want to hear from the speaker of the radio. The radio adjusts the BFO offset and CW filter center frequencies automatically according to your setting for proper operations. Available values are 400 to 800 Hz in 100 Hz increments. The default is 700 Hz.

**CW QSK** – Select the time delay between when the PTT is keyed and the carrier is transmitted during QSK operations when using the internal keyer. Options are 10/15/20/25/or 30ms. Default is 10ms.

# Note: Transmission for the radio will become impossible with this option set at 25ms or greater and CW Speed set faster than 50 (42) wpm.

**CW Speed** – Sets the sending speed for the built-in electronic keyer. Available values are 4 to 60 wpm (or 20 to 300 cpm (characters per minute)). Each setting represents both (i.e., 4 wpm is equivalent to 20 cpm). The default value is 12 wpm (60 cpm). To switch between wpm and cpm units, press SEL knob on the face of the radio while in this menu option.

**CW Sidetone** – Adjust the CW Sidetone volume level. Available values are 0 to 100. The default is 50.

**CW Training** – Select the code to be sent in CW Training mode. The selections include:

Numeric – Numeric characters only

Alpha – Alphabet characters only

<u>Alpha/Numeric</u> – Numeric and Alphabet characters (Mixed)

Making a selection here does not engage this feature. To use this feature, select Menu No-031 from the Extended Menu. You will see the selection you made here appear as N, A or AN. Press the B key (STRT) to begin the first group. To exit the CW Training function, press and hold the **FUNC** key for one second to return to normal operations.

<u>**CW Weight**</u> – Set the Dot:Dash ratio for the built-in electronic keyer. Available values are 1:2.5 to 1:4.5. The default value is 1:3.0.

**ARTS** – The Automatic Range Transponder System (ARTS) uses DCS signaling to inform you and another ARTS-equipped station that they are within range for communication. See <u>ARTS - In Detail</u> for more information.

**CW ID** – Enables / Disables the CW identifier during ARTS operation. The default is Off (unchecked)

**CW ID Text** – Enter the callsign or string of up to 10 characters to be stored as the CW identifier. The default is YAESU.

**ARTS Beep** – Set the ARTS beep mode to the following options:

Off - No alert beep sounds. The current ARTS status can be determined by

looking at the display

<u>Range</u> - A high tone beep will sound when the transceiver first detects that you are within range and a low beep sounds when the other station goes out of range.

<u>All</u> - A high tone beep will sound every time a polling transmissions is received from the other station and a low beep will sound once when the other station goes out of range.

**Beacon** – Feature allows you to set up the transceiver to send a repetitive message.

<u>Interval</u> – Set the time interval between messages (message to message). Available values for this option are 0 (Off) and 1-255 seconds. The default is 0 (Off).

<u>Text</u> - Enter text to be transmitted. Up to 39 characters can be entered into each of the three fields.

The length is 39 rather than 40 characters since the last character must indicate whether the string continues to the next field or terminates. You do not have to enter the terminating or continue character. If necessary, check the Continue box to indicate that the string continues into Text 2. The Programmer will add the terminating character automatically.

Note: Beacon text can be in ranges of length from 40 to 79 characters or 79 to 118 characters with special characters indicating continuations and termination of the string. The Programmer makes this easy to enter. Enter up to 39 characters in Text 1.

If you have fewer than 39 characters and have not checked the Continue box, the Programmer will automatically add the terminating character for you when the file is sent to the radio.

If you check the Continue box, the Programmer will automatically add the Continue character for you when the file is sent to the radio and the string from Text 2 will automatically follow the string from Text 1 (they become one long string in the radio).

Remember that Text 1 is used by the radio as repetitive beacon text. Text 2 and 3, unless being used as a continuation of Text 1, are transmitted once rather than repetitively. Also, when using the Beacon feature in the radio, be sure to disable the "VOX" feature.

Beacons are transmitted in CW. The CW speed for beacon transmission is adjusted using the CW Speed setting at the top of the CW and ARTS page of the Programmer.

#### 11.2. .1 ARTS - In Detail

The Automatic Range Transponder System (ARTS) uses DCS signaling to inform you and another ARTS-equipped station that they are within range for communication. You need not have two matching radios to use this function. Any two radios equipped with the ARTS function can be used.

ARTS is used in simplex mode. The radio must receive on the same frequency as that transmitted by the other radio.

When setting up a channel for ARTS (VFO or memory), set the

- Offset Direction to SIMPLEX,
- Tone Mode to DCS,
- DCS code to the same value in each radio.

Besides its value in search and rescue operations, ARTS makes a great "did you hear me" feature. As long as the two radios show "IN RANGE", you can be sure that the radio received your audio . Presuming that the volume on the receiving radio is sufficient, you can be sure that your signal was heard. Especially when driving, the other operator may not be able to respond immediately to your communication. If ARTS remains successful, you can be sure that the voice transmission was heard (just as the ARTS signal is heard).

During the ARTS function, your radio will transmit a signal every 15 (or 25) seconds. This transmission includes the DCS tone. The receiving radio will hear only the signal with the tone. An extraneous signal that lacks the tone will not interfere with the ARTS functionality between these two radios.

The other radio does the same in a comparable time period. As long as the two remain within range, the displays will show "IN RANGE". Should one of the radios move too far from the other, three beeps will sound and the display changes to "OUT RANGE". Once with radios are again within range, a single beep will sound and the display will change to "IN RANGE". Whether or not you talk, the ARTS function continues until you deactivate it.

During ARTS operation, it is impossible to change the operating frequency or other settings of the radio. This prevents accidental loss of contact. You must terminate ARTS operations to resume normal operations including access to menu settings on the radio. The radio can be turned off even with ARTS engaged. This will cause an out-of-range situation for other radios.

Options for ARTS operations are entered on the General tab of the Settings screen of the Programmer. Access this by selecting Settings | Radio Menu Settings from the main page of the Programmer. Then select the General tab once the settings screen opens. Once changes are made, select File | Save from the menu at the top of the settings screen. Enter a name for the settings file (if you are working in an existing settings file this action will appear to do nothing; but, your changes will be saved. You will not be prompted for another filename.). Click Save. Then click File | Exit to close the Settings screen.

# The ARTS options include:

**CW ID** - Transmissions during the ARTS function, whether or not accompanied by voice transmissions, require that you ID every 10 minutes to satisfy FCC identification requirements. This identification can be done manually with verbal ID during a conversation or automatically by the radio with your callsign transmitted via CW. This automatic ID option is especially useful if you are using ARTS without voice transmission. To activate the CW ID, check the box and enter your callsign in the space provided.

**ARTS Beep** - The ARTS function can operate either silently or audibly. Silently, the display shows the IN RANGE or OUT RANGE condition of the transceivers. The beep alerts you to the location status of the radios. The available options include:

OFF for silent operations.

<u>RANGE</u> for a beep only when the radios first confirm that you are within range. The radios then remain silent as long as you remain within range.

<u>ALL</u> for a beep to sound every time a polling transmission is received from the other station.

Note: ARTS will not function if the PTT is locked.

Also, most models cannot be programmed if ARTS mode is activated when the radio is turned off. If you cannot initiate Tx or Rx in Clone mode, turn the radio off then back on in normal mode checking that ARTS mode is not engaged.

#### 11.2.2 ARTS Beep

Settings for the CW and ARTS functions of the FT-857/897 are entered on this page. These settings are

**CW Break-in** – Engage (checked) or disengage (unchecked) the "break-in" system for CW transmissions. Having "break-in" engaged causes CW transmissions to be made. With this option disengaged, the CW sidetone is emitted from the speaker of the radio

but no transmission is made. Having "break-in" disengaged is useful for CW practice in the shack. The default is engaged.

**CW Auto Mode** – Enables (checked) or disables (unchecked) the KEY jack in modes other than CW. When enabled, the KEY jack is on in all modes (SSB mode: A1 and FM mode: F2). When disabled the KEY jack is works in CW mode only. The default is disabled.

**Keyer** – Activate (checked) or deactivate (unchecked) the electronic keyer of the radio. The default is deactivated

**Mic CW Key** – Engage (checked) or disengage (unchecked) the use of the [UP] and [DOWN] keys on the microphone as the CW keyer. With this option engaged, the [UP] key sends a "dot" and the [DOWN] key sends a "dash". The Keyer option should be checked to use this option. The default of the Mic CW Key option is disengaged.

**Reverse CW Paddles** – Normal (unchecked) or Reverse (checked) to reverse the "dot" and "dash" paddles of an electronic keyer. Through this setting, anyone using the paddles can be accommodated without having to rewire.

<u>Normal</u>: The "tip" plug connection produces dots and the "ring" plug connection produces dashes.

<u>Reverse</u>: The "tip" plug connection produces dashes and the "ring" paddle produces dots.

**CW BFO** – Set the CW carrier oscillation injection side for the CW mode. Available settings for this option include

USB – Injects the CW carrier oscillator on the USB side

LSB – Injects the CW carrier oscillator on the LSB side

<u>AUTO</u> – Injects the CW carrier oscillator on the LSB side while operating on the 10 MHz band and below and USB side while operating on the 10 MHz band and above.

**CW Delay** – Set the receiver recovery time during pseudo-VOX CW semi-break-in operation. Available values are 10 to 500 milliseconds. The default value is 250 ms.

**CW Pitch** – Set the pitch of the CW sidetone, BFO offset, and CW filter center frequencies with this one option. In actuality, you are setting the pitch that you want to hear from the speaker of the radio. The radio adjusts the BFO offset and CW filter center frequencies automatically according to your setting for proper operations. Available values are 400 to 800 Hz in 100 Hz increments. The default is 700 Hz.

**CW QSK** – Select the time delay between when the PTT is keyed and the carrier is

transmitted during QSK operations when using the internal keyer. Options are 10/15/20/25/or 30ms. Default is 10ms.

# Note: Transmission for the radio will become impossible with this option set at 25ms or greater and CW Speed set faster than 50 (42) wpm.

**CW Speed** – Sets the sending speed for the built-in electronic keyer. Available values are 4 to 60 wpm (or 20 to 300 cpm (characters per minute)). Each setting represents both (i.e., 4 wpm is equivalent to 20 cpm). The default value is 12 wpm (60 cpm). To switch between wpm and cpm units, press SEL knob on the face of the radio while in this menu option.

**CW Sidetone** – Adjust the CW Sidetone volume level. Available values are 0 to 100. The default is 50.

**CW Training** – Select the code to be sent in CW Training mode. The selections include:

Numeric – Numeric characters only

<u>Alpha</u> – Alphabet characters only

<u>Alpha/Numeric</u> – Numeric and Alphabet characters (Mixed)

Making a selection here does not engage this feature. To use this feature, select Menu No-031 from the Extended Menu. You will see the selection you made here appear as N, A or AN. Press the B key (STRT) to begin the first group. To exit the CW Training function, press and hold the **FUNC** key for one second to return to normal operations.

<u>**CW Weight**</u> – Set the Dot:Dash ratio for the built-in electronic keyer. Available values are 1:2.5 to 1:4.5. The default value is 1:3.0.

**ARTS** – The Automatic Range Transponder System (ARTS) uses DCS signaling to inform you and another ARTS-equipped station that they are within range for communication. See <u>ARTS</u> - In <u>Detail</u> for more information.

**CW ID** – Enables / Disables the CW identifier during ARTS operation. The default is Off (unchecked)

**CW ID Text** – Enter the callsign or string of up to 10 characters to be stored as the CW identifier. The default is YAESU.

**ARTS Beep** – Set the ARTS beep mode to the following options:

<u>Off</u> - No alert beep sounds. The current ARTS status can be determined by looking at the display

<u>Range</u> - A high tone beep will sound when the transceiver first detects that you are within range and a low beep sounds when the other station goes out of range.

<u>All</u> - A high tone beep will sound every time a polling transmissions is received from the other station and a low beep will sound once when the other station goes out of range.

**Beacon** – Feature allows you to set up the transceiver to send a repetitive message.

<u>Interval</u> – Set the time interval between messages (message to message). Available values for this option are 0 (Off) and 1-255 seconds. The default is 0 (Off).

<u>Text</u> - Enter text to be transmitted. Up to 39 characters can be entered into each of the three fields.

The length is 39 rather than 40 characters since the last character must indicate whether the string continues to the next field or terminates. You do not have to enter the terminating or continue character. If necessary, check the Continue box to indicate that the string continues into Text 2. The Programmer will add the terminating character automatically.

Note: Beacon text can be in ranges of length from 40 to 79 characters or 79 to 118 characters with special characters indicating continuations and termination of the string. The Programmer makes this easy to enter. Enter up to 39 characters in Text 1.

*If you have fewer than 39 characters and have not checked the Continue box, the Programmer will automatically add the terminating character for you when the file is sent to the radio.* 

If you check the Continue box, the Programmer will automatically add the Continue character for you when the file is sent to the radio and the string from Text 2 will automatically follow the string from Text 1 (they become one long string in the radio).

Remember that Text 1 is used by the radio as repetitive beacon text. Text 2 and 3, unless being used as a continuation of Text 1, are transmitted once rather than repetitively. Also, when using the Beacon feature in the radio, be sure to disable the "VOX" feature.

Beacons are transmitted in CW. The CW speed for beacon transmission is adjusted using the CW Speed setting at the top of the CW and ARTS page of the Programmer.

# 11.3 Radio Menu Settings - Mic and Shifts

Make selections for the options on this page through the check boxes or from the values presented in the fields. To change the value in a field, click the Up or Down arrow to the right of the field until the desired setting is reached. Appropriate values can also be typed into the field.

**VOX** - The VOX system provides automatic transmit/receive switching based on voice input to the microphone. With the VOX system enabled, you do not have to press the PTT to transmit.

<u>Enable</u> - Enable (checked) or disable (unchecked) VOX operations. The default is disabled. This functionality can be turned on or off from the Multi Function Row "d" key C of the radio.

<u>Gain</u> – Set the sensitivity of the input audio detector of the VOX circuitry to control VOX operations. Available values are 1 to 100. The default is 50.

<u>Delay</u> - Set the length of the delay that the VOX circuitry continues to transmit once audio input has ceased. Available values are 100 to 2500 ms. The default is 500 ms.

**Microphone Gain** - Adjustments to Microphone Gain result in better transmission clarity. Several modes have independent adjustments for the best performance. Adjust and save the gain setting for SSB, AM, FM, Digital, Packet (1200 baud), and for 9600 baud packet. Available values are from 0-100. The default is 50.

Note: For Packet (1200 baud) and 9600 (baud Packet) the adjustment controls the audio input level from the TNC during Packet operations. Similarly for Digital, the adjustment controls the audio input level from terminal equipment (such as a TNC or PSK-31 sound card) during (Digital) mode operation.

**Digital Shift** - Define the carrier frequency offset during DIG (User-L or User-U) mode operation. The available values are -3000 to + 3000 Hz. The default value is 0 Hz.

**Digital DISP** - Define the displayed frequency offset during DIG (User-L or User-U) mode operation. The available values are -3000 to +3000 Hz. The default value is 0 Hz.

**Digital VOX** - Set the gain of the VOX circuitry's input level in the digital mode. Available values are 0-100 default is 0.

> Note: To use Digital Vox on the radio, press the [FUNC] key momentarily then rotate the SELECT knob to Multi Function Row "d". Press the [C]VOX key. The icons will disappear signifying that the

(SSB/AM/FM voice) VOX system has been turned off. Although these indicators have disappeared, the Digital Mode VOX system will still be active allowing audio input from a TNC or sound card to engage the transmitter.

**Mic Equalizer** - Sets the DSP microphone equalization pattern. The default is Off. Available options include:

- Off The DSP function is disabled
- LPF Lower frequencies are emphasized
- <u>HPF</u> Higher frequencies are emphasized
- Both Mid-range frequencies are emphasized

**DSP BPF Width** – Set the bandwidth for the DSP CW audio filter. Available values are 60, 120, or 240 Hz. The default is 240 Hz.

**DSF HPF Cutoff** – Adjusts the low-cut characteristics of the DSP HPF filter for SSB, AM, and FM modes. Generally, acceptable voice fidelity will be obtained only if you do not set this parameter much above 400 Hz. Available values range from 100 to 1000 Hz. The default is 100 Hz.

**DSP LPF Cutoff** – Adjusts the high-cut characteristics of the DSP LPF filter for SSB, AM and FM modes. Best voice-mode interference rejection will usually be obtained with a setting for the option between 2130 and 2770 Hz. Available values range from 1000 to 6000 Hz. The default is 6000 Hz.

**DSP NR Level** – Set the degree of DSP noise reduction. Available values range from 1 to 16. The default is 8.

**Carrier Offset** - Set a value for a permanent shift in the receiver's IF passband. This allows you to set up a higher or lower listening pitch. The RX or TX carrier point for USB or LSB are set with this option. The available values are -300 to +300 Hz. The default value is 0 Hz.

**Processor Level** - Sets the compression level for the AF speech processor of the SSB/AM modes. Available values are 0-100. The default is 50.

#### 11.4 Radio Menu Settings - Display and Power

Make selections for the options on this page through the check boxes or from the values presented in the fields. To change the value in a field, click the Up or Down arrow to the right of the field until the desired setting is reached. Appropriate values can also be typed into the field.

#### **Display Settings:**

Large Display – Check this box to engage the Large Character mode of the display )as in the DISP selection of Multi Function Row "i"). In this mode the VFO/Memory label and the Mode indication will disappear as the frequency display field is doubled in size.

<u>Contrast</u> - Adjust the contrast of the LCD on the radio. Available values are 1 —13. The default is 5.

<u>Intensity</u> – Adjust the brightness of the LCS of the radio. Available values are 1 (Dim) to 3 (Bright). The default is 3.

<u>Mode</u> – Set the lamp mode for the LCD. Available values are as follows. The default is AUTO2.

- Off Disables the LCD illumination
- Auto1 Illuminates the LCD for three seconds when any button is pressed or if the SELECT knob is rotated.
- Auto2 Illuminates the LCD continuously while the radio is operating on an external power supply.
- ON Illuminates the LCD continuously when the unit is on.

**Color** - The LCD color may be changed for different operating status conditions. Colors can be set by Band, by Memory Group or to denote a change in ARTS status or meter indication.

Two selections (1 or 2) set the color options to one of two predefined combinations (i. e., you cannot reset whether the change is between red and blue or amber and magenta. You can determine whether the change is visible or if a color remains constant during a given setting change). The settings that can support a visual indication of change through predefined color changes are

<u>ARTS</u> – The color changes depending on the "In Range" or "Out of Range" status.

BAND – The color changes according to the Band in use

Mem Group – The color changes according to the Memory Group in use

Mode – The color changes according to the Mode in use

<u>Meter</u> – The color changes according to the S-meter, PWR-meter, MODmeter, SWR-meter or ALC-meter reading. The level of the reading that affects the color change and the color cannot be changed.

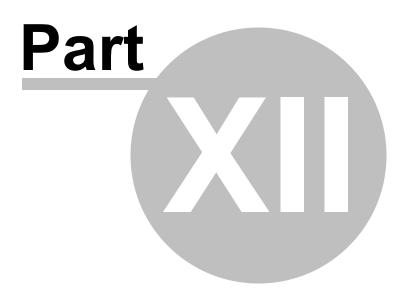
<u>VFO</u> – The color changes according to the VFO/Memory/Home/QMB operating status.

<u>FIX</u> or the color of the main display (this was amber when you first turned on your radio) can be varied over 32 different color selections

Working with this setting in the radio resulted in some unexpected results. If you do not get what you expect after the file is sent to the radio, make changes and try again.

**RF Power** - Set the maximum power level for the current band. The power level can be set for HF, 50 MHz band, 144 MHz band, and 430 MHz band. The available values and the default setting vary by band.

**Programmable (PG) Buttons** - The buttons of the MH-59A8J microphone can be configured for different functions to best suit your operating needs. The A / B / C/ D/ ACC / P1 / and P2 buttons can each be set for any of the Multi Functions, all Menu Items (except #65 through #70 which are the programming function recalls), MONI, Q. SQL, TCALL, ALT, and USER.



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# **12** Radio to Computer Communications

Data flow two ways: from the computer to the radio or from the radio to the computer. Even when you are sending a file to the radio, some data must be sent from the radio to the computer to ensure that the two are "talking" before transfer of the file ever gets started.

In either case, **be sure to follow the directions presented on the screen carefully**. The wrong button press can result in a communications failure that could reset your radio to factory defaults.

Details for this process are contained in these sections:

<u>Communications | Get Data From</u> - Always the best place to start. Even if there is nothing in your radio. It gets the data "flowing" between the two.

<u>Communications | Send Data To</u> - This process programs the radio with the details of the file that is on the screen. If the file is blank, you will have a blank radio. Be sure you see your frequencies on the screen before you start this part of the process.

<u>Radio to Computer Cabling</u> - Check the photos to be sure you are using the correct cabling for your radio.

<u>Comport Setup</u> - There is no comport setup in Version 4. The Programmer automatically finds the *RT Systems* USB cable for you. This section contains some troubleshooting details.

# 12.1 Communications | Get Data From Radio

Uploads the contents of the radio memory to the computer. This function is often referred to as "reading" the radio since memory information is "read" from the radio.

This step is required before the first file can be sent to the radio. Files with frequency information can be created in the Programmer without executing this step.

# "The data from the radio will overwrite this file. Continue?"

This message will be raised by the programmer when you select Communications | Get

data from radio with a file open that is not a new (default) file into which no entries have been made.

This message is warning you that you will replace any information you have entered with whatever is in the radio. The "whatever" could be all blank channels.

Answer "yes" if you want to lose all the information that appears on the screen. Answer "no" if you don't want to lose several hours of work spent creating the file on the screen. To prevent loss of information, first do File | New to open a new (default) file. Then while looking at that file, do Communications | Get data from radio and complete that process. Your file will drop to the background and be protected from during this part of the process.

Once you complete Communications | Get data from radio, return to your file a) select the tab at the top of the page; or b) select File | Open and open the file from the list presented (if you closed it some time during the process.)

# The Get Data From process (reading the radio)

- Connect the cables properly to the radio. See the <u>Radio to Computer</u> <u>Cabling</u> section of this help for details of that cabling.
- Be sure you a reliable external power source before beginning this process. Loss of power during communications may result in a reset radio.
- The screen that opens has details for completing the process to get data from the radio (read the radio).
- When working with a laptop or smaller computer, be sure to use extermal power for the computer.

Read the screen carefully. The steps differ with each model. All the steps you need to do are listed on this screen.

Get	Data From FT-857
	1. Insert cable into the CAT jack on the back of the radio.
	<ol><li>Press and hold the [MODE &lt;] and [MODE &gt;] keys while turning on the radio.</li></ol>
	3. Verify the radio displays CLONE MODE.
	4. Click the OK button.
1	OK Cancel

• Now that the radio is in CLONE mode, click OK to continue.

	the free fields and the second
Pr	ess and release the [C] key on the radio to start the transfer.
	Cancel

- Press the button on the radio to start the transfer.
- A transfer status bar is displayed on the computer to let you know that the computer is receiving the data being sent from the radio. If the "blue/green bar" does not appear and fill, cancel the process and try again.

Note: If the "blue/green bar" does not appear and begin to fill immediately, the first steps in troubleshooting are as follows:

- Do NOT turn the radio off. Do these steps exactly as listed here.
- Cancel the process on the computer.
- Once the screen closes, select Communications | Get Data From radio from the main page of the Programmer.
- Then press the [PTT] and watch the radio change. If it changes to CLONE, press the [PTT] again.

The radio was always in CLONE mode. There was no reason to turn it off an back on again. This often gets the process going after a

#### failure.

When the Get Data From process is complete, the Programmer will return to the spreadsheet of the main window where the information taken from the radio is displayed. This information is ready to be edited and saved.

The radio can remain connected to the computer while changes are being made in the Programmer. These changes are not reflected in the radio until you complete the Send Data To process in the Programmer. Leave the radio in CLONE mode or turn it off while it is connected to the radio. If it is on in normal mode, it may "act funny" since the PTT line is active in the programming cabling.

If you are doing major editing, turn the radio off and remove the cloning cable. Then return to the Programmer for editing the file. Once your editing is complete, connect the radio to the computer and complete the Send Data To process to transfer the changes to the radio.

# Troubleshooting

Should the problem persist, contact RT Systems for personal assistance.

# 12.2 Communications | Send Data to Radio

Sends the contents of the current file and the settings file to the radio.

Note: In the Version 4 Programmers you can have files open for several different radios at one time. The Programmer can send a file only to the radio it is for. The extension of the file tells you which radio it is for.

You can open and send a file created for one radio to another; however, you must open that file as one for the receiving radio. See the File | Open section of this Help for details on this process.

#### Current File

The Programmer can work with several radio files at one time. There is no need to close extra files before executing the Send Data To process.

The current file will be sent to the radio during the Send Data To process. The current file is the one that appears in the main window of the Programmer. Basically, what you

see on the screen is what is sent to the radio.

#### Settings File

Check your global menu settings under Settings | Radio Menu Settings to be sure the right information is being sent. The items on this screen are the radio settings that are not associated with a specific memory channel.

These settings are set once to be sent to the radio with any file that you create. Details on these settings can be found in the <u>Programming Other Menu Items</u> of this Help.

If the radio "acts funny" after it is programmed,

- Check the Radio Menu Settings.
- Make changes to the settings as needed.
- Save the settings file.
- Do Communications | Send Data To with the same memory channel file.

The settings will be sent with the memory data.

#### **Completing the Send Data To Process**

When you execute the Radio | Send Data To command, you are presented with instruction for putting the radio into clone mode.

Read the screen carefully. The steps to put the radio into clone mode differ with each model. Pressing the wrong button will result in no response or the wrong response for the process. The key sequence for sending data to the radio is different in all radios than that to Get Data From the radio.

Send Data	To FT-857
1.	Insert cable into the CAT jack on the back of the radio.
2.	Press and hold the [MODE <] and [MODE >] keys while turning on the radio
3.	Verify the display shows CLONE MODE.
4.	Press the [A] key on the radio to start Clone Rx.
5.	Verify that "recieving" displays below CLONE MODE.
6.	Click DK to start transfering the data.
	OK Cancel

Follow the steps on this screen. When you click OK a progress bar appears letting you know that the process is being completed.

When the transfer is complete, the transfer status window disappears and the Programmer returns to the Main Window.

With the radio off, remove the cloning cable. The radio is ready to power-up and use with the newly programmed settings.

# Troubleshooting

#### **Communications | Get Data From Radio required first**



The first time you attempt to send your file to the radio, this message may appear.

This indicates that you have not read the configuration of the radio into the

Programmer.

There are details that the Programmer can get only from the radio. Even if the radio is not yet programmed, these "background" details are necessary for the Programmer to send a file to your radio successfully.

To complete this process:

1) Select File | New from the menu at the top of the screen.

2) Turn off the radio.

3) Select Communication | Get Data From Radio from the menu at the top of the screen.

4) Complete the process detailed on the screen.

5) Once the process is complete, click the tab at the top of the screen showing your filename. The file that you want to send to the radio will be displayed on the screen.

6) Select Communications | Send Data To Radio from the menu at the top of the screen.

7) Complete the process following each step carefully to program these channels into the radio.

#### **Modified Radio**

If your radio has been modified, you need to read from the radio (Get Data From) into a new file before you attempt to write data to the radio. When the Get Data From process is used, even if the radio is not yet programmed, the Programmer gets the data it needs to know that the radio is modified.

When you use Get Data From for the sake of establishing communications, you need to save the file ONLY if you want to save the memory data that is currently in the radio. The Programmer already has what it needs. The option to save is available should you want to save the pre-programmed data.

#### The radio is not programmed after the process is complete

This could indicate several things. Most of those are specific to the radio. The most general error is not an error in programming; but the need to put the radio into Memory mode once programming is complete. Many of the radios return to VFO when they are programmed. Press the V/M or MR or DM key on the radio (See the manual for your specific model to identify the key press that changes the radio from VFO to memory mode. It will be detailed there.)Once in memory mode the information programmed will be available for use.

Several of the Yaesu radios truly are not programmed when the download process is complete. These radios have encountered an error during the programming process. Try the process again. It it continues to fail, first, be sure you are using the latest version of the Programmer by updating from the Software Updates link of the website. If the problem persists, send the file that you are attempting to send to the radio. We will examine it for any problem that might exist in the data.

Check the cabling between the radio and the computer by disconnecting and reconnecting at all connections. Try the process again.

#### If you have problems sending a certain file to the radio.

Cancel the Send Data To process and execute Get Data From. Be sure to open a New file (File | New) into which the data will be read. This prevents loss of data in the file that you are sending to the radio. Getting data from the radio is a less critical process that can help get communications established.

The radio must be connected to the computer with the proper cables for that radio. See <u>Radio to Computer Cabling</u> in this help for details and pictures.

Should the problem persist, contact RT Systems for personal assistance.

# 12.3 Radio to Computer Cabling

The radio must be connected to the computer with the proper cables for that radio.

The USB-62B cable is needed to attach the radio to the computer for programming.

This cable is easily identified by its white color, the USB connection with "RT Systems" on the hood at the computer end, and the 8-pin mini din plug at the radio end.



# 12.4 Comport Setup

In the Version 4 RT Systems' Programmers there is **NO comport** setup. The software finds the USB cable automatically.

# Troubleshooting

When I select Communications | Send Data To, I get the following error:

Communication Error 🛛 🛛 🔀
Could not find a USB cable attached.
OK

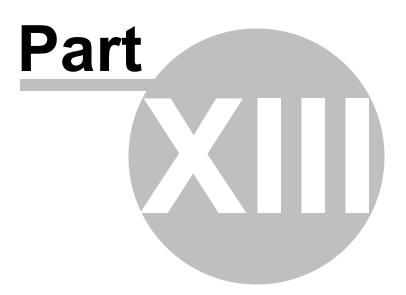
The only cable configurations that work with the Version 4 RT Systems' Programmers

are

- The RT Systems' USB-62B cable; or
- The RT Systems' original serial cable connected to the computer via the RTS-03 USB to serial adapter.

Be sure to give the computer enough time to do its internal setup once the cable is attached. On some machines this can take up to a minute (a long time in computer time). Once the cable is ready for use, the program will continue into the steps for transferring data between the radio and the computer.

Follow the steps carefully. They are unique to each radio and different for the same radio for Get Data From or Send Data To.



# 13 File Maintenance

Just as in a word process or other Windows based program, you will create files in the programmer for use in the radio. You can create as many files as the space on your hard drive will allow.

Remember, with the exception of the lcom IC-7000, all other programmers erase everything in the radio and replace it with what is in the file. Be sure everything you want in the radio is in the file that is sent. This is an "all or nothing" process.

From the File menu at the top of the main window, select:

<u>New</u> - Create a new file in any Version 3 programmer you have installed.

<u>Open</u> - Open an existing file in any of the Version 3 programmers you have installed.

Open Travel Plus Link - Active only if a list is open in Travel Plus. Accesses that Travel Plus list. Details on this functionality are available in the ARRL Travel Plus section of the help.

Close - Closes the current file.

Save - Saves the current file.

<u>Save As</u> - Saves the current file giving you the opportunity to enter a new name. This creates a copy of the file and saves it with the new name you entered.

Import - Advanced functionality that addresses data from a "flat" ASCII file. Details on this process are found in the Import and Export section of the help.

Export - Extracts data from the programmer file to a "flat" ASCII file. Details on this process are found in the Import and Export section of the help.

<u>Print Preview</u> - Lets you see the formatted information on the screen before it prints.

Print - Prints the current file

Send File as E-mail - Sends the current file to *RT Systems'* tech support. This functionality is dependent on the e-mail program of your computer.

Files 1-4 - Up to four files that you last worked in and saved.

Exit - Closes the programmer.

### 13.1 File | Exit

Exits the Programmer.

If files have been changed, you will be prompted to save or cancel the Exit command to avoid data loss in that file.



Yes - Exits the program saving the file.

No - Exits the program without saving any work done in the file since the last time you saved.

Cancel - Halts the Exit option. The program returns to the open file.

## 13.2 File | New

Use this command for setting up a "clean slate" into which you enter memory frequencies. A "clean slate" or default file will often have at least one channel programmed on the memory channel screen. This is a factory default that is in your radio when it is new. The information for this channel can be changed; however, in most radios, channel 1 must be programmed.

Use the quick key command of Ctrl M for easy access to a new file.

If you have been working to create a file with memory channels, use File | New before using Communications | Get data from to prevent losing all the work you have done in

this file. The Get data from process will replace the information in the open file with what is in the radio.

# Other Radio Menu Settings and a New File

The radio is more than just memory channels. There are features that are controlled once for the radio. They cannot be customized for each memory channel. These features are address in the programmer under Settings | Radio Menu Settings.

The settings for these features that were last saved are use whenever a New file is created. There is no need to reset these features for each new file. If you have not saved a settings file, factory these radio menu items are set to factory defaults( as if you reset your radio).

Note: If you radio "acts funny" after you download to it (i.e., keypad beeps are different, squelch is open, Scan resume settings are changed, etc.,) you have not yet set these options in the Settings portion of the programmer. To make these option settings permanent:

- Select Settings | Radio Menu Settings from the menu at the top of the screen.
- Personalize your options just as you did on the radio.
- Select File | Save from the menu on the Settings screen.
- Enter a filename when prompted and click Save.
- Select File | Exit from the menu on the Settings screen.
- You will not have to change these again unless you want them to function differently.

The settings file will change only if you read from the radio (Communications | Get data from) and send that file back to the radio (Communications | Send data to) without saving the memory information that you retrieved. This is helpful if you are programming a friend's radio in which he has all these options set up as he wants them.

The File|New command can be used to open several new files at once. Memory channel information can be copied between these files (even from V3 to V4), regardless of which radio they are for.

#### 13.3 File | Open

Just as in a word processor or other Windows programs, the command opens a previously saved file.

You are not limited to one programming file for your radio. Make as many as you want. Then choose the one you want when you open the programmer.

Working with the programmers is a little different if you have one programmer or several programmers installed on this machine. Click the topic for details on

Opening a file with the Version 3 or Version 4 programmer (One Version 3 or Version 4 programmer installed)

The Version 3 and higher programmers allow you to "share" Version 3 and higher files from other radios...even radios from other manufacturers. Click the topic for details.

Opening ANY Version 3 file

There have been many *RT Systems'* programmers over the years. The Version 3 or higher programmers can open and convert files from those older programmers. Click to topic for details.

Opening existing programming files (\*.rdf or \*.icf files)

#### 13.3.1 Opening files from older programmers

# **Opening existing programming files (\*.rdf or \*.icf files)**

The Version 3 or higher programmers can open a file created with an original RT Systems' ADMS or WCS programmer for the same radio.

In this example, a file for the Yaesu FT-60 that was created in the original ADMS-1J programmer (an .rdf file) will be opened in the Version 3 programmer for the FT-60. This process is the same in the Version 4 programmers although the screens will look

a little different.

Directory selections may vary on your system depending on your choices in the original programmer. This example is designed based on defaults from the original programmers.

To open an existing file from the original programmer:

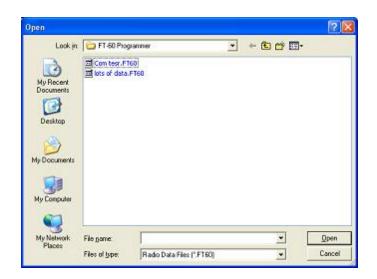
Beve Ctrl+N	_1	8									
gen Cul+O open Travel File List:	-	1									
Jose Jave Ctrl+5	I	0p N	easting tode	Nane	Tone Node	CTCSS	Ra CTCSS	DCS	DCS Polarity	SKIP	
iave As	ł	FN		5		88.5 Hz 💌	88.5Hz (*			- 0¥	*
nport		FN			Nane	88.5 Hz	88.5Hz	023	Both N	0¥	
Stint Provines Syint Col+P									-		
end File as E-Mail		-	-		-	-		-	-	-	
Hyperinemory examples F18800(IC7000) Hypernemory examples F18800 TP List F11802 Lanta Test XC8820											
<i>y</i>		-	_				lat.				
	22	- 10 A	_				1.4				

• In the V3 Programmer, select File | Open.

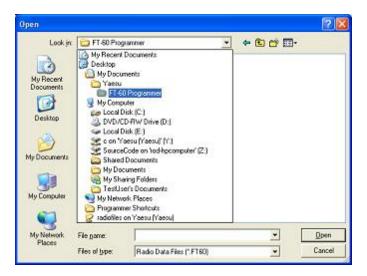
• If you have several Version 3 programmers installed, you will need to select FT-60 Radio Data File from the list in box that opens next. This step is omitted if only one programmer is installed.

×
el

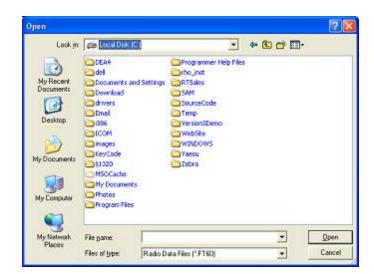
• An Open Dialog appears



 Since the Version 3 programmer is geared to look in its own directory, we need to "find" the original file to be opened (We must change filing cabinet drawers as the old analogy was described.) Use your mouse to left click the down arrow to the right of the Look In box. A directory listing appears. The one highlighted in the list simply indicates the "drawer" you are in now. Do not be afraid. This is only a list from which we will make a selection. You cannot hurt anything with these steps and actions.



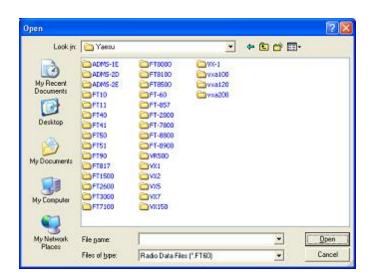
 Use your mouse to left click on Local Disk (C) in the list. On your machine this wording can vary a little. In general, you're looking for that "(C)" to know you've made the correct selection.



• What you see now are directories (the ones with the little yellow folders) and files. Find the little yellow folder that says Yaesu next to it. Put your mouse on it and Left click. Once Yaesu is highlighted, let go of the mouse button, move the pointer to the Open button, then use your mouse to left click on the Open button.

Look in:	😂 Local Disk (C:)		+ 🗈 c	* 🖽 •	
My Recent Documents Desitop y Documents y Documents	DEA4 del Documents and Settings Download drivers Email Bas FICOM Images KeyCode It200 MSOCache My Documents Photos Program Files	Programmer Help Files Tho_Inst RTSales SAM SourceCode Temp Version3Demo WebSte WiINDOWS Tooss Zabra			
My Network Places	File game:		3		<u>D</u> pen

• After clicking Open, the contents of the Yaesu directory appear.



 In this example, there are lots of directories (the ones with the little yellow folders) since all the original programmers were installed on this machine. In your case, there is probably only one directory (little yellow folder). In either case, find the FT-60 directory (the one with the little yellow folder and the words "FT-60" next to it. Find the FT-60 directory. Point at it with your mouse. Use the Left mouse button to click on it. Release the mouse button. Move the pointer to the Open button. Left click the mouse once on the Open button.

Open					2 🗙
Look in My Recent Documents Desistop My Documents My Documents	PT 40		<b>+ E</b> 1	<b>₩</b>	
My Network Places	File game:	1.		J 🗆	<u>D</u> pen
1 1002	Files of type:	Radio Data Files (*.FT60)		•	Cancel

• Yes, a blank screen appears. This is normal. At the bottom of that screen, find the "Files of type" box. Use the left mouse button to click on the down arrow at the right of that box. Select Old Radio Files (\*.rdf) from that list. The names of the available files will appear on the screen.

pen				?
Look in	C FT-50	•	+ 🗈 🗗 🖬 -	
My Recent Documents Desktop My Documents	교 Original Readurdf 교 RadioRead2.ndf			
My Computer My Network Places	File pame:	dio Files (*.nt*)	<b>.</b>	<u>Open</u> Cancel

• Use the mouse to point at the name of the file that you want to open. Click the left mouse button once to select that file.

Open					2 🔀
	Crignal Rea Distribution		¥ ← 6	<b>) ()</b> (),	
My Network Places	File game:	RadioRead2.rdf		-	<u>D</u> pen
	Files of type:	Old Radio Files (*.rdf)		*	Cancel

• Release the left mouse button. Move the pointer to Open. Click the left mouse button once to open the file.

an u	atitied1		_									- 17			
Rece	ive Transm snov Frequen				ling	Nane	Shore	Tones	Hode (	cics	s DCS		Skip	Step 📥	
	T-60 Untitle							atten istera	1.855.000		een neesso		- Second		
	Receive Frequency	Transmit Frequency	Ofter Frequency	Difait Direction	0 pen No		Name	Show Name	Tone M	fode	CTCSS	DC	5	Skip Ste	
1	430.00000	430.00000		Simplex w	FN	*		E.	None	*	100.0Hz 💌	023	* 08		
2	147.00000	147.60000	600 kHz	Plus	EN			C	None		100.0Hz	023	09	5kHr	100
3	147.00500	147.60500	600 kHz	Plus	EN			- C	None		100.0Hz	823	08	5kHr	
4	147.01000	147.61000	600 kHz	Plus	EN			- C	None		100.0Hz	823	08	5kHr	
5	147.01500	147.61500		Plus	EN			- E	None		100.0Hz	823	08	5kHz	
6	147.02000	147.62000	600 kHz	Plus	EN			- F	None		100.0Hz	823	08	5kHr	
7	147.02500	147.62500	600 kHz	Plus	EN			- C	None		100.0Hz	023	08	5kHr	S
g	147.03000	147,63000	600 kHz	Plus	EN				None		100.0Hz	823	108	5kHr	
3	147.03500	147.63500	600 kHz	Plus	EN			- C	None		100.0Hz	823	108	5kHr	
10	147.04000	147.64000	600 kHz	Plus	EN				None		100.0Hz	823	108	5kHr	
11	147.04500	147.64500	600 kHz	Plus	EN				None		100.0Hz	823	108	5kHr	
12	147.05000	147.65000	600 kHz	Plus	FN				None		100.0Hz	823	108	5kHz	
13	147.09900	147.65500	600 kHz	Plus	EM			F	None		100.0Hz	023	08	5kHr	5
14	147.06000	147.66000		Plus	EN			Γ.	None		100.0Hz	823	08	5kHz	*
H	F H Mar	nories / Lini	Menories /	VFO Hoe	w V				1.0			1000			•

- All the data of the original file is converted into a new Version 3 file for the FT-60.
- Now, save this new file so you don't have to do this again every time. Also, once saved as a new Version 3 file, you can use this data for other radios once you have the Version 3 programmer for them. (Advanced feature explained below). From the menu, select File then Save as from the list. Use the left mouse button to make this selection.

Save As					2 🔀
Save jrr My Rocent Documents Desktop My Documents	Con test. FT 코 Con test. FT 코 lots of data.l	50	-	* 🕑 🗗	
My Computer	File game: Save as type:	Diginal FT60 File Radio Data Files (*FT60)		•	Sava Cancel

• Enter a filename in the File name field at the bottom of this screen. Use your left mouse button to click Save.

Note: Only files from the original ADMS-1J for the FT-60 Version 2 programmer can be accessed with the FT-60 Version 3 programmer. Files ending in \*.rdf for other Yaesu radios cannot be opened in the FT-60 Version 3 programmer.

#### 13.3.2 Opening a V3 or V4 file from a different radio

The Version 3 programmers have the ability to "share" memory channel information between radios. It makes o difference if the radios are from the same manufacturer or not. As long as both files are from an RT Systems' Version 3 programmers, they can be used by the Version 3 programmer for any other radio.

## To open a Version 3 file from a different radio:

The steps detailed here are based on the directory structure of this machine. Make changes to directories as needed to locate files that you want to open.

Files that you create in Version 3 can now be shared easily with anyone else who has a Version 3 programmer. Simply post the Version 3 file for anyone to download.

In this example, a file for the lcom IC-T81 will be opened to be sent to the Yaesu FT-60.

) =	Contractor	®n ⊜ ₫	ings Windo 한 윤 문 Offmat				2 hours					_		-	
	Fiequency		Frequency	Direction	Operating Node	Nane	Show Nane	Tone M	ode	CTCSS	DCS	Skip	Step	<b>1</b>	
1	430.00000	430.00000		Simplex 💌	FN 💌			None	¥	100.0Hz 💌	023 💌	V 80	25 kHz	2	
2							-							_	
3							-		-					- 1	
4 5							- E								
6															
7									_					_	
3							<u>-</u>		_					_	
9 D							10		-						
1							Ē.								
2															
3									_					_	
4	F H. Mar	ories (Linit	Managine /	VED / Home	1		10	4						- Č	
-	(10) m	A REAL PROPERTY AND	Present Mar (	in or y interes			_		-	_	_		_		

• Open the FT-60 Version 3 programmer.

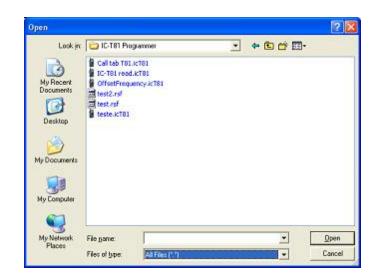
• From the menu at the top of the screen, select File | Open. A box appears from which you select the programmer for the *radio to be programmed (in this case, the FT-60).* 

New	Οκ
FT-1802 Radio Data File FT-1807 Radio Data File	
FT-50 Radio Data File	Cance
FT-60 Radio Data File	×

• An Open Dialog box appears. By default it is looking in the FT-60 directory since it is trying to help you find an FT-60 programming file. You will change directories to where the file is stored that you want to open. (Note: If you received the file via e-mail or from an Internet site, you chose where it was saved. Personalize the steps here to move to that location.)

	-				2
Look if My Recent Documents Desistop My Documents	r. 🔁 IG-181 Pro	ogrammet	<u> </u>	* B 🕁	<b>-</b>
My Computer	File game:			¥	Dpen

• When the contents of that directory are displayed, it probably will be blank as shown. You have done nothing wrong. This is normal. The process is still looking for an FT-60 file. From the Files of type field at the bottom of the screen (the one highlighted blue in the figure above), select All files (\*.\*).



• A listing will appear with more than just the file that you're looking for. Everything in that directory is listed. Your file will be in the list. Select the file from the list.

Look jr	r 🔁 IC-T81 Pro	grammet	*	* 🗈 🗂	-	
My Recent Documents Desktop My Documents	Calitabitos	.ktB1 kency.icT81				
My Conputer						
My Network	File game:	OffsetFrequency.icT81				Open

- Click Open in the lower right corner.
- The resulting file contains frequencies that can be sent to the FT-60. The blanks represent frequencies that were removed during the conversion. These frequencies would be invalid for the FT-60.

	Receive Frequency	Transnik Frequency	Officer Frequency	Offset Direction	Operating Mode	Name	Show	Tane Mode	CTCSS	DCS	Skip	Step 📥
Ĩ			-	-			E					
1		145.01000		Simplex	FN		. D	None	\$8.5Hz	023	01	5kHz
4	440.00000	440.00000		Sinplex	FN		- E	None	88.5Hz	023	01	5kHz
4										A		
4	-						- 12-		-	-	-	
4	148.00000	145.66000		Sinplex	FN		-	None	33.5Hz	023	01	15kHz
3	145,88000	140.66000		Skillhox	FR		10	None	88.0 Mc	06.5	00	IDINE
4	147 522501	147.55500		Sinplex	FN		E	Noné	33.5Hz	023	01	15kHz
ł	141.00000	141.00000		or spron	rin .		Ē	mone	00.0116	V9.0	011	19174
t				-			E					
đ				-			E					
1							E .					1
1	10000000		and the second	in and			- F	Jage 1				
0	F H Mer	nories / Limit	Meniories	VFO Hon	0		1	¥.		2		

Creation of this file did not disturb the original file. The memory channel information was not removed from the original. A copy was made by the programmer for the conversion.

You can edit the file. In this case it needs to be edited to be sure that memory channel 1 is programmed. You can remove the blank channels if you want. You can add others.

Alternately, you can send this file to the radio just as it is...other than channel 1 needing to be programmed with something allowable for the radio.

Once you have used this to program the FT-60, you can save the file or close without saving depending on your needs for the data.

#### 13.3.3 Opening a V3 or V4 file

Opening a file with the Version 3 programmer (One Version 3 programmer installed)

M Ctrl+N										
(Col+C) Seen Travel File Unit	-									
Qose Sava Chil+S	Op	ending tode	Nane	Tone Node	CTCSS	Ra CTCSS	DCS	DCS Polarity	Skip	
Save As	FIEN			None v	88.5 Hz w	88.5Hz (*	003	Both N	01	-
nport >port	FN			Nane	88.5 Hz	83.5Hz	003	Both N	0¥	
gint Preview gint Cole P							-			
iend File as E-Mail		-					-		-	
LHypermemory examples. FT8800()C7000) (Hypermemory examples. FT8800 (TP Ust. FT1802 (Linds Test. 3C2820)										
2t		-				Lat.	1			
	Lef /					4	-			

• Select File|Open from the menu at the top of the screen.

• A Windows Open dialog appears.

Open							2 🛛
Look in	FT-50 Prog	pammer	*	+ 1	C	<b></b> .	
My Recent Documents Desktop	코 Com tesr.F1 코 lots of data.						
My Documents My Computer							
My Network Places	File game:	1	_	_	¥		<u>D</u> pen
	Files of type:	Radio Data Files (*.FT60)			*	8 . I.	Cancel

• Select the file that you want to open from the list presented. Click the Open

button at the bottom right. This files opens in the programmer.

# Opening a file with the Version 3 programmer (More than one Version 3 programmer installed)

• Select File|Open from the menu at the top of the screen.

Neva .	Chri+N	18									
gen	Cul+0			_							-
Opers Trigvel Flue List:											
Qose Swa	Ctrl+5	Open No	sing de	Nane	Tone Node	CTCSS	Ra CTCSS	DCS	DCS Polarity	SKIP	-
Save As		FN	*				88.5Hz 💌			+ 0¥	-
(nport Diport		FN			None	88.5 Hz	88.5Hz	023	Both N	OF	
Brint Prendem Brint	Col+P										
Send File as E-Mail										-	
1 Hypermemory examples. FT8800(DC) 2 Hypermemory examples. FT8800 3 TP List. FT1802 4 Limits Test. XC2820	000)										
fgt							1.4	1			
		Cal /					4				P

• A window opens listing the programmers installed on this machine. Select the radio from the list that will be programmed by this file being opened.



• A Windows Open dialog appears with a list of the files for that radio.

Look Se	FT-50 Prog	a secondar	-		-
My Recent Documents	코 Com tesr.F1 코 lots of data.	60			1
Desktop My Documents					
My Concuter					
•					107

• Select the file that you want to open from the list presented. Click the Open button at the bottom right. This files opens in the programmer.

#### 13.4 File | Print

Prints the Memory channel information of the displayed page of the current file (i.e., if you are on the memories tab, the memory channel information is printed. Similarly, if you are on the VFO tab, the VFO channel information is printed.)

- When this command is selected, a print dialog will give you the opportunity to setup your printer.
- Hidden columns are not printed. A printout can be customized (including increasing type size) by deliberately hiding columns before printing. To hide column, select Settings | Preferences from the menu of the programmer.
- Only memory channels that are programmed are printed. Your printout will not include the blank channels in the file.
- Use <u>Print Preview</u> to see what your printout will look like and how many pages will be included before you send it to the printer. This new option will help save lots of wasted paper.

## 13.5 File | Print Preview

This new feature of the Version 3 programmers lets you preview the data to be printed before you waste paper sending it to the printer. With the file open that you want to print, select File | Print Preview.

You will notice first that the screen changes. It is filled with the data that will be printed. This is just a temporary change. The order of your channels has not been changed in the file.

Then the screen opens to display the printed output you can expect.

E-TP Pogrammer - E-TP United         Reserved       Tempennolisi       Otheri       Otheria       None       0.05142       Otheria       Otheria       Common         2       4400000       Hamplen       Hall       None       0.05142       0.05142       0.07         2       4400000       Hamplen       Hall       None       0.05142       0.05142       0.07         2       4400000       Hamplen       Hall       None       0.05142       0.07       0.07         2       4450000       Hamplen       Hall       None       0.05142       0.05142       0.07         2       4450000       Hamplen       Hall       None       0.05142       0.07       0.07         2       455000       Habplen       Hall       None       0.05142       0.07       0.07         2       455000       Habp	Batelyes         Tranumity         Offices         Operating Uncode         Tron Mode         C1CGS         PRo         State         Common           1<46.0100         146.0100         Simplex         H4         None         InS142         InS142         Off           2         440.0000         Simplex         H4         None         InS142         Off-142         Off           2         440.0000         Simplex         H4         None         InS142         Off-142         Off           2         445.0000         Simplex         H4         None         InS142         Off-142         Off           20         445.0000         Simplex         H4         None         InS142         Off-142         Off           20         445.0100         Simplex         H4         None         InS142         Off         Ins142         Off           21         445.0100         Simplex         H4         None         InS142         InS142         Off         Ins144         Off           22         445.0100         Simplex         H4         None         InS142         Off         Ins144         Ins144         InS142         InS142         InS142         Off	_											
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145.01100         145.01100         Hamples         FMI         None         00.5142         OG 5142         OG           122         145.01100	145.01100         145.01100         Hamples         FMI         None         00.5142         OG 5142         OG           122         145.01100											8	-
Sector 20         445.01/20         445.01/20         445.01/20         465.01/20         605.11/2	Sector 20         445.01/20         445.01/20         445.01/20         465.01/20         605.11/2												1
Jos         Hoficado         Hamples         FM         Nome         B0.51-az         D6.51-az         D6.51-az <td>Jos         Hoficado         Hamples         FM         Nome         B0.51-az         D6.51-az         D6.51-az<td></td><td></td><td>and the second second</td><td>- 23</td><td></td><td></td><td></td><td></td><td></td><td></td><td>3</td><td>1</td></td>	Jos         Hoficado         Hamples         FM         Nome         B0.51-az         D6.51-az         D6.51-az <td></td> <td></td> <td>and the second second</td> <td>- 23</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3</td> <td>1</td>			and the second second	- 23							3	1
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Notice at the top of the page you can see that your have "X of X pages". Making small changes can help reduce this number if it is not as you expect.

For example, reduce the size of the comment column since it is not being used (or hide it completely). This move could save an additional page (or pages) by getting all the columns to fit on one page.

	17 P	rogra	amme	r - 1	C-T7	/ Unt	itle	d1						J×
Next	+	← P	revious		R Zo	oom		Prir	nt [	😭 Se	tup		Page 1	of 1
	_					IC-T7P	hagainni	r - IC-T7 (	Intitial?		2			
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Under Printer setup, change the margins to print on as much of each page of paper as possible. Again, this can make it possible for all the columns to fit on one (or half the number of) page.

Use Zoom to read the data in the preview more easily. Click Zoom again to return to this view.

# **13.6 Saving Programming Files**

Many different files can be saved to your hard drive for permanent storage giving you the ability to reprogram your radio quickly and easily to suit your current use.

- Files are saved using the File | Save or File | Save As command.
- When the window opens for the filename, enter any name up to 256 characters (including spaces) but without a period at the end or an extension. The Programmer will enter that information for you automatically.

Save As							×
Save in:	🔒 FT-2600	Programmer			00	10	
(Pa)	Name	Date modif	Туре	Size		Tags	
Recent Places	Settings	not coming fron	n radio				
Desktop							
Karin							
1						17	
Computer							
2	Ente	er filename	e here				
Network	File game:					•	Save
	Save as type:	Radio Data	Files (*.FT26	00)		-	Cancel

#### 13.6.1 File | Save

Saves the current file to your computer hard drive.

If several files are open, the current file (the one on top: the one you are working in) is the one that will be saved. Be sure to save the changes to each of the open files before closing the Programmer.

It is recommended that you save the current file during data input and before sending it to the radio. Just as with a word processor, it's an awful shame to lose everything if something happens to the computer during either of these processes.

If the name of the current file is Untitled (in the main window title bar), you will be

presented with a save file dialog and should enter a new filename.

Save As							-X-
Save in:	🔒 FT-2600 F	rogrammer			00	12 💷 🗸	
(Pa)	Name	Date modif	Туре	Size		Tags	
Recent Places	Settings	not coming from	n radio				
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Karin							
						25	
Computer							
Network	Ente	er filename	e here				
	File name:	1				- (	Save
	Save as type:	Radio Data R	Files (*.FT2600	)		- (	Cancel

The filename can be any combination of characters and spaces including numbers and letters.

When saving a file, let the Programmer do the work. All you need to enter is the name you want for the file.

#### 13.6.2 File | Save As

Saves the current file under a new name. Used if you want to make a copy of the file that you're working in to maintain the original without the changes you're making now.

- If several files are open, the one that is active is the current file. This file will be saved with the Save As command.
- This is a good way to start another file for editing. Changes made to this file do not affect the data in the original file.
- When this command is selected, a save file dialog containing a list of

existing files is presented. You can either select one of these to be overwritten or enter a new filename. The Programmer will add the extension so you should not enter an extension or a period at the end of the filename.

12000						-	
Save in:	J FT-2600 F	rogrammer			G D	12	
(Pa)	Name	Date modif	Туре	Size		Tags	
Recent Places	settings a test	not coming from	n radio				
Karin							
1						15	
Computer							
<u>.</u>	Ente	er filename	e here				
		~					6
Network	File name:	1				-	Save

- The title bar of the window changes to reflect the new filename.
- When saving a file, let the Programmer do the work. All you need to enter is the name you want for the file.



# 14 ARRL TravelPlus\*

*RT Systems'* Version 4 programmers have a feature that opens a TravelPlus list in the radio programmer. This makes the data available for creating files for programming your radio without the need to import the data from a file.

This Help file contains sections on creating the list in TravelPlus\* and on getting that list ready to program your radio. Takes only a few mouse clicks to have your radio programmed for that trip or other special event.

<u>Creating a list in TravelPlus\*</u> - Brief details on this process. For more details, see the help file in TravelPlus\*.

<u>Opening the list in the radio Programmer</u> - Details on opening the list in the radio programmer and the controls on that list.

<u>Using the TravelPlus\* list with an existing radio programming file</u> -Sometimes you don't want all the repeaters found for an area by TravelPlus\*... or you want to put what you found into a certain group of memory channels in the radio programming file. This section details how to use the list selectively in the radio file.

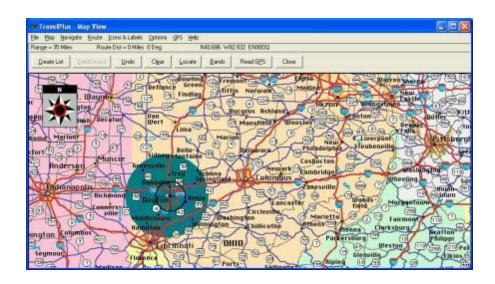
\*TravelPlus is a product of the American Amateur Radio League. Any images from TravelPlus included in this help are copyrighted to DHF Systems, LLC.

## 14.1 Creating a list in TravelPlus\*

*RT Systems'* Version 4 programmers have a feature that opens a TravelPlus\* list in the radio programmer. This makes the data available for creating files for programming your radio without the need to import the data from a file.

These instructions very briefly cover creation of the list from TravelPlus\*. It is not intended to teach you to use that program. Detailed instructions are included in this help for using the information from that list in a file for programming your radio.

Open TravelPlus\* from the link provided when that program was installed. Select a location or create a route.



Once you have the area defined on the map, click the Create List button from the top of the screen. TravelPlus\* displays the list of repeater frequencies found within your search area.

Sec.	641	Seri Help										
	eaten l by Sec	isted 123 puence										
	Seq:	Band	Country	State	Region	location	Output	Input	Call	Repeater Notes	CTCSS	121
۲.	1	144-140 MHz	USA	0810	NONTGOMERT	Isyton	145.1100	82	WCBOB.	G(CA)els 67.0	67.0	P.
1	2	144-148 MHz	USA	OBIO	NONTGOMERT	Jayton.	146.6400	-	WBBCOR.	o(CA) eWX		野
	3	144-145 MHz	USA	0810	NONTGOMERT	Dayton	146.8200	-	WARPLZ	c (CA) e		
8.	4	144-148 MHz	0.8%	0810	NONTGOMERT	bayton -	146.9100	÷.	ABBCOK	0(CA) e		10
-	5	144-148 MHz	ARU	ONIO	RONTGOMERT	Tayton	146.9400	-	WEE1	ca 100.0	100.0	3.
	6	144-148 MHz	UDA	ORIO	NONTGOMERT	layton.	147.1350	+	VERSEC	0(CA) =		Fr
	7	144-145 MHz	USA	0810	NONTGOMERT	bayton.	147.3400		WASPLE.	0(CA) e 77.0	77.0	*
	8	420-450 MHz	USA	00110	NONTGOMERT	Dayton	442.0000	+	VEDDIESV	0	20100	10
20	9.	420-450 MHz	ASD	OHIO	NONTGOMERT	Dayton.	442.3000	*	WBBI	0		P.
	10	420-450 MHz	AZU	OUTO	BONTGOMERT	layton.	443.0000	+	WBD5WC	Q (CA) BE		TI
	11	420-450 MHz	480	OBIO	BONTOOMERT .	bayton	443.0500	+	NEED	0		34
	12	420-450 MHz	USA	0830	BONTGORERY	Dayton.	443.5000	+	ZD02R	0		3:
	10	480-450 MHz	USA	OEBO	NONTGOMERT	<b>Bayton</b>	448.6000	+	NY1A	05		15
	14	420-450 MHz	USA	OHIO	NONTGOMERT	Jayton	443.7500	+	SEBSC	c 123.0	123.0	11
	15	420-450 MHz	ABU	0810	NONTGOMERT	layton .	448.7750	+	WFOR.	0 111.9	131.0	10
	16.	420-450 BHz	UBA	0810	TRANSPORTERT	Jayton	444.0500	+	TABEGS	01 100.0	100.0	Dr.
3	17	420-450 BHz	054	0010	BONTGORERT	Jaytos	444.2500	+	WEBCOR.	0		10
	18	420-450 RH:	UBA	OBIO	NONTOORERT	Jayton.	444.7625	+	<b>W8NCI</b>	(CA) e 77,0	77.0	E.
	19	420-450 MHz	USA	0810	NONTGOMERT	Trotwood	443.9250	+	88206	0 (CA)		m
	20.	420-450 #Hz	USA	0810	NONTGOMERT	Trotwood	448.9750	+	W8PB	0		n
	21	144-145 MHz	USA	OBIO	BONTGORERY	Rettering	146.9850	÷.	RABPGJ	ol 100.0	100.0	Z.
	22	144-148 MHz	08A	OHIO	NONTGOMERT	Rettering	147.0790	+	WORNC.	oe		33
	23	420-450 MHz	USA	0810	BONTGOMERY	Rettering	444.5425	4	WBGUC.	c(CA) t		-
	24	420-450 MHz	AUDA	ORIO	NONTGOMERT	W Carrollto	443.9500	+	N828	0		10
	2.5	420-450 MHz	USA	Otto	BONTGORERT	W Carrolito	444.5000	4	8820	desiz		

Check the list. If you don't like the results, try again. Once you are satisfied with the list, you are finished with TravelPlus\*. You can exit that program or leave it running while you access the *RT Systems*' radio programmer.

Run the *RT Systems* programmer (Version 4 only). If the programmer is already running, switch to it now to create a file from this list for programming the radio.

\*TravelPlus is a product of the American Amateur Radio League. Any images from TravelPlus included in this help are copyrighted to DHF Systems, LLC.

## 14.2 Opening the list in the Programmer

Once you have created a list in TravelPlus\* (Version 10.0 or higher), open any one of the Version 4 programmers installed on your machine.

To access the list:

- Select File from the menu at the top of the screen.
- Select Open TravelPlus\* list (this option was disabled until you created the list)

10	C-2820 Programmer - IC-28	20 Untitled	81	_	_		_		
Fil	e Edit Communications	Settings	DStar W	indow Help	)				
	New	Ctrl+N	#4 <u>2</u> ↓	8					
10	Open	Ctrl+O							
	Open Travel Plus List <u>C</u> lose <u>S</u> ave	Ctrl+S		Operating Mode FM 🖵	Name		CTCSS	B8.5 Hz	and the second se
	Save As	$\sim$	Simplex	FM		None	88.5 Hz	88.5 Hz	023
	Import Export								
8	Print Preview Print	Ctrl+P		From		enu, selec Travel Plus		hen	
	Send File as E-Mail				open	inaver i lus			
	1 C:\Users\\Complete VX 2 C:\Users\\654 3 C:\Users\\test 4 C:\Users\\test	6 File							
	Exit								
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5.35000		C4ENL	167.9	Hapevile	GEORGIA	o 167.9	145,29000		
	Minus W	/4IBM	88.5	Atlanta	GEORGIA	88.5 (CA)	145.35000		
5 41000		/4DOC	1.6.2	Allanta	GEORGIA	o 146.2e	145.41000		
		/4PME	100.0	Allanta	GEORGIA	o 100.0e	146.62500		
6.62500		/4ZT	100.0	Anonio	GEORGIA	o 100.0e	146.64000		
6.64000		/840GR		Atlanta	GEORGIA	ot#	146.65500		
6.65500		4NFP	151.4	Atlanta	GEODGIA	o 151.4aelRB	146.73000		
6.73000		D4NC		Allanta	GEORGIA	0	146.82000		
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6.97000						ot			
7.00000									
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5.15000			167.9	Georgia Tech	GEORGIA	o 167.9 (CA)ez	145.45000		
5.45000				Decatur	GEORGIA	0	442,20000		
67777710222222222333344444444225	97000 63000 63000 63000 63000 63000 63000 63000 63000 6200 620 62	Minus         Ki           00000         Minus         W           00000         Plus         W           03000         Plus         W           03000         Plus         W           03000         Plus         N           03000         Plus         N           03000         Plus         N           03000         Plus         W           03000         Plus         W           03000         Plus         W           02500         Plus         N           05000         Plus         N	97000         Mirus         KACLI           00000         Mirus         VA4NN0           03000         Plus         VA4NN0           03000         Plus         VA4NN0           03000         Plus         VA4NN0           03000         Plus         NC4212           34500         Plus         NAECQIZ           10500         Plus         VA21L           25000         Plus         VA21CL           10500         Plus         NAGR           10500         Plus         NAGR           10500         Plus         NAGR           10500         Plus         NAGR           10500         Plus         VA3NZ           10500         Plus         VA3NZ           10500         Plus         VA4NZ           10500         Plus         VA4NZ           10500         Plus         VA4NZ           10500	97000         MPuse         KACLJ           00000         MPuse         KV4ANQ           03000         Plue         KV2ANQ           03000         Plue         KV2ANQ           34500         Plue         KV2ANQ           34500         Plue         KV2AP           25000         Plue         KV2AP           25000         Plue         KV4APU           25000         Plue         VV4APU           25000         Plue         VV4OC           25000         Plue         VV4OC           25000         Plue         VV4CT           25000         Plue         VV4APA           25000         Plue         VV4APA           25000         Plue         N44PF           26000         Plue         N44PF           26000         Plue         N44PF           2700         Plue         N44PF           27000	97000         Mruz         K4CL         Allsha           00000         Mruz         WA4N10         Allsha           03000         Pluz         K/2C2         Allsha           03000         Pluz         K/2C2         Allsha           34500         Pluz         K/2C2         Allsha           34500         Pluz         W4410         Allsha           34500         Pluz         W4411         107.2           35000         Pluz         W44711         107.2           0000         Pluz         W4271         Allsha           00000         Pluz         W4271         Allsha           02500         Pluz         W4271         100.0         Allsha           02500         Pluz         W4271         100.0         Allsha           02500         Pluz         W4274         101.0         Allsha           02500         Pluz         W4274         101.0         Allsha           02500         Pluz         K4274         100.0         Allsha           02500         Pluz         K4474         100.0         Allsha           02500         Pluz         K4474         100.0         Allsha <td>97000         Minus         K4CLJ         Allanda         CC006GA           00000         Minus         WAAND         Allanda         CC006GA           00000         Pius         WAND         Allanda         CC006GA           00000         Pius         K-2C22         Allanda         CC006GA           34500         Pius         K-2C22         Allanda         CC006GA           34500         Pius         M44/EQ         151.4         Allanda         CC006GA           25000         Pius         W494/TH         172.4         Allanda         CC006GA           25000         Pius         W42C1         Allanda         CC006GA         CC006GA           25000         Pius         W42C1         100.0         Allanda         CC006GA         CC006GA           25000         Pius         W42C1         100.0         Allanda         CC006GA         CC06GA           25000         Pius         W42C1         100.0         Allanda         CC006GA         CC06GA         CC06</td> <td>97000         Muxu         K4CL         Allsrag         6EDRGIA         et           00000         Muxu         WA4N10         Allsrag         6EDRGIA         o           00000         Pus         KV4N10         Allsrag         6EDRGIA         o           03000         Pus         KV4N10         Allsrag         6EDRGIA         o           34500         Pus         KV4R12         Allsrag         6EDRGIA         o         107.2           34500         Pus         WA4R1         172.3         Allsrag         6EDRGIA         o         107.2           25000         Pus         W42R1         172.3         Allsrag         6EDRGIA         o         107.2           25000         Pus         W42R1         100.2         Allsrag         6EDRGIA         o         107.2           25000         Pus         W42R1         100.3         Allsrag         6EDRGIA         o         102.2           25000         Pus         W42R1         100.3         Allsrag         6EDRGIA         o         72.3           25000         Pus         W42R1         100.0         Allsrag         6EDRGIA         o         72.3      10200         Pus<!--</td--><td>97000         Meua         K4CL         Alberto         GEORGIA         et         147.0000           00000         Meua         WAANIO         Alberto         GEORGIA         etCA1         147.0000           03000         Pua         WANIO         Alberto         GEORGIA         o         147.0000           03000         Pua         KVANIO         Alberto         GEORGIA         o         147.3500           03000         Pua         KVARIQ         Alberto         GEORGIA         o         147.3500           03000         Pua         WBRTH         107.2         Alberto         GEORGIA         o         147.3500           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           02000         Pua         WAZTL         Alberto         GEORGIA         o         127.3         442.02500           02000         Pua         WAZTL         10.0         Alberto         GEORGIA         o         <td< td=""><td>Minu         K4Cu         L         Alterie         GEDRGIA         etc.         147 0000           0000         Minu         WARND         Alterie         GEDRGIA         etc.         147 0000           0300         Piu         KV4ND         Alterie         GEDRGIA         etc.         147 0000           0300         Piu         KV4ND         Alterie         GEDRGIA         etc.         147 3000           1300         Piu         NAKEQ         1514         Alterie         GEDRGIA         etc.         173 3000           1300         Piu         MAKEQ         1514         Alterie         GEDRGIA         etc.         440 5000           2500         Piu         MAKEQ         1514         Alterie         GEDRGIA         etc.         440 5000           0000         Piu         W42C1         Alterie         GEDRGIA         etc.         442 0500           02500         Piu         W42C1         Itc.         Alterie         GEDRGIA         etc.         442 2500           02500         Piu         W42G1         Itc.         Alterie         GEDRGIA         etc.         442 2500           02500         Piu         K44PP         Alterie</td></td<></td></td>	97000         Minus         K4CLJ         Allanda         CC006GA           00000         Minus         WAAND         Allanda         CC006GA           00000         Pius         WAND         Allanda         CC006GA           00000         Pius         K-2C22         Allanda         CC006GA           34500         Pius         K-2C22         Allanda         CC006GA           34500         Pius         M44/EQ         151.4         Allanda         CC006GA           25000         Pius         W494/TH         172.4         Allanda         CC006GA           25000         Pius         W42C1         Allanda         CC006GA         CC006GA           25000         Pius         W42C1         100.0         Allanda         CC006GA         CC006GA           25000         Pius         W42C1         100.0         Allanda         CC006GA         CC06GA           25000         Pius         W42C1         100.0         Allanda         CC006GA         CC06GA         CC06	97000         Muxu         K4CL         Allsrag         6EDRGIA         et           00000         Muxu         WA4N10         Allsrag         6EDRGIA         o           00000         Pus         KV4N10         Allsrag         6EDRGIA         o           03000         Pus         KV4N10         Allsrag         6EDRGIA         o           34500         Pus         KV4R12         Allsrag         6EDRGIA         o         107.2           34500         Pus         WA4R1         172.3         Allsrag         6EDRGIA         o         107.2           25000         Pus         W42R1         172.3         Allsrag         6EDRGIA         o         107.2           25000         Pus         W42R1         100.2         Allsrag         6EDRGIA         o         107.2           25000         Pus         W42R1         100.3         Allsrag         6EDRGIA         o         102.2           25000         Pus         W42R1         100.3         Allsrag         6EDRGIA         o         72.3           25000         Pus         W42R1         100.0         Allsrag         6EDRGIA         o         72.3      10200         Pus </td <td>97000         Meua         K4CL         Alberto         GEORGIA         et         147.0000           00000         Meua         WAANIO         Alberto         GEORGIA         etCA1         147.0000           03000         Pua         WANIO         Alberto         GEORGIA         o         147.0000           03000         Pua         KVANIO         Alberto         GEORGIA         o         147.3500           03000         Pua         KVARIQ         Alberto         GEORGIA         o         147.3500           03000         Pua         WBRTH         107.2         Alberto         GEORGIA         o         147.3500           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           02000         Pua         WAZTL         Alberto         GEORGIA         o         127.3         442.02500           02000         Pua         WAZTL         10.0         Alberto         GEORGIA         o         <td< td=""><td>Minu         K4Cu         L         Alterie         GEDRGIA         etc.         147 0000           0000         Minu         WARND         Alterie         GEDRGIA         etc.         147 0000           0300         Piu         KV4ND         Alterie         GEDRGIA         etc.         147 0000           0300         Piu         KV4ND         Alterie         GEDRGIA         etc.         147 3000           1300         Piu         NAKEQ         1514         Alterie         GEDRGIA         etc.         173 3000           1300         Piu         MAKEQ         1514         Alterie         GEDRGIA         etc.         440 5000           2500         Piu         MAKEQ         1514         Alterie         GEDRGIA         etc.         440 5000           0000         Piu         W42C1         Alterie         GEDRGIA         etc.         442 0500           02500         Piu         W42C1         Itc.         Alterie         GEDRGIA         etc.         442 2500           02500         Piu         W42G1         Itc.         Alterie         GEDRGIA         etc.         442 2500           02500         Piu         K44PP         Alterie</td></td<></td>	97000         Meua         K4CL         Alberto         GEORGIA         et         147.0000           00000         Meua         WAANIO         Alberto         GEORGIA         etCA1         147.0000           03000         Pua         WANIO         Alberto         GEORGIA         o         147.0000           03000         Pua         KVANIO         Alberto         GEORGIA         o         147.3500           03000         Pua         KVARIQ         Alberto         GEORGIA         o         147.3500           03000         Pua         WBRTH         107.2         Alberto         GEORGIA         o         147.3500           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           03000         Pua         WAZTL         Alberto         GEORGIA         o         147.2000           02000         Pua         WAZTL         Alberto         GEORGIA         o         127.3         442.02500           02000         Pua         WAZTL         10.0         Alberto         GEORGIA         o <td< td=""><td>Minu         K4Cu         L         Alterie         GEDRGIA         etc.         147 0000           0000         Minu         WARND         Alterie         GEDRGIA         etc.         147 0000           0300         Piu         KV4ND         Alterie         GEDRGIA         etc.         147 0000           0300         Piu         KV4ND         Alterie         GEDRGIA         etc.         147 3000           1300         Piu         NAKEQ         1514         Alterie         GEDRGIA         etc.         173 3000           1300         Piu         MAKEQ         1514         Alterie         GEDRGIA         etc.         440 5000           2500         Piu         MAKEQ         1514         Alterie         GEDRGIA         etc.         440 5000           0000         Piu         W42C1         Alterie         GEDRGIA         etc.         442 0500           02500         Piu         W42C1         Itc.         Alterie         GEDRGIA         etc.         442 2500           02500         Piu         W42G1         Itc.         Alterie         GEDRGIA         etc.         442 2500           02500         Piu         K44PP         Alterie</td></td<>	Minu         K4Cu         L         Alterie         GEDRGIA         etc.         147 0000           0000         Minu         WARND         Alterie         GEDRGIA         etc.         147 0000           0300         Piu         KV4ND         Alterie         GEDRGIA         etc.         147 0000           0300         Piu         KV4ND         Alterie         GEDRGIA         etc.         147 3000           1300         Piu         NAKEQ         1514         Alterie         GEDRGIA         etc.         173 3000           1300         Piu         MAKEQ         1514         Alterie         GEDRGIA         etc.         440 5000           2500         Piu         MAKEQ         1514         Alterie         GEDRGIA         etc.         440 5000           0000         Piu         W42C1         Alterie         GEDRGIA         etc.         442 0500           02500         Piu         W42C1         Itc.         Alterie         GEDRGIA         etc.         442 2500           02500         Piu         W42G1         Itc.         Alterie         GEDRGIA         etc.         442 2500           02500         Piu         K44PP         Alterie

• The list appears in the window of the programmer

## Customizing the list for the radio file:

Several selections appear at the bottom of the window that contains the list. These options control how the programmer will handle the data from the list in creating the radio programming file. These fields and their options are described below.

• <u>Selected Bands</u>: Lists the bands of the frequencies in the list. All the bands are selected by default. Uncheck those that you don't want as part of the file for the radio.

If you are programming a 2 Meter radio with a file that contains 6 Meter repeaters, you can choose to eliminate those frequencies in this step to better understand what will be contained in your resulting file. If you skip this step, the programmer will omit these frequencies in the resulting radio file since the radio does not operate on these frequencies.

If you do not eliminate the bands that cannot be used by your radio, the resulting radio file will contain blanks for each frequency the programmer

removes during file creation. Although the radio does not care, you may not want all those blanks in your radio file.

If the TravelPlus\* list contains too many frequencies for the radio, using the Selected Bands option would remove unused frequencies thus lowering the number in the file and making it possible to create a radio file with all those frequencies that you want. (i.e., Your TravelPlus\* file has 512 frequencies in the selected area. Your radio has 450 channels. You Select Bands and eliminate 6M, 10M and 220 Mhz Bands. The resulting list now has 432 frequencies... few enough that they all will fit into the radio file.)

4	\$1-3830 Uvid	wa/E	Travel Plus U	я х	_							
I	Dulgut Frequency	Input Feequency	Direction	Calition (Name)	CTOSS	DOS Diy	Salo	Fegin	Repeater Note: (Comment)	442,82508		
	442 82500		Plat	NC4N.	167.9	Hapeville	GS075M		o 167.5	145,29000		
	14529000		Minut	WHERM	99.5	Atlasta	GEOREAN		89.5 (EA)	145.25080		
	145 25000		Ment	W4000	148.2	Alderia a	A689030		o 146.2e	145.41080		
	145.41000		Minut	WARME	108.0	Adarta	GEGREM		c100.0e	146.62580		
	146 62500		Mensi	wig1	108.0	Atlanta	0609544		e 100.0e	105.84000		
	145 \$4000		Minut	W\$406P		Atlanta	G5075M		dill.	146.55580		
	146.65500		Minut	NAMEP	152.4	Adeta	GEOREM		o 151 AwRR	166.72080		
4	145,73000		Mean	KD4NC		Aldenia a	05088M		d	146.83080		
4	146 82900		Minut	WHERE	146.2	Atlanta	Marpag		o 146.2 (EA)a	146.37080		
-	145 \$7000		Ment	K40J VOMMO	-	Atlanta	0509544		d.	147 00000		
	147 80000		Minut Plas	WIREIG	-	Atlanta	GEOREM		d(CA)	147.03080		
	147 28500		Plus	10422		Alloria	OSCIREA I		cof8	147.34580		
ł	147 34500		Plus	NAMED	151.4	Adarta	GEGREA		e 151 A (EAGER):	147.10580		
ł	147 10500		Pla	WRIETH	107.2	Atlanta CARES	GEOREM		e1072	421 25080		
	421 25000	434,0800		WHETL		Atlanta	GEG/IEM		0	440,50080		
	640 60000	4,74,0000	Plei	WEDDC		Atlata	GEOREM		1	442-02580		
÷	442 12500		Plat	WICH.	327.3	Alignia	05098M		e127.3	44212580	Options to customize	
	44212500		Plat	WHET	108.0	Atlanta	GEOREM		p100.0es	442.22580	options to customize	
	442 22500		Flm	WRSESI	108.0	Albein	050954A			442 42500		
	442 47500		Plat	NAMORI	72.3	Atlanta	GEG/IEM		o 72.3	442.52580	details for radio file	
	44252500		Phei	NOOM	112.9	Jobeth	G609546		e110.9	44242580	uetans for faulo file	
	442 \$7500		Plat	REATVE.	108.0	Albria .	Q50R8A		e 100.0el	442,80080		
	442 80000		Plas	NAMEP		Adasta	GEORGIA		00	442-97580	located on this screen.	
5	442 87500		Flm	K498	108.0	Alderia .	0608644		e100.0eF8	442,97500	located on this sereen.	
8	442 57500		Plat	VARIAZ		Atlanta	GCOREM.		OKTAT .	443.02580		
7	443 82500		Plas	WICH.	\$27.3	Atlata	GEOREAN		e127.3	442 31200	11	
2	443 31200		Plur	WHATEL		Alfonia	AISP030		1	443-50080		
8	442 80000		Plas	KASW2Y	346.7	Atlasta	GEOREM		o1467.4FB	442-65080		
0	44345000		Plus	WIR(M)	\$23.7	Alignia .	060984A		e123.7	443-80000		
1	443 80000		Plat	NAMEP	151.4	Atlanta	GEG/IEM			444.05080		
2	444.05300		Plas	NINEQ	152.4	Juleta .	GEOREAN		o 151.4e	41415080		
2	444 15000		Plan	SMERCE	108.0	Atlanta	AGP030		e 100.0e	444.45000		
٤.	444.45300		Plat	WHERE	146.2	Atlanta	ALCERGE		o1463e	444.50000		
ε	444 50000		Plus	KD45P1	110.9	Alderia .	0509544		e110.8	444.77530		
8	444.77500		Plat	NAMED	151.4	Atlanta	AGRODE		o 151.4 ajCAjalND	444-02500	/	
7	444 82500		Plas	W1000	145.2	Atlanta	0609.545		e1462(CA)5	464,92580	/	
2	444 52500		Plan	VOLIMINO		Alberta	AGROSO			444.57500		
٤.	444 \$7500		Plat	WARNZ		Atlanta	Margap		000000	46.2000		
2	442 95000		Plu	K64PT0	108.0	College Park.	0509544	-	108.0 RB VA:	1252.0000		
1	1252 80000	1272.0800		12401		Atlanta	GEGREM.		0	141540		
Z.	14515000		Messi	W16506	967.9	Seorgia Tech	0094545		e 167.9(CA)ez	100000		
2	145.45000		Minut	WEDD	-	Decaha	Manpap	_	• /	A& 2000		
-												
	Modules			•	Name	Cahign	• Commont	Repeate	Notes +	Select 44		
		Select a M	oh la	80	stand Band					UnSelect All		

• <u>Name</u>: The TravelPlus\* list contains information that does not "match" directly to a column in the radio programmer. One of the columns in the programmer accept data from these columns is the Name field.

Name in the programmer is the field that sets the alpha display on the radio. Generally, this display is limited to 5-8 characters depending on the radio (other than the VX-8 that allows 16 characters).

By default, the programmer associates Callsign from the TravelPlus\* list to Name in the programmer.

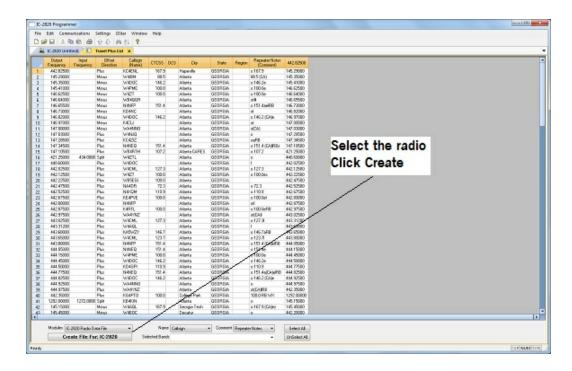
You can change that association by selecting another column from those listed.

• <u>Comment</u>: The TravelPlus\* list contains information that does not "match" directly to a column in the radio programmer.One of the columns in the programmer accept data from these columns is the Comment field.

Comment in the programmer is a field of information that helps you while you work with the programmer. This information does not transfer to the radio.

By default, the programmer associates City from the TravelPlus\* list to Comment in the programmer.

You can change that association by selecting another column from those listed.



• <u>Module</u>: Select the radio for which you want to create a file.

The resulting file appears in its own tab.

		nunications				e.															
						Med's b															
	Receive		Offiet.	Offset Develop	Operating Prode	Name	Tone Made	CTCSS	Rx	DCS	DCS Polerty	Stp	Step	Digital Sourich	Digital Cade	Tour Callean	Rot-1 Callian	Rpt-2 Califien	Dank	Bank Channel	
	442,00530	447,02580 5.0				00404	Tone	167.5112		000 6		04	Site i	Dor L	0						0.5
	245.29000	244,65000 60	OMPR	OUP	PM	WHEN	Tone	88.5 Hz	88.5 Hz	023	BirthN	o¥	Silve	of	0	cgcgcg			-		38.
	345.35000	344,75000 50	0 kHz	-OUP	PM	WADOC	Tone	146.2Hz	68.5 Hz		Soth N	04	Skhie	0#							01
	345.43000	344.83000 60	tó ki+tr	-CLP	PM .	W4996	Tane	\$30.0147	88.5 HJ	023	stath N	0ff	5 kHz	ċť.	ò						0.3
	146.62500			OUP	PM	WALL	Tone	100.0Hz	88.5 Hz		Soth N	0#	Skrie	0#							01
	\$46.64000	346.04000 68	0.690	-01.9	FM	WEAQGR	None	00.5Hz	00.5Hz	02.9	Doth N	04	State	011	0						ote
	246.65500	246.05300.60		OUP	294	11497	Tone	131,409	88.5 Hz	023	Soft-N	QW	544	08	0						0.3
	346.73000	346.13000 60		-DUP	PM	ID4IC	None	00.5 Hz	00.5 Hz		Soth N	04	Skhie	0#							ol
	346.83000			-CLP	PM .	M4DOC	Tane	146.2142	88.5 HJ	023	Hoth N	0ff	5 640	0ť	0						0.3
	346.97000	346.37000-60		OUP	194	KHOLI	None	88.5Hz	88.5 Hz	023	Softh N	0#	Skrie	04							ot.
	347.08080	346, 40000 60		-019	FM	WHEND	7070	00. S Hz	00.5 Hz	02.0	Dorth N	Off.	State	Off.	0						05
	347.03000	247.63000 60		+0.P	PM	M400	None	88.5 Hz	88.5 Hz	023	BallyN	o¥	SAPE	0¥	0	-					10
	347.28530	347.68530 68		+DUP	/H	004212	None	00.5 Hz	00.5Hz	023	Soth N	04	Skrie	04							00
	347.34600	347,94600 60		+DUP	PM	panel	Tione	151.4042	SSL S HJ	023	Buth N	off	5 640	0#	0						0.2
	347, 18500			4DUP	PH	W54RTH	Tene	107.2Hz	88.5Hz		Softh N	0#	Skrie	0#							0.1
	421,25000 490,40000	434,08080 13		+0.P	PM PM	WETL	None	00.5Hz	09.5Hz	023	Doth N Softh N	of of	560	of							٥
	442.02530	447.02500 5.0		+0.P +0.P	7M	W4DOC W4CML	Tone	127.3Mr	88.5 Hz		Doth N	09	Sittle	0#		-					e.
	442.00500	440.02500 S.0		+00P	PM PM	WALKE	Table	127.379	00.5 PD	023	DOPT IN	of	100	of							01
	442,22500	447, 22500 S.C		40.P	PM		Tone		58.5 Hz		Softh N	0#	Sitte	Off Off	0						
	442, 47500	447, 47500 5.0		+0.0 +0.0	EM .	WERE A	Tone	100.0Hz	88, 5 Hz		Both N	07	5840	Off Off							07
	442, 47300			+0.0	210	24026	Tone	130.514	88.5 Hz	023	Bally N	o¥ o¥	SkHe	08	0	-					01
	442,67500	447,67500 57		+0.9	ZM .	12.92	Tone	100.0Hz	00.5Hz		Dotto N	04	Skrig	0.00							0.3
	442,88000			+0.8	EM .	1444	Tone	20.510	88.510	023	1005111	off	3 640	08	6						Č.
1	442,87500			+0.P	AN .	KAPP.	Tone	100.0Hz	55.5 Hz		Softh N	0#	Skrie	04							5
	442,97500	440,97500 5.4		+0.9	EM.	03470	none	100, S HJ	89.5Hz	023	BOTH N	Off.	Skitz	04							i deb
	+10.02500			+0.P	PM .	WHCM.	Tone	127.314	58.5 Hz	023	Bally N	0¥	Site	08		-					01
1	443,58000			+0.9	/M	KASVICY	Tone	00.510	00.510		Dotto N	04	Skrig	04							61
	443,43000	+98,43000 h/		+0.1P	PM	W404	Tale	85.510	88.510	023	Budh N	off	100	of	0						01
	443,580080	448,80000 5.4		4DUP	PM	19872	Tone	151,4197	55.5 Hz		Both N	0#	Skrie	OF							01
	444.05000			+DUP	EM.	29960	Tone	151.4042	29.510	02.0	Soft N	Off.	Silve	0#	6						6 :
	444,15000			+0.P	PM .	WHE	Tone	100.0Hz	88.5Hz		Softh N	0¥	Skrie	08							01
	444,45000	449,45000 5.0		+3.9	/M	WEDOC	Tone	146.2112	00.5112		Dotto N	0#	Skitz	0#							61
	444, 10000			+0.1	PM	KD-40PD	Take	110.014	201.5 Hz	023	85011	off	144	off	0						4.1
	444,77500			40UP	PM	19960	Tone	151,4Hz	88.5 Hz		Soth N	0#	Skrie	0#							01
	444.92500			+DUP	FM	WEDOC	Tane	146.2142	89.5 Hz	02.0	SOCH N	Off.	SHE	0ť	ô.						0.5
	444,92500	449.92500 5.4	194130	+DUP	PM	WERRO	None	88.5 Hz	88.5 Hz		Seth N	0#	SHE	08							0
	444,97530	449.97580 5.0		+DUP	/M	W4490	None	00.5Hz	00.5Hz		Doth N	04	Strite	041							ot:
	442, 33000	447. 33000 5.4	9444.00	+0.P	PM .	KD-PTD	Tone	\$00.0HF	88.5 Hz	023	Rofth N	off	3 649	off	0						1.0
	345, 15000	344,55000 60	0.84%	-OUP	PM	W44QL	Tone	157.9Hz	68.5 Hz		Soth N	0#	Skrie	0#							03
	345.49000	344,99000 60	0440	-01.9	FM	W480C	none	188.5 Hz	193. S H2	023	BOTH N	08	5640	off	0						0
	442,20000			+DUP	PM	15498	None	88.5 Hz	88.5 Hz		Selfe N	0#	Skrie	0#							08
Ŀ	444,25000			+DUP	/H	W4800	None	00.5Hz	00.5112	023	Dorth N	04	Skhitz	04	0						٥
I.	442.17500	447.17500 5.4	94430	+OUP	PM	104.ISD	none	38.5 Hz	88.5 Hz	023	860hN	off	3449	08	0						
F.		448.97500 5.0		+DUP	PM	12490	None	88.5 Hz	68.5 Hz		Soth N	0#	5 kHz	0#							05
	345.17000	344,57000 60	tó ki+tr	-OLP	FM	WR4CON	fane	146.2142	188, S H2	023	sioth N	0ff	Silve	0ť	0						0.3
	145, 13000	344,73000,60	O BHILE	OLE	1954	WR4002	None	AN 8 144	St. 5144	0.73	Both N	Off	Skrie	0.00							02.

The file is ready to be sent to the radio.

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# 14.3 Using the TravelPlus\* List with existing programmer file

You may not want to use all the information from the TravelPlus\* list in a separate file for your radio. You may already have a file to which you want to add only some of the information from the List.

Using the list from TravelPlus\* along with a Version 4 RT Systems radio programmer, you can copy and paste selected channels from the list to a file for your radio.

- Begin by creating your list in TravelPlus\* as detailed in <u>Creating a List in</u> <u>TravelPlus\*</u> in this help.
- Open the programmer.
- Open the file into which the frequencies are to be inserted.

• Access the TravelPlus\* list through the link in the file menu. Both the list and the file are now open in the programmer. Working in reduced screen mode is helpful with this process to let you see both files at one time.

ŝ	IC-2820 Untit	led1 Travel Plus	List X								
1	Output Frequency	Input Offset Frequency Direction	Callsign (Name)	CTCSS (	DCS City	State	Region	Repeater Notes (Comment)	442.82500		
	442.82500	Plus	WC4ENL	167.9	Hapeville	GEORGIA		o 167.9	145.29000		
	145.29000	Minus	W4IBM	88.5	Atlanta	GEORGIA		88.5 (CA)	145.35000		
	145.35000	Minus	W4DOC	146.2	Atlanta	GEORGIA		o 146.2e	145.41000		
	145.41000	Minus	W4PME	100.0	Atlanta	GEORGIA		o 100.0e	146.62500		
	146.62500	Minus	W4ZT	100.0	Anania	GEORGIA		o 100.0e	146.64000		
	146.64000	Minus	W84QGR	181.1	Atlanta	GEORGIA		ot#	146.65500		
	146.65500	Minus	N4NFP	151.4	Atlanta	GEORGIA		o 151.4aelRB	146.73000		
	146.73000	Minus	KD4NC		Allanta	GEORGIA	-	ol	146.82000		
	146.82000	Minus Minus	W4DOC K4CLJ	146.2	Atlanta Atlanta	GEORGIA	_	e 146.2 (CA)e	146.97000 147.00000		
	146.97000	Minus	WA4NN0		Allanta	GEORGIA		ot o(CA)	147.03000		
	147.00000	Plus	WAANNU WANJO		Atlanta	GEORGIA		0(UA)	147.03000		
	147.03000	Plus	KC4ZIZ	-	Atlanta	GEORGIA		o oaBB	147.34500	Notice the two tabs. The radio file and the	
	147.34500	Plus	N4NEQ	151.4	Atlanta	GEORGIA		o 151.4 (CA)IRBz	147.10500		
	147.10500	Plus	W84BTH	107.2	Atlanta CARES	GEORGIA		o 107.2	421,25000	Travel Plus List are clearly identified.	
	421,25000	434.0000 Split	W4ZTL	101.6	Atlanta	GEORGIA		0	440.60000		
	440.60000	Plus	W4DOC		Atlanta	GEORGIA		Î.	442.02500		
	442.02500	Plus	W4CML	127.3	Atlanta	GEORGIA		o 127.3	442.12500		
	442.12500	Plus	W4ZT	100.0	Atlanta	GEORGIA		o 100.0es	442.22500		
	442.22500	Plus	W85EGI	100.0	Atlanta	GEORGIA			442.47500		
	442,47500	Plus	NA4DB	72.3	Atlanta	GEORGIA		072.3	442,52500		
	442.52500	Plus	N4XQM	110.9	Atlanta	GEORGIA		o 110.9	442.67500		
	442.67500	Plus	KE4PVE	100.0	Atlanta	GEORGIA		o 100.0el	442.80000		
	442.80000	Plus	N4NFP		Atlanta	GEORGIA		oti	442.87500		
	442.87500	Plus	K4RFL	100.0	Atlanta	GEORGIA		o 100.0eRB	442.97500		
	442.97500	Plus	WA4YNZ		Atlanta	GEORGIA		ot(CA)I	443.02500		
	443.02500	Plus	W4CML	127.3	Atlanta	GEORGIA		o 127.3I	443.31200		
	443.31200	Plus	W4AQL		Atlanta	GEORGIA		1	443.60000		
	443.60000	Plus	KA5WZY	146.7	Atlanta	GEORGIA		o 146.7aRB	443.65000		
	443.65000	Plus	W4CML	123.7	Atlanta	GEORGIA		o 123.7l	443.80000		
	443.80000	Plus	N4NFP	151.4	Atlanta	GEORGIA		o 151.4 (CA)eIRB	444.05000		
	444.05000	Plus	N4NEQ	151.4	Atlanta	GEORGIA		o 151.4e	444.15000		
	444.15000	Plus	W4PME	100.0	Atlanta	GEORGIA		o 100.0e	444.45000		
	444.45000	Plus	W4DOC	146.2	Atlanta	GEORGIA		o 146.2e	444.50000		
	444.50000	Plus	KD4GPI	110.9	Atlanta	GEORGIA		0 110.9	444.77500		
	444.77500	Plus	N4NEQ	151.4	Atlanta	GEORGIA		o 151.4a(CA)elRB	444.82500		
	444.82500	Plus	W4DOC WA4NND	146.2	Allanta	GEORGIA		o 146.2 (CA)e	444.92500 444.97500		
	444.92500	Plus	WA4NNU WA4YNZ		Atlanta Atlanta	GEORGIA		o of(CA)IRB	444.97500		
	444.97500 442.35000	Plus	KG4PTO	100.0	Allanta College Park	GEORGIA		100.0 RB WX	442.35000		
	442.35000	1272.0000 Spik	KB4KIN	100.0	Atlanta	GEORGIA		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	145.15000		
	145.15000	Minus	W4ADL	167.9	Georgia Tech	GEORGIA		o o 167.9 (CA)ez	145.45000		
	145.45000	Minus	W480C	107.3	Decatur	GEORGIA		0 107.0 (CAUE2	442.20000		
1	140.40000	initial S	.webuc		Decau	SEUNDIA	_	.v	442.20000		
1											
	Modules		-	Name	Callsign	- Comment	Repeate	n Notes 👻	Select All		

• Select a group of channels.

Point your mouse at the CHANNEL NUMBER (the grey shaded column on the left) and left click. Don't let go of the left click button if you want more than one.

While holding the left mouse button, drag the mouse over the CHANNEL NUMBER of all the channels you want. If there are more than those on the screen, just keep going at the bottom. The screen will scroll to let you continue your selection.

*Note: The entire row of a selected channel will turn be highlighted. If only the Receive Frequency is highlighted, then ONLY that information will be copied.* 

í	SC-3830 U-4.81	_	Travel Plus U		C-2828 Uv804	42.1	-					
	Dubut Frequency	Fequency	Direction	Callign (Name)	C1088 0	DS Day	State	Region	Repeater Noter (Consent)	442,82908		
T	442 82500		Plat	KCRN.	167.5	Hapevile	G5075M		e-167.5	145.29000		
	14529000		Minut	WHERM	99.5	Aclastia	GEOREAN		69.5 (EA)	145 25080		
4	145 25000		Mean	V/4000	148.2	Altionia	0508844		e 146.2e	145.41080		
4	145.41000		Minut	WARME	108.0	Adarta	GEGREM		c100.0e	146.62580		
+	145 62500		Messi	W121	108.0	Atlanta	0609844		e 100.6e	146.84000		
Ļ.	145 54300		Minut	W\$4007		Atlanta	AGR03D		dill.	146.62580		
÷	146.65200		Minut	NAMEP	152.4	Atlasta	GEOREM		o 151 AwRR	166.73080	Select channels to copy	
ŀ	145,73000		Most	VD4NC W4D0C	146.2	Atlanta Atlanta	GEOREM GEOREM		d o 1462 (EA)a	146.83080	Select channels to copy	
	145 87000		Minut	KADJ	199.2	Activity	GEOREAN		014623048	147 00000		
	147.80000		Minut	VAMMO		Atlanta	GEORGIA		et dCA0	147.03080		
	147 82000		Plus	WINLIG		Atlasta	GEOREM		e e	147.28580		
	147 29500		Plut	KC422		Alleria	OSOREM.		safe.	147.34580		
	147,34500		Plat	NAMED	151.4	Atlanta	GEOREM		o 151.4 (EA)FRz	147.10580		
	147 10500		Plus	WRARTH	107.2	Atlanta CAPES	GEOREAL		e1072	42125080	/	
	421 25000	434,0000		WARTL		Atlanta	<b>GEOREIA</b>		0	440,50080		
	440 60000		Plas	WIDOC		Atlanta	GEOREAN		1	442-02580		
	442 82500		Plut	WRCML	327.3	Atlanta	OE0REM		e 127.3	44212580		
	44212500		Plas	WHET	108.0	Atlanta	GEOREM		o 100.5ec	442:22580		
	442 22500		Plus	WRSESI	108.0	Atlanta .	GEOREMA			442.47580		
	442.47500		Plat	NAIDRI	72.3	Atlanta	GEGREIA		o 72.3	442,52580		
	442 \$2500		Plus	NOOM	118.9	Atlanta	GEOREAN		e110.9	442-67580		
	442.67500		Plus	FEANE	108.0	Atlanta	AIGR030		e 100.0el	442,80080		
	442 80800		Plat	NAMED		Atlasta	GEOREAN		DČ .	442:07580		
	442 87500		Plus	K4RR	108.0	Atlanta	0508644		e 100.0eF8	442,87580		
	442 57500		Plat	WARNE		Atlanta	GEOREM		ok[[A]	443.02580		
Ļ	44312500		Plas	WICH.	127.3	Atlasta	GEOREAN		e127.3	442 31280		
	443 31200		Plan	WHAT I		Alignia .	AIG#030			443,50080		
ŀ	442 80000		Plat	KASW2Y	346.7	Adapta	GEOREM COORDEN		o146.7xFB o123.7t	442-65080 443-80080		
ŀ	443 85000		Plus	WACKS, NAME	151.4	Atlanta Atlanta	GEOREM GEOREM		o 123.4 o 151.4 (EAbil10	444.05080		
	443 80000		Plus	NINED	121.4	Activity	GEOREAN		o 151.4 (LAJerro	49415080		
ŀ	444.15000		Plus	WINES	108.0	Alleria	AGRADIES AGRADIES		o 100.0e	444.45000		
	444.45300		Plas	WEDDC	346.2	Atlasta	GEORGA		c146.3e	444.50080		
ŀ	444 90000		Plan	KD45Pt	110.9	Atlanta	0508544		e110.8	444 72580		
f	444,77500		Plat	NAMED	151.4	Atlanta	GEGNEM		e 151 AulCAMPID			
f	644 82500		Plas	VIDOC	145.2	Atlanta	GEOREAN		e 1462/EA1e	41432580		
f	444 52500		Plat	VOLMENT		Alberta	AGROSO		0	444 37580		
	444 \$7500		Plas	WARNZ		Atlanta	GEOREM		REATER	442.25080		
t	442,75000		Plun	1064PT0	108.0	College Park.	0508544		108.0 R8 VA:	1292.00000		
	1252 00000	1272.0800	Salt	AD40N		Atlanta	<b>GEGREM</b>		0	145.15080		
	14515000		Mensi	WIMMON.	967.9	Seogia Tech	GEOREAL		e 167.9:(CAleo	115 15080		
Ľ	145.45000		Mout	WEDD		Decalur	AGE DOD	2	0	442,20080		
	Modules 10-2	920 Radio D.	ata File	-	Name	Cahign	· Connert	Repeated	Notes *	Select.44		
			r: 10-2828		elected Bands					UnSelect.Al		

• Copy the channels

With the mouse pointing at the highlighted channels right click and select Copy from the menu that opens.

OR... with your mouse, left click to select Edit from the menu at the top of the screen. From the menu that opens, select Copy.

It will appear that nothing has happened; however, Windows has copied the information.

• Use the mouse to click into the programmer file.

Note: If you are using the programmer in full screen mode, select Window from the menu then the programmer file name from the bottom of that list to switch between the two screens.

Alternately, you can select Window | Tile to have the programmer display the two windows equally in the main window.

- Select the first channel in the file into which the information is to be pasted.
- Paste the information into the radio file

With the mouse pointing at the highlighted channels right click and select Paste from the menu that opens.

OR... with your mouse, left click to select Edit from the menu at the top of the screen. From the menu that opens, select Paste.

• View the results

The resulting file now contains only those selected pieces of information from the TravelPlus\* list along with all the original information of that file.

	K-2828 Us				A 10-38	20 United2															
Ī	Receive Frequency	Transmit Frequency	Offset. Frequency	Offset. Deection	Operating Mode	Name	Tone Nade	CTCSS	Rx	DCS	DCS Polarity	Sep	Step	Digital	Digital h Cade	four Callege	Rot-1 Callign	Rot-2 Califien	Bank	Bank Channel	
	\$46.0 \$000			Simplex	FM		none	00. S Hz	00.5Hz	023	Dorth N	Off	Skitz	04	0	000000					
	440.08080	440.08080		Singles	PM		None	88.5 Hz	88.5 Hz	023	Softh N	of	251492	0¥	0	000000					
														-							
					-	-				-	-	-		-		-					-
											-			-							
					-						-	-		-	-	-					-
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					-			-	-	-	-	-	-	-	-	-					-
								-	-			-			-	-					
I	346.97000	346.37080	680 kHz 👳	0.0	- H <sup>1</sup>	000.1	None	- 00.5Hz	88.5Hz	023	- 550 N	# 0#	■ 5 kHz	(a) 0#	(a) (a)	-			-		ot.
1				-019	FM	WHENO	None	09. S Hz	09L 5 Hz	02.3	Doth N	04	SkHar	08	0						05
		247.63000		+0,P	1994	W4000	None	88.5 Hz	88.5 Hz	023	Softy N	0¥	Skele	08	0						0
		347.08500 347.94500		+0.P +0.P	PM PM	INCATE IN AN	None Tane	00.5Hz	00.5Hz 88.5Hz	023	Both N Huth N	0#	Skrie	04	0						0.1
		347,70500		40UP	PM	WEATH	Tone	107.2Hr	88.5 Hz	023	Softh N	0#	Sittle	0#	n in the second	-					01
		434,08080		+0.9	PM .	WELL	None	00.5 Hz	89,5143		Doth N	04	Skitt	04	ů.						6
	440.680000	445.50000	5.00 PPH	+0.P	PM	W4DOC	None	88.5 Hz	88.5 Hz	023	Softh N	0#	Skrie	04	0						1
		447.02580		+0.P	/M	W4CML	Tone	127.3111	00.5Hz	023	Doth N	04	Skhip	04	0						01
		447.12300		+0./P	PM	WHIT	Tane .	\$00.0HS	88L5 HJ	023	86011	off	5 61-0	08	0	-					0.3
		447,22500 447,47500		40JP +0JP	PM FM	Western In Arrest	Tone	100.0Hz	68.5Hz	023	Both N Both N	0#	5 kHz 5 kHz	0#	- 2						02
		447,52500		+0.P	PH	24024	Tone	110.514	88.5 Hz	023	Both N	08	Site	00	ő	-					01
				+0.9	/M	1292	Tone	\$00.0Hz	00.5Hz	023	Doth N	04	Strip	04	6						0 3
		447.80000		+0.P	PM .	11497	none	38L 5 Hz	88.510	023	Buth N	0#	3 640	08	0						04
		447,87500		+0.P	PH	KARPL	Tone	100.0Hz	55.5 Hz	023	Both N	0#	Skhie	0#	0						03
		447.97500		+DUP	FM	W8492	None	99. S HJ	89, 5 Hz	023	BOTH N	off	5 640	0#	0	_					083
	440.02500	448.02500	SOLIMPE	+0,P	PH	WHOM.	Tore	127.3Ht	38.5Hz	023	Softe N	0#	Skrie	04	0	-					01
											-	-		-	-	-					
					-	_		_			_	_	-	_	_						
					-	-		-		-	-	-	-	-	-	-					-
					-	-		-	-			-	-	-	-	-					

• Save the programmer file to make this change permanent.

Press Ctrl S or select File then Save from the menu that opens

With either process it will appear that nothing happens; however, Windows has made the change to the radio file permanent.

• Send the file to your radio.

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# **15 Copying From an Excel Spreadsheet**

The Programmer can handle information copied from an Excel spreadsheet.

Although this process is very valid for transferring data between these programs, it is not recommended for original file creation. It can be tedious getting all the information into the file to be copied. For example, why struggle to find information for the offset frequency and offset direction for your Excel list when the programmer will complete this information automatically when frequencies are entered there.

Limitations for use of another commercial spreadsheet program include:

- The spreadsheet program will know none of the limitations of the radio. It will allow you to enter any value in any space. You will have to enter transmit and receive frequencies, CTCSS tones, and DCS codes carefully to be sure they are imported correctly to the radio.
- You will need to organize your data carefully. The Programmer will import all the items from a single column as the same thing. This can cause an odd split to be entered as Simplex or a non-standard offset to be ignored if non-similar data is listed in the same column.

Let the Programmer help you as you create your original file with its defaults and automatic settings. Once the file is created you could export the data for other uses.

#### 15.1 Step 1

The Programmer makes no assumptions about the information being handed to it from the Excel file. You need to be familiar with the data in the file to the point you can identify that data to the programmer during the copy process.

# Step 1

Open the Excel file. Select and copy the information you want to put into the programmer.

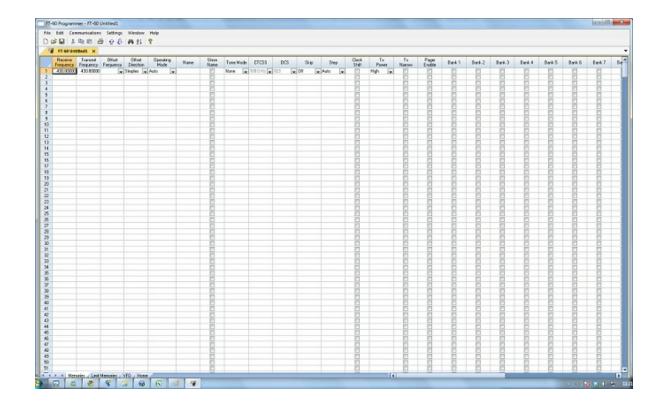
1	<b>n</b> n n					_				RepFreqs	Mic	rosoft Excel					_					_		and a	
2	Mange M	N Fag	P P	M A	a a	R W																			
٩	A Cut	Calibri		- A A			3-Wn	ap Text	General		-			Non	nal	Bad		1 2		* 🗓	and the second second	AutoSum	· 27	Bb '	
•	La Cepy		u			田 田 田					40		Farmat	Goo	4	Neutra				lete Form		FILE		& Find &	
	J Format Pair	inter										Conditional Formalting *	as Table					i i		v v	2	Clear *	Filter	* Select *	
	Clipboard	e.,	Font	9		Alignme	ent.		9. N	unber	9				Styles				C	rBi		5	gniftb		
	J.c.																								
A	8	C	D	8	F	6	н	1	1	ĸ		L A	1	N	0	p	Q			5	Ť		U	V	
	Receive	Transmit	Offset (kHz)	Offset (Minu	: Mode	name		Tone/ No	CTSS																
	147.345		600 kHz	Plus	FM	FIP ARC	-	Tone	107.2		_	_	-			-	-	_	-		_	_	-		-
	146.955		600 kHz	Minus	FM	PSLARC		Tone	107.2																
	147.060		600 kHz	Plus	FM	MCARA		Tone	107.2																
	146.625		600 kHz	Minus	FM	Hobes		Tone	110.9																
	146.315		600 kHz	Minus	FM	WPB EC		Tone	110.9																
	145.370		600 kHz	Minus	FM	KL		Tone	94.8																
	147.000	147.000			FM	MIA Tall		No Tone																	
	147.270		600 kHz	Plus	FM	MIA open		No Tone																	
	146.640		600 kHz	Minus	FM	MIA BCH		Tone	103.5																
	444.800		5000 kHz	Plus	FM	PSL Echo		Tone	107.2																
	443.875		5000 kHz	Plus	FM	WP8 Echo		Tone	110.9																
	443.625		5000 kHz	Plus	FM	FLL Echo		Tone	110.9																
	147.585		600 kHz	Plus	FM	FLL Echo		Tone	110.9																
	443.425		5000 kHz	Plus	FM	Mia Echo		Tone	94.8																
	442.100		5000 kHz	Plus	FM	KL Echo		Tone	94.8																
	147.060		600 kHz	Plus	FM	Mary Burlin		No Tone																	
	147.165		600 kHz	Plus	FM	Key-Cudjo Key-Largo		Tone	94.8																
	146.670		600 kHz	Minus	FM	Key-BPK		Tone	94.8																
	147.225		600 kHz	Plus	FM	Key-Mara		Tone	94.8																
	146.715		600 kHz	Minus	FM	Key-Plan		Tone	94.8																
											-												-		-
	H Sheet1	Sheet2 /	Sheet3 / 93	2				-				_		111			-	-			-		_		
e.															Averag	e: 166.26901	89 Cour	£ 136 5	um: 631	3.225		100% C	9		(

# 15.2 Step 2

Open the Programmer to which the data is to be pasted.

It is recommend that you import into a new file to prevent loss of data from an existing file. Channel information can be copied to an existing file, and put exactly where you want it, after the process of copying from Excel is complete.

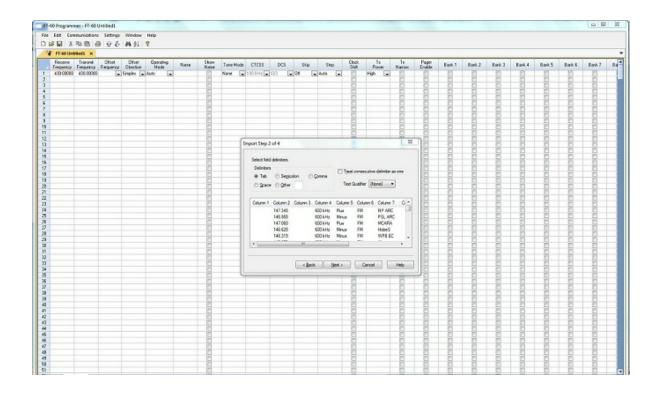
# Note: The FT-60 is used here as an example. The process works the same for any RT Systems Version 4 programmer although column names may differ or not be available.



### 15.3 Step 3

Paste: Ctrl V or right click and select Paste or select Edit then Paste from the menu at the top of the screen.

A window opens to complete the process.



# 15.4 Step 4

On this screen, you may need to use the Text Qualifier to remove quotes from your data.

The data should be appear as it does in this image: without quotes and separated into columns.

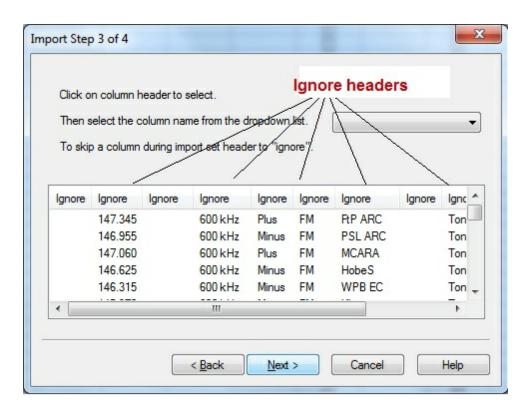
<ul> <li>Delimiters</li> <li>Tab</li> <li>Space</li> </ul>	Se <u>m</u> ico	lon ©	<u>C</u> omma		_	delimiter as o one} 🔹	ne
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	C
	147.345		600 kHz	Plus	FM	RtP ARC	_
	146.955		600 kHz	Minus	FM	PSL ARC	
	147.060		600 kHz	Plus	FM	MCARA	
	146.625		600 kHz	Minus	FM	HobeS	
	146.315		600 kHz	Minus	FM	WPB EC	
•							F.

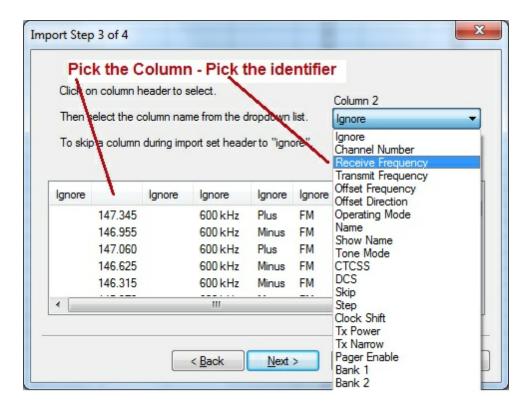
Click Next to continue.

#### 15.5 Step 5

In this step of the process, you identify the information in your spreadsheet for the programmer. The programmer attempts to identify the columns based on the headers that you have for the columns.

The programmer makes no assumptions and will set any non-matched column to "Ignore". The data in an ignored column will not be used in this process.





The column header changes to show your selection. Be sure to identify each of the

columns you want used. The data in an "ignored" column will be set to defaults in the resulting file. Your specifics will not be used.

eer me t			the dropdow	in liet	CTCCC	•••••	
a column		11			CICSS		
1		11		1			
set F	Offs	Ope	Name	Ignore	Tone	CTC	Ignore
) kHz	Plus	FM	RtP ARC		Tone	107.2	
kHz	Minus	FM	PSL ARC		Tone	107.2	
kHz	Plus	FM	MCARA		Tone	107.2	
) kHz	Minus	FM	HobeS		Tone	110.9	
) kHz	Minus	FM	WPB EC		Tone	110.9	
				111	-		
	set F ) kHz ) kHz ) kHz ) kHz ) kHz ) kHz	set F Offs OkHz Plus OkHz Minus OkHz Plus OkHz Minus	set F Offs Ope OkHz Plus FM OkHz Minus FM OkHz Plus FM OkHz Minus FM	set F Offs Ope Name OkHz Plus FM PtP ARC OkHz Minus FM PSL ARC OkHz Plus FM MCARA OkHz Minus FM HobeS	OkHz Plus FM RtPARC OkHz Minus FM PSLARC OkHz Plus FM MCARA OkHz Minus FM HobeS	set F Offs Ope Name Ignore Tone OkHz Plus FM PtP ARC Tone OkHz Minus FM PSL ARC Tone OkHz Plus FM MCARA Tone OkHz Minus FM HobeS Tone	set F Offs Ope Name Ignore Tone CTC OkHz Plus FM PtPARC Tone 107.2 OkHz Minus FM PSLARC Tone 107.2 OkHz Plus FM MCARA Tone 107.2 OkHz Minus FM HobeS Tone 110.9

Click Next to continue.

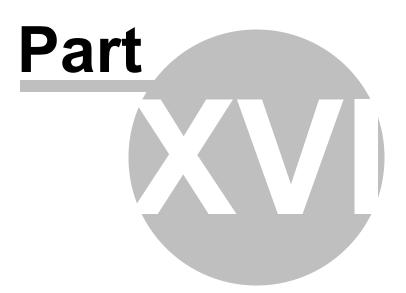
# 15.6 Step 6

Complete the options on the final screen and click Finish.

Startin	g radio memory 1	V	Overwrite existing o	
	able Channels: 999 Total Channels: 1000		Show only selected Show only valid free	
	inels Selected: 22	Sele	ect All Dese	elect All
Ignore	Receive Frequency	Transmit Frequency	Offset Frequency	Offset Directio
1	147.345		600 kHz	Plus
1	146.955		600 kHz	Minus
1	147.060		600 kHz	Plus
1	146.625		600 kHz	Minus
1	146.315		600 kHz	Minus
•				•

The resulting file contains the data just as it was in the Excel spreadsheet.

	Receive Frequency	Transnik Frequency	Officer Frequency	Offset Direction	Operating Node	Name	Show	Tane Mode	CTCSS	DCS	Skip	Shep 📥
5	Indanta	Transpoorting		a state of the second second second			E		-	1		-
21	145.01000	146.01000	2	Sinplex	FN		E	None	88.5Hz	023	01	5 KHz
	440.00000	440,00000		Sinplex	FN		- E	None	88.5Hz	023	011	5kHz
		140300000			1000		- E	104030		X1018	1.0	002/020
		1					- E					
					2342		- E			4248	22	10000
	145.66000	145.66000		Sinplex	FN		- E	None	88.5Hz	023	011	15 kHz
					110		_ E			12.2	18	
	147.55500	147.55500		Sinplex	FN			None	88.5Hz	023	011	15 kHz
)	Derror Cool	1.1.1.1.1.1.1.1							Contraction of the	A1012	100	
6	-	-									_	
2	-	-		-								
3	-	-		-			_ <u></u>					2
5	stal an	sets [13e3	Manualas /	MET / Hass				11		-		1 A
	H Mer	nories / Linit	Meniories	VFO / Hom	0/			1		1		١Ē



## 16 Importing a file

The Programmer can Import data from delimited text files. These files can be created using the Export feature of the Programmer for another radio, Travel Plus for Repeaters by ARRL, commercial spreadsheet programs, or text editors.

Limitations for use of another commercial spreadsheet program include:

- The spreadsheet program will know none of the limitations of the radio. It will allow you to enter any value in any space. You will have to enter transmit and receive frequencies, CTCSS tones, and DCS codes carefully to be sure they are imported correctly to the radio.
- You will need to organize your data carefully. The Programmer will import all the items from a single column as the same thing. This can cause an odd split to be entered as Simplex or a non-standard offset to be ignored.

The easiest way to begin a text file for your Programmer is to Export a file from the Programmer first. In that exported file, you will see column headers for the details that the Programmer expects to import. You will also see the format of the information. You can edit or add to this file with any commercial spreadsheet program or text editor.

Note: The new features off the programmer include the ability to enter a series of channels by entering just a beginning frequency and the number to be entered, column editing, copy and paste of one or multiple rows of data, rearrangement of columns, hiding columns that need not be edited, and automatic completion of data based on band defaults for a frequency entered. Given that the programmer is designed for the data of the radio, you might find editing in the programmer easier than using another spreadsheet program.

The file to be imported must contain at a minimum Receive frequency to define a valid memory channel. The programmer will fill the rest of the details for that channel with defaults just as if that frequency had been entered.

The Programmer makes no assumptions about the information available. If a piece of information is omitted, the Programmer imports the memory as a simplex channel and fills other fields with defaults.

Although this process is very valid for transferring data from one radio Programmer to another and for using the data from other sources such as ARRL Travel Plus, it is not recommended for original file creation. It can be tedious getting all the information into the file to be imported just like the Programmer wants it. Let the Programmer help you as you create your original file with its defaults and automatic settings. Once the file is created you could export the data for other uses.

# **16.1 Creating a file for Import**

# Checking a file to use with the Programmer

If you are given a file that you want to import into a programmer for use by your radio and are not sure if it is a "flat file", test the file by opening it with Windows notepad.

If the Notepad display is full of strange characters with very little legible text, this file is not ready to be imported by the programmer. The file may or may not be able to be used for import depending how it was created and saved.

Try opening the file in Microsoft Excel or other commercial spreadsheet program. If everything looks good there carefully save the file in as delimited text (this could be called several different things in the program that you are using. If the first one you try does not produce the file format that you want, try selecting a different File Type during the save process. The details for this process are included below for Microsoft Excel.

Open the file that you created during the save process in Notepad. As before, if the display is legible data separated by commas you are well on your way. If, however, the data appears in one very long line, you should return to the original source to extract the data with line feed breaks at the end of each record.

If the Notepad display has orderly lines of legible data separated by commas, it is ready for use by the programmer. It is fine if you see two commas right together. The process can handle a blank field.

# Saving an Excel file for import

If you work on a file in Excel for import to the programmer, that file must be saved as a comma delimited file before you leave Excel. The Programmer cannot import an Excel file with all its formatting codes. What it can work with is the "flat file" output of that file.

- In Excel, select File|Save as
- In the Save As window change the Save as Type to CSV (comma

delimited) \*.csv

- Enter a file name for the output file. Pay attention to the drive and directory to which the file is being saved. You will need to be able to find the file later for use during import.
- Excel will raise a warning(s) about worksheets and formatting that will be lost if the file is saved in this format. Answer to the affirmative (OK or Yes) to the message(s);eliminating the formatting is exactly what you want.
- When you exit Excel, you will be asked again if you want to save the \*.csv file. If you have made no changes since you lost saved, answer No. If you have made changes, answer Yes and proceed through the warnings again to save the file again.

#### Limitations for use of another commercial spreadsheet program include:

- The spreadsheet program will know none of the limitations of the radio. It will allow you to enter any value in any space. You will have to enter transmit and receive frequencies, CTCSS tones, and DCS codes carefully to be sure they are imported correctly to the radio.
- You will need to organize your data carefully. The Programmer will import all the items from a single column as the same thing. This can cause an odd split to be entered as Simplex or a non-standard offset to be ignored if the data is not in a column labeled correctly or is mixed in with dissimilar data.

### The Import File

The Import function is designed to assimilate some if not all of the following pieces of information for use by the Programmer. As radio features vary, so will the information to be imported (i.e., frequency ranges, the way offsets are handled, special options such as mask, clock shift, etc.)

**Channel Number**: If your file has channel numbers and you opt to use this column during import, your resulting file might not be what you expect.

• If the "Overwrite existing channels" option is checked: The information will

be inserted into the specific channel no matter what is in the file at that location now . While the channel numbers can help to organize the information being imported, it can result in data being overwritten in the process

• If the "Overwrite existing channels" option is unchecked: The information from the file being imported will be skipped if there is already information in the channel. The data in the existing radio file will not be overwritten.

#### It is always recommended that you import into a new file to prevent data loss in an existing radio file. Once the information is in the programmer file, it can be copied into an existing file. With the copy process, you have more control of where the data is inserted into the file.

**Receive Frequency**: The very least a file must have to be imported is the receive frequency. This may be called the "output frequency" depending on whether you're referring to the radio or the repeater. If the column header is "Receive Frequency", the import process will recognize this label and identify the information automatically.

- Acceptable receive frequencies are detailed in the User's Manual for the radio. In the text file, the frequency should be entered in the format "MHz decimal kHz" (i.e., 146.450) with up to five digits following the decimal.
- Although, unacceptable frequencies can be entered into the text file, they will not be imported into the Programmer. They will result in a blank memory channel when import is completed.

**Transmit Frequency**: Enter a specific transmit frequency in the format "MHz decimal kHz" (i.e., 146.450) with up to five digits following the decimal.

#### This information can be omitted from the file.

• If you are importing repeater information where all the repeaters have standard offsets (none operates on an "odd" split) the import process will calculate the Transmit Frequency from other information in the file.

# *This information must be included in a separate column for an "odd split".*

- The column cab be empty other than the specific information for those few "odd split" repeaters. The import process will calculate the Transmit Frequency from other information in the file for the other channels.
- Acceptable transmit frequencies are detailed in the manual for your radio.

#### Note: In the Programmer you can enter details for frequencies outside the transmission abilities of the radio; however, the software will not enable transmission on these frequencies. Transmission will be possible only if the radio has been properly modified.

**Offset Frequency**: This is the amount that the Receive Frequency changes to produce the Transmit Frequency. Standard offsets in the programmer include 100, 500, and 600 kHz (0.1, 0.5 and 0.6 MHz) and 1.0, 1.6, 3.0, 5.0, and 7.6 MHz.

- In Yaesu radios any value in 50 kHz increments can be used as an offset (i. e., .650, .550, .050)
- In an Icom radio, there are no Splits. Everything must be entered with an exact Offset Frequency.
- The Offset Frequency is used by the radio along with the Offset Direction to calculate the Transmit Frequency. The Programmer does the same.
- This is one place that the import process will make an assumption for you. It uses 600 kHz for the offset for VHF and 5 MHz for the offset for UHF if no other offset is specified.

#### Non-Standard Offsets

The Offset Frequency can be used in conjunction with Offset Direction for a value in 5 kHz steps (i.e., any value ending in .xx5 where x is any digit from 0 to 9). This gives you the ability to use the Reverse function of the radio although your frequency pair is not separated by a standard offset value. This is considered a non-standard offset.

To use a non-standard offset in your text file enter the Receive Frequency. Then the Offset Frequency as an exact value including the decimal to denote kHz. For example, given the pair 146.650 and 147.300, the Offset Frequency entered would be .650 (decimal six five zero). And the Offset Direction as Plus or Minus. With these three pieces of information, the import process will setup this memory channel correctly for use by the radio with the most functionality.

#### Note: You may see this import with one of the standard Offset Frequencies; however, once the file is saved, closed and reopened, the Plus or Minus and the Offset Frequency value as entered will appear.

Offset Direction: The Offset Direction lets the Import process know whether to add

(plus) or subtract (minus) the Offset Frequency from the Receive Frequency when calculating the Transmit Frequency for the memory channel.

Enter Plus, Minus, + or - for the process to recognize the command.

# *NOTE: Be sure to use Offset Direction if your file contains + and & endash; in this column. Using Offset Frequency for this column will result in all channels being imported as simplex.*

**Operating Mode**: Enter FM, AM, or WFM as appropriate for the frequency.

**Name**: Enter an Alpha/Numeric tag (up to 8 characters) for the memory channel to provide an easy reminder of the function of a particular frequency. Not all radios have this available for each memory channel. Consult your Users' Manual for details.

**Tone Mode**: Use of the tone systems of the radio allows for silent monitoring until a call is received with a corresponding tone. Tone mode also allows access to repeaters that are made private with a PL tone. Most radios offer CTCSS (Continuous Tone Coded Squelch System) or DCS (Digital Coded Squelch) to be tailored to your particular needs. Consult your Users' Manual for details specific to your model.

Use of either of the tone systems requires two steps. Your import file will handle these steps in THREE (3) columns.

• Step 1: Turning on Tone Mode

There are now so many different tone modes and combinations of them, we recommend that you use the designation just as it appears in the Programmer for your radio to identify the Tone Mode to be used. Examples would include but not be limited to:

- None Tone mode off
- Tone Encode
- T Sql Encode/Decode
- DCS DCS Tone
- Others specific to your radio as detailed in the Tone Mode column of the programmer.
- Step 2: Setting the tone frequency (CTCSS) or selecting the code for the tone (DCS).

Note: The CTCSS tone frequencies and the DCS tone codes should be stored in TWO separate columns in your file to be imported. The

# *import process does not separate. It will ignore incorrect values leaving the tone set incorrectly for the channel.*

• **CTCSS Tone**: Enter one of the 50 tone frequencies in the format MHz decimal kHz with only one digit to the right of the decimal.

This value must be entered exactly as shown in the chart in the Users Manual. A value that is not in the table will result in an incorrect tone value setting in the resulting Programming file.

This value is set independently for each memory channel.

• **DCS Code**: Enter one of the 104 codes in a three digit format (This will appear as two digits if you editor does not show leading zeroes. Two digits are acceptable when the third is a leading zero).

This value must be entered exactly as shown in the chart in the Users Manual.

A value that is not in the table will result in an incorrect tone value setting.

This value can be set independently for each memory channel that uses a DCS tone.

**Skip**: Marks selected memory channel to be *skipped during scanning* This field should contain one of the following:

Scan, 0, or Stop to include the channel to be scanned

Skip or 1 to mark the channel to be skipped.

PScan or 2 to mark the channel as Preferential Scan

**Step**: The frequency being used by the radio changes by the value of the step when tuning manually. This value is used by the radio in Memory Tune mode. This value is not critical in memory mode since the original memory channel frequency can be retrieved by exiting Memory Tune mode.

Enter 5/10/12.5/15/20/25/50 or 100 as needed.

**Clock Shift**: Shifts the internal reference frequency slightly to eliminate "birdies" that interfere on other channels.

Enter On or 1 / Off or 0

**Tx Power**: The output power can be set individually set for each memory channel to address the exact needs of each operation.

Enter High / Med / Low

Half Deviation: Enter On or Off as needed for the channel

Comments: Enter an identifying comment up to 80 characters.

You can see by the details here that creating a file for import can be a tedious process. Although this process is very valid for transferring data from one radio Programmer to another and for using the data from other sources such as ARRL Travel Plus, it is not recommended for original file creation.

Let the Programmer help you as you create your original file with its defaults and automatic settings. Once the file is created you could export the data for other uses.

The comma-delimited file can contain this information in any order. It must contain only the Receive frequency to be a valid memory channel. The Programmer makes no assumptions about the information available. If a piece of information is omitted, the Programmer imports the memory as a simplex channel and fills other fields with defaults.

This data can be entered in any order. You will identify the specifics to the Programmer during the Import process. If you find after several entries that you need another column for additional information, simply add it at the end. The Programmer will correct the order when it imports.

Save the data in your file often to prevent loss. Be sure to save the file as text with delimiters (separators) rather than as a worksheet of the program in which you are working. The Programmer cannot use a worksheet created by the other program.

To save as a text file, select File | Save (in the spreadsheet program). In the Save file window, select a different file type from the selection at the bottom of the screen. Acceptable formats are those that specify Text (i.e., .cvs, or .txt file extension).

Exit the spreadsheet program. Your file is ready to be imported into the Programmer. Changes can be made within the Programmer after you import the data.

#### 16.2 Import - Step 1

In the Programmer select File | Import.

From the Import Radio File dialog that opens, select the file to be opened.

Import Radi	o File					? 🛛
Look in: 📋	Көл	-	¢	£	Ċ	-
III 2800.rdf ▶]C208.dat III C-208.ic2i 에너다 C-208.ic2i 에너다 C-208.ic2i 에너다 C-208.ic2i 에너다 C-208.ic2i 에너다 C-208.ic2i 에너다 C-208.ic2i 에너다 C-208.ic2i	ted for Tone.CSV					
File name:			_			Open ·
Files of type:	All files (".") Tab Delimited ("tab) Comma Delimited (".csv)			J	_	Cancel

This screen gives you the ability to find and open the file to be imported.

- Use "Look in:" at the top to change directories as needed
- Use "File of type:" at the bottom to show other files in the directory you selected. Since the most common file types are \*.csv and \*.tab you may need to change types for your file to appear.
- Once your file is highlighted, select Open to proceed.

# Import Step 1 of 4: Identify one or more of the first rows of data to be omitted

Select rows from begining of list to sk	ip on import
b	liminate channels fron eginning of the list by creasing the counter.
0"."+".","H", 127.3", 127.3", 5ak	arr
0". +, H	ch",""
0"."+",",","H","127.3","127.3","MtH	food ,
0,+,,,H,1/33,1/33,PU	A
	E

This screen was used originally to omit headers, columns without data, from the import. This is no longer necessary.

# Actually, it is recommended that you leave the headers to help you more easily identify the information in a later step.

This step remains useful for eliminating a number of memory channels from the import process. For example if your file contains more channels than are allowed by the radio. You could eliminate multiple channels here rather than later in the import process.

Click Next to continue.

#### 16.3 Import - Step 2

# Import Step 2 of 4: Identify the delimiters (separators) used in your file.

Import Step 2 of 4	×
Select field delimiters. the data in the	aracter that separates e file being imported.
Pelinites ← Tab C Semicolon C Comma	Treat consecutive delimiter as one
C Space C Other	Text Qualifier (None)
Column 1	<u>^</u>
"147.0200", "0.6000", "+", ", ", ", ", "H", "127.3", "1 "147.0400", "0.6000", "+", ", ", ", "H", "127.3", "1	273", Selem The selected
"147.1000", "0.6000", "+", "", "H", "127,3", "1	27.3", "HdRvr ", " character is the
"147.1200","0.6000","+",",",",",",",",",",",",",",",","	The second secon
"147.2400","0.6000","+","","","H","127.3","1	27.3", "Vnew "," that appears here
"147.2800","0.6000","+","","","","","179.9","1 "147.3200","0.6000","+",",",",",","H","479.9","T	
< Back	ext > Cancel Help

The data in the file to be imported is separated by tabs, semicolons, commas, space or other non-text characters. Select from the list at the top of the screen or enter the one you used.

Once you select the correct delimiter, the data will properly separate into columns.

Select field o				na (,) as data into							
C Tab	C Segico	lon G	Comma	Teed	T Tgest consecutive delimiter as one						
C Space	C Other			Text (	Qualifier 🕼	Vone) 💌					
Column 1	Column 2	Column 3	3 Column	4 Column	5 Column	6 Column 7	Cord				
147.0200	"0.6000"	··•·			"H"	"127.3"	1				
'147.0400''	"0.6000"				<b>"H</b> "	"127.3"	· T.				
147.1000"	"0.6000"	1. A. C. A.			"H"	"127.3"	°1.				
"147.1200"	"0.6000"	" <b>-</b> "	1.00		<b>187</b>	"127.3"	T1:				
'147.1400"	"0.6000"		****		"H"	"127.3"	* <b>T</b>				
'147.2400''	"0.6000"	7. <b>.</b>			"H"	"127.3"	T.				
147.2800"	"0.6000"	"a"			"H"	"179.9"	11.2				
۷.		- P					3				

Examine the data to be sure that it is ready for the Programmer to process. Look at the data in the window. Select the proper Text Qualifier if you have single or double quotes within a data field. With quotes present, the import process will handle all the data incorrectly resulting in a blank file. Once selected, the quotes are removed and the data appears as shown.

Select field	delimiters.				iote (") as he quote			er.
-Delimiters		colon	ø	Comma	T Tgeat	consecutive	e delimiter a	s one
C Space	• C Other	_		2	Text C	Jualfier 📔	•	
Column 1	Column 2	Colu	mn 3	Column 4	Column 5	Column 6	Column 7	Colu
147.0200	0.6000	+				Н	127.3	127
	0.6000	+				н	127.3	127
147.1000	0.6000	+				н	127.3	127
147.1200	0.6000	+				н	127.3	127
147.1400		+				н	127.3	127
147.2400		+				H	127.3	127
	0.6000	+	_			н	179.9	179
<								2

Click <u>Next</u> to continue.

#### 16.4 Import - Step 3

### Import Step 3 of 4: Identify the data to the Programmer

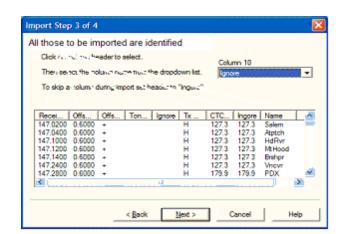
The Programmer will make an attempt to identify the information in your file. In this step of the process, you can make corrections to the assignments the Programmer has made and identify other columns that you want imported.

nport Step	3 of 4								1
Click on a	column he	aderto s	elect.						
Then sele	act the co	ilumn nar	ne from th	he dropđ	own list.				*
To skip a	column o	turing imp	ort set h	eaderto	'noore".				
Ingore	Ingore	Ingore	Ingore	Ingore	Ingore	Ingore	Ingore	Ingore	1.0
147.0200	0.6000	+			н	127.3	127.3	Salem	
147,0400	0,6000	+			H	127.3	127.3	Aptch	
147,1000	0,6000	+			н	127.3	127.3	HdRvr	
147.1200	0.6000	+			н	127.3	127.3	MtHood	
147.1400	0.6000	+			H	127.3	127.3	Brahor	
147.2400	0.6000	+			н	127.3	127.3	Vnevr	
147.2800	0.6000	+			н	179.9	179.9	PDX	~
<				11					3
									-
			< Back	<b>—</b>	< bei	1 -	ancel	1	
									elo

For the columns to be imported, select the header of the column (the little grey box just above the column) then select the proper identifier from the drop down list at the top of the screen

	colur in he			acot a	incertion in	101	that col		
	7						olumn 1		
Then sek	ec, the co	lumn nar	ne from th	ne dropda	wn list.	1	gnore		-
To skip :	column d	during imp	oort set h	eader to '	'ingore".	Č	phore Thannel Nu loceive Fri ransmit Fri	Iquency	
1	Ingore	Ingore	Ingore	Ingore	Ingore		Wiset Frequ	iency	~
147.0200	0.6000	+	_		н	127	3 127.3	Salem	_
147.0400	0.6000	+			н	127			
147.1000	0.6000	+			н	127			
147.1200		+			н	127			
147.1400		+			н		3 127,3		
147.2400	0.6000	+			н	127.			
147.2800	0.6000	+			н	179	9 179.9	PDX	~
14									$\rightarrow$

You need to identify only those columns to be imported.



Click Next to continue.

#### 16.5 Import - Step 4

# Import Step 4 of 4: Limit the channels that are imported by the Programmer

Again, you can make adjustments to the data to be imported without having to edit the original file. Select all or any part of the list by checking the box at the left of the screen.

mport Step 4 of	4						2	
Starting radio me	mory 0	Overwrite existing channels						
Available Chan Total Chan Channels Selec	nels: 900	An uncho selection imported		Selec				
Receive Frequen	y Offset Fre	quency Offe	et Direction	Tone Mode	Ignore	Tx F	^	
147.0200	0.6000	+				н	-	
147.0400	0.6000		Those	checked		н		
147.1000	0.6000			ported		н		
V 147.1200		+	are in	ponted		н		
¥ 147,1400	0.6000	-				н.,		
147 2400	0.6000					H	~	
						2		
	< 8	lack	Finish	Cancel		Help		

Since the data can be imported into an existing file, use the boxes at the top of the screen to place the data in the file where you want it to appear.

• Starting radio memory - Insert the channels into the file somewhere other

than at the beginning (i.e., At the end of a list that has the last channel of 21. Enter 22 in this box to begin with the next memory channel of that file).

- Overwrite existing channels Tells the process to replace data it finds in the existing file or to skip that data and write in the next available channel. For example:
- Unchecked If you import into a file with memories in channel numbers 1-10, 12, 15 and 16 the process would write the imported channels in order to 11, 13, 14, then 17 on to the end of the imported list.
- Checked If you import to a file with memories in channel numbers 1-10, 12, 15 and 16 the process would write the imported channels in order beginning at channel 1 and continue in order to the end of the imported list. The existing channel data of the file would be lost in the process as it is replaced with that of the imported file.
- Finish Click to compete the process. The resulting file in this example would look like this:

		dt											
- 1	Receive Neiguency	Transak Frequency	Offset Environment		Operating Hode	Nane	Show Name	Tone Mode	CTCSS	DCS	Perstr	Skip	1
1							1						_
2							- F						
2 1	147.02000	147.62008		Phat	EM	SALEM		None	127.3	023	High	01	
4	147.D4000	147.G4008		Phat	EM	ATPTON		None	127.3	022	High	01	
6	147,10000	147.70008		FNa	FM .	HDRVR		None	127.3	023	High	01	
36	147.12000	147.72008		PM	FM	MTHOOD			127.3	023	High	01	
7	147.14000	147.74000		PNI	FM	<b>BRSHPR</b>			127.3	023	High	01	
10	147.24000	147,94000	0 6000	Phai	-FM	VMCVR		None	127.3	023	High	01	
25	147.29000	147 99000		Pha	FM	POX			179.9	023	High	0.8	
Ð	147 32000	147 32000	0 6000	Plus	-FM	SOSCOL		None	179.9	023	High	0.0	
7	142,58000	147,58000	0.6000	Samples	514	FMSR-2		None	179.9	023	High	0.0	
2	147.22000	147,82000	0 6000	Plot	FM	TUME		None	178.9	023	High	0.4	
	162,55000	162,55000	0 6000	Saples	TM	NUAA		None	178.8	023	High	0.0	
4	155,43000	155.43000	0 6000	Saples	TH VED / Her	POLCES		None	179.9	023	High	0.9	



# 17 Export

The programmer can export, "convert", the data of a radio programming file to a flat file for use in other programs. This will create the file that you need is someone asks you for a "csv" or Excel file.

You control two parts of export

What is exported from the file

Where the exported file is saved on your hard drive.

#### What is exported from the file

The file created through export contains the data on the screen that is open when the process is begun.

If a radio has Right Memories and Left Memories, it will export the data of the Right Memories when you are viewing that screen when the process is begun and the data from the Left memories if you are viewing that screen.

Each export should be directed to a separate file. If you use the same filename, you will replace the data from the first export with that of the next.

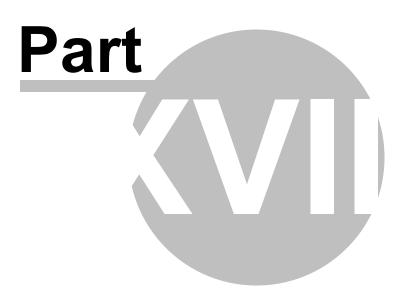
#### Where the exported file is saved on your hard drive

Select the section of the file to be exported.

Click File | Export

A Save dialog box opens. You have complete control of the filename and location of the file on your hard drive in the options in that Save dialog box.

Pay close attention to the filename and directory designation of the resulting file. You want to be able to find it easily later.



# 18 Troubleshooting

Technical support is available from *RT Systems* at the times and number shown in the *Contacting RT Systems* of this help.

As issues are addressed by Techsupport personnel, the issue and the result are often detailed on the FAQ page of <u>www.rtsystemsinc.com</u> Check there for additional information that might pertain to the exact issue you're seeing with your radio.

Detailed here are several of the more common problems that you may want to check before you contact technical support.

# "The data from the radio will overwrite this file. Continue?"

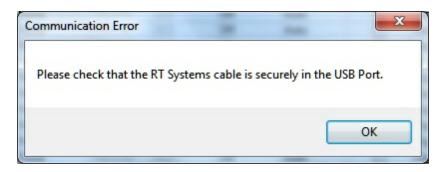
This message will be raised by the programmer when you select Communications | Get data from radio with a file open that is not a new (default) file into which no entries have been made.

This message is warning you that you will replace any information you have entered with whatever is in the radio. The "whatever" could be all blank channels.

Answer "yes" if you want to lose all the information that appears on the screen. Answer "no" if you don't want to lose several hours of work spent creating the file on the screen. To prevent loss of information, first do File | New to open a new (default) file. Then while looking at that file, do Communications | Get data from radio and complete that process. Your file will drop to the background and be protected from during this part of the process.

Once you complete Communications | Get data from radio, return to your file a) select the tab at the top of the page; or b) select File | Open and open the file from the list presented (if you closed it some time during the process.)

# Program cannot find cable



This message can appear when you are attempting to get data from the radio or send data to the radio. There can be several causes. The most common are:

The cable is not attached to the computer or you have the wrong programming cable attached. The cable for this radio is pictured in the *Computer to radio cabling* section of this help.

The communications process was accessed too quickly after the cable was attached. It can take some computers a minute or more to recognize the cable properly. Give the computer a little more time and try again.

The problem may lie in the electronics of the cable. If this is the first time you have attempted this process, contact RT Systems for assistance. This can be corrected easily in just a few minutes with the computer and an Internet connection. *Note: This can be corrected using a machine that has an Internet connection that you don't plan to use for the programming software. The software for the radio does not have to be installed to complete the correction.* 

HotSync, the program for the Palm Pilot, is running on this computer. Hotsync immediately takes control of an available comport. Since the RT Systems programming cable establishes a comport, Hotsync takes control before you have a chance to use it. Look for the icon, red and blue arrows chasing each other, in the tray at the right of the task bar. If found, right click and exit. That program will load again when you re-boot your computer. You will need to disable this software any time you program your radio.

### Interference from other cables attached

The Programmer is designed to find the cable to be used by this radio for programming. This process is done through special identifying numbers programmed into the electronics of the USB connector.

The process looks at each USB device attached. Other items attached, especially other programming cables, may cause the programmer to wrongly identify the cable it

must use for a specific radio.

Two different errors can occur in this configuration. Either the programmer will report that the cable is not attached to the USB port or the Communications process will not respond since the data being transferred from the radio (you did press all the right buttons) is traveling along a cable other than that the programmer is connected to.

# Interference from other applications

Your radio is not the only device you attach to your computer for programming or data interchange. I-Pads, I-Pods, Palm Pilots and other PDA devices, printers, cameras and others all install programs for their use. Unfortunately, many of these programs run constantly looking to be used any time a cable is attached.

These programs take control of the cable even if it is not for their device. This renders the cable useless for its intended purpose.

You may not even be aware that these programs are running. You may have sold the device months ago; but unless you took steps to permanently disable the software for it, the problem remains. These programs run start whenever the computer is started or brought back from hibernation then run in the background with little indication that they are there.

Begin checking by hovering over each icon at the lower right of your screen. Those in the taskbar. A name will appear as you pass over each. You may recognize the one that needs to be disabled. Usually an option to Exit or Close will be available from a right click menu. Don't worry about exiting something you might need. The application will begin again when you restart your computer.

After addressing a program, check in the programmer. You should be able to click OK on the Communications | Get Data from screen and have the process continue instead of raising the error message.

Tech support at RT Systems will be glad to help you with this; but we are limited given this is an issue specific to the applications running on your machine. You are welcome to contact us for help with this issue.

# **Defective Cable**

Cables from RT Systems are 100% tested prior to packaging. Even with this level of control, occasionally a cable fails in the field. Contact RT Systems tech support if to determine if the cable is at fault and a replacement is needed.

A replacement can be initiated when you send a copy of your receipt as proof of purchase and the issue has been diagnosed with a tech support representative at RT Systems. In this case, a replacement will be sent immediately with a prepaid label for return of the defective item. The replacement will be sent to the address on the receipt.

If the receipt is not available, return the original cable for replacement. A replacement cable will be sent immediately when the defective item is received at our location.

#### **USB Driver Installation**

On some systems running Windows 2000 or early versions of XP, the drivers for the cable will need to be installed manually. This is a normal thing in the USB world and is easily done.

We are *RT Systems* will be happy to help you through this process.

With the USB cable detached from the computer, start the New Hardware Wizard from the indication for the device in the Device Manager.

The drivers have been installed on your machine in the following directory.

C:\Program Files\Common Files\RT SystemsV4\RTDrivers\USBComDrivers\Drivers

Run the New Hardware Wizard twice. The first time use ftdibus.ini in that directory. The second time use ftdiport.ini in that same directory.

Then attach the cable again. Check in Device Manager to be sure it is now listed under Ports (Com and Lpt) with a comport designation assigned.

#### **Modified Radio**

Communication Error	×
	radio does not match that of the file. rmation about this error. and try again.
	OK Cancel

This error is raised when you attempt to send a file to a radio that is modified before the programmer is given that information.

If your radio has been modified, you must complete Communications | Get data from radio into a new file before you attempt to write data to the radio. When the Get data from radio process is used, even if the radio is not yet programmed, the Programmer gets the data it needs to know that the radio is modified.

When you use Communications | Get data from for the sake of establishing communications, you need to save the file ONLY if you want to save the memory data that is currently in the radio. The Programmer already has what it needs. The option to save is available should you want to save the pre-programmed data.

# Cabling to properly address the radio

#### The Version 4 RT Systems Programmers work only with the • RT Systems' USB cables OR

• Original RT Systems' serial cable with the <u>RTS-03 USB</u> to

serial adapter.

#### No other USB cable will be recognized by the programmer.

*RT Systems'* programmers address over 50 different radios. Of those, some program through the speaker jack, some through the mic jack, some through the data jack and some through the CAT port. These ports must be addressed by the correct cable for communications to be successful.

Be sure to use the correct cabling to address the radio being programmed. Check the User's Manual for the radio if you are not sure where the port is on the radio that is specified in the programmer. The cables for this particular radio are pictured in the *Radio to Computer Cabling* section of this help.

<u>Specific to the FT-857/D and FT-897D</u>: The cable used for programming is the USB-62 cable with the 8-pin mini din plug. This plug is attached to the CAT jack on the back of the radio. Forcing this connector into the data port will ruin the plug and could damage the radio. There have been cases where the power pin and the PTT were connected (since you never know which pin will go which way when you force them out of place) causing several hundred dollars in damage. Check to be sure you are connecting the cable to the matching jack before forcing the pins into the holes.

At the time of this writing (2009), none of the Yaesu VHF/UHF mobile radios used the USB-62 cable with its 8-pin plug. We have seen this tried. It will not work. The mobile radios that program through the data jack require a 6-pin mini din connection on the

cable. Check the cabling specified in the help for the radio that you're programming to be sure that you're using the right one to address the radio.

### Icom specific issue for Clone mode

Other than the lcom IC-R10, at the time of this writing, lcom radios are NOT put into CLONE mode for programming. CLONE mode is used only when you transfer data from one radio to another.

The process for programming the radio from the computer is simple. When the instructions say to "Turn the radio on", do just that, press the power button to turn it on. If pressing a key is needed as a part of this step, it will be included with the instructions on the Get data from screen.

# Yaesu Radio does not go into Clone mode after initial menu selection

Many Yaesu radios, handheld and mobiles, access Clone mode from a startup menu. When you turn the radio on holding the specified key, you are in that menu with several options of radio functions. Clone is only one of these options.

Once the Clone option is found in that menu, another key on the radio is pressed to activate that mode. You know the options has been activated when the radio cycles off and back on. Only then is it in Clone mode and ready to program.

If the radio does not cycle off and back on when that next button is pressed, one of the following may address the issue:

The keys on the face of the radio are locked. Turn the radio off and back on in normal mode to check for the Lock symbol on the screen. Unlock the keys and try again.

You have pressed the designated key too long or not long enough. Try again until you get the feel for the process.

# Yaesu Radio does not change to Tx or Clone Out when button is pressed

Many Yaesu radios have a key sequence that starts Clone mode without having to select that option from a startup menu: the radio simply comes on in Clone mode.

With CLONE displayed on the face of the radio, a button is pressed to begin communications.

If the radio comes on displaying CLONE; but then is unresponsive when the button is pressed to begin (i.e., the screen does not change from Clone) check these two common causes:

First, be sure you are using the correct cabling for the radio being programmed. If an adapter was included with the kit, use it.

Check that the keys are not locked. To check, turn the radio off. Turn it back on in normal mode and check for the Lock symbol on the screen. Unlock the keys from the face of the radio and try again.

# Windows Version Compatibility

The Version 4 Programmer is designed to work with Windows XP, VISTA (32 or 64 bit) or Windows 7 (32 or 64 bit).

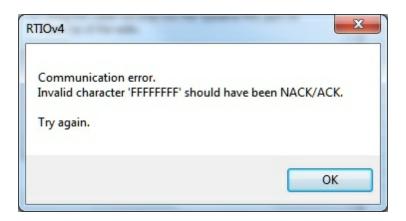
*RT Systems* no longer supports use of the programmers on Windows 98, Windows 98SE, Windows 2000, or Windows ME.

Note: If you plan to use an older computer for programming your radio, you may experience problems with the program resulting from files that are missing from the operating system. These files would have been delivered through normal Windows updates to the operating system.

If the machine has been out of service for several years, set it up with an Internet connection and Automatic Updates activated. Let it sit for several days while it finds what it needs.

Once the updates are installed, you will have no other problems related to the operating system relative to the programmer.

# NACK/ACK Error



As ugly as this error appears. it actually is only a generic message saying the Communication process failed. Try again after reading the hints here.

Do NOT turn the radio off. It may display Error. It is not terrible unhappy and is still in Clone Mode.

Cancel all Communications screens that are open in the programmer.

Open a new file (File | Open form the menu at the top of the screen).

Select Communications | Get data from radio. Doing Get Data from often gets the process going.

Skip the steps for putting the radio into Clone mode. It is already there.

Click OK

Press the key as instructed to begin the process (sometimes you need to press it twice... once to return to Clone mode... then again to begin the process.)

Once Get data from is successful, attempt Send data to. In this scenario, you can skip the steps to put the radio into Clone mode since it usually remains in Clone mode after Get data from is completed.

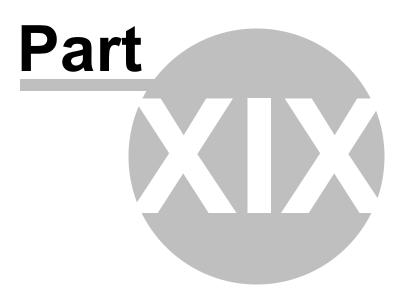
# 18.1 Get Data from Radio Required

The first time you attempt to send your file to the radio, this message may appear.



This indicates that you have not read the configuration of the radio into the programmer.

There are details that the programmer can get only from the radio. Even if the radio is not yet programmed, these "background" details are necessary for the programmer to send a file to your radio successfully.



#### **19** Invalid Frequencies

This information is meant to address radio operators in the US. While many of these details are true in other countries, some are not. Band plans, allowable frequencies, and other details differ around the world; but many of the functions of the radio remain the same making this information useful to everyone.

This section is offered to help users understand why a frequency is rejected by an amateur radio. The Programmer will not allow you to enter a frequency that your particular radio cannot use.

Your radio is designed to work on all frequencies in the amateur bands. Problems arise when frequencies from commercial operations are used on this amateur equipment. This explanation is offered to help you understand where the radios differ.

#### **How Radios Work**

A little here about how radios work. As for an allowable frequency, three factors are important: Reference Frequency, Reference Step and Step.

Reference Frequency - Based on its internal electronics, the radio uses a value based off the frequency you enter along with the Reference Frequency Oscillator to generate the desired frequency.

Reference Step - The difference between any two Reference Frequencies. This value is set as a part of the internal workings of the radio. It cannot be changed.

Step - The difference between two frequencies displayed on the face of the radio when the tuning knob is turned while operating in VFO mode.

Reference step and Step work in conjunction with each other allowing or prohibiting you from tuning to a given frequency.

Commercial radios have a Reference Step of 2.5 kHz.

Amateur radios are generally designed with Reference Steps of 5, 6.25, 12.5, 9 (only AM) and 8.333333 (air band only) kHz. While a few models have all these Reference Steps, many more remain with only Reference Steps of 5 and 12.5 kHz. These two are sufficient for accessing any repeater in the Amateur Bands.

While in the mathematics of things there will be frequencies in the commercial bands that match the available Reference Steps of Amateur radios, the Step of the Amateur radio will not allow you to tune to the desired frequency.

It takes both working together to achieve a valid frequency.

#### Testing the validity of a frequency

The question of validity is seen with frequencies with four digits following the decimal (i.e., 154.03125 may be your local volunteer fire department frequency and while their commercial radios can do this frequency, your amateur radio cannot... and it cannot be made to do it with any software.)

Let's take 154.03125 and put it to the test.

Step 1:

The first and easiest test for the validity of a frequency is to attempt to dial to that frequency in VFO mode on the face of the radio. Remember in your attempts that it may be necessary to adjust the Step (see your Operator's Manual for details) to get to a certain frequency.

Turn on your radio.

Access VFO mode

Turn the tuning knob.

With the frequency changing by 5kHz steps, the frequency changes from 154.030 to 154.035 to 154.040 (oops... lost the 3 in the second position... let's try something else).

Change Step to 12.5 kHz (see Operator's Manual for your radio. This is generally done in the Set menu; however a shortcut key on the face of the radio may give you easier access to this menu item.)

With the frequency changing by 12.5kHz steps, the frequency changes from 154.025, to 154.0375 (hey, at least I have the fourth digit now), to 154.050... oops, missed the 154.03125 completely. Again, can't get there tuning on the face of the radio.

Try other Step values until you're satisfied that the radio just cannot be made to do that frequency.

Step 2:

Compare your frequency to this list. If you find it here, it will work. Note: "x' represents any number.

- 1. xxx.xx500 Generally only 5 or 0 allowed in the third position with all 0s after that. A few exceptions are shown below.
- 2. xxx.x12500 Allowable for four digits after the decimal. The first digit after the decimal can be any from 0 to 9.
- 3. xxx.x375 Allowable for four digits after the decimal. The first digit after the decimal can be any from 0 to 9.
- 4. xxx.x625 Allowable for four digits after the decimal. The first digit after the decimal can be any from 0 to 9.
- 5. xxx.x875 Allowable for four digits after the decimal. The first digit after the decimal can be any from 0 to 9.

Comparing 154.03125:

There is a 1 in the third position after the decimal. By Rule 1, this is not allowed for an amateur radio.

The frequency does not fit into any of the others that allow 4 digits after the decimal.

Step 3: Do the math.

Allowable frequencies (in Hz) must be evenly divisible by 5000 or 12500 or 6250 Hz.

Convert your frequency to Hz:

154.03125 x 1,000,000 = 154031250

Divide that number by 5000

154031250 / 5000 = 30806.25

154031250 / 12500 = 12322.5

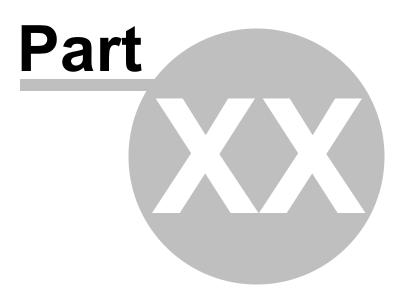
154031250 / 6250 = 24645

The 6250 Hz division was successful. There is a possibility that this frequency can be used by an amateur radio.

As discussed earlier, both the Reference Step and the Step of the radio are used to determine a valid frequency. Models vary. While this frequency passed

the validity test for certain amateur radios, that in no way implies that it will work on your particular radio.

For this particular frequency to work in your particular radio, it is necessary that the radio have a 6.25 kHz step available in the Step option of the Set menu.



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#### 20 Hardware Error Troubleshooting

"Well of course the information in the radio and the file do not match. I just made changes to the file and I want the different information in the radio!!"

This is a common first reaction to this error. However, that is not the file information involved in this error. There are several causes for this error. They include incorrect key strokes on the radio, interference on the computer by another application or device, a faulty cable or the presence of a radio that has been modified for out of band use.

Communication Error	×
The information in the radi Click OK for more informat Click Cancel to cancel and	
	OK Cancel

Below are various steps offered as corrections. At the end of each section try again to transfer data to the radio again.

#### **Try this First**

The error most likely indicates that "behind the scenes" information about the radio does not match that of a factory radio. This is most common when a radio has been modified for our of band transmission.

- 1. Create a new file (press Ctrl M on the keyboard or select File | New from the menu at the top of the screen). This protects the file that you are trying to send to the radio.
- 2. Select Communications | Get data from Radio from the menu at the top of the screen.
- When this is completed successfully, return to your file (click to tab at the top of the screen that displays the filename or select File | Open to reopen your file.)

4. Select Communications | Send data to Radio. Be careful to follow these steps shown on this screen. Generally, they are different from the Get Data from radio steps.

#### **Radio Issues**

#### "Error" is displayed on the radio.

"Behind the scenes" information about the radio does not match that of a factory radio. This is most common when a radio has been modified.

- 1. Create a new file (Ctrl M or File|New)
- 2. Execute Communications | Get data from Radio. This is the only way this "behind the scenes" information can be obtained for your radio.
- 3. When this is completed successfully, return to your file.
- 4. Execute Communications | Send data to Radio begin careful to follow these steps since they are different from the Get Data from radio steps.

# The radio does not change when "OK" clicked on the screen in the programmer (never indicates receive).

There is no communication between the radio and the computer. Check through the Cable issues to be sure you are using the right cable and that it is connected properly to the radio and to the computer.

#### The radio never goes to CLONE.

On many radios you hold buttons during power on to access a startup menu. Once you select the clone option of the menu (the radio is *NOT YET IN CLONE MODE*). You press a key to accept the CLONE option. When you press the button to access the startup menu option, the radio does not change.

- 1. The keys on the radio may be locked. Turn the radio off then back on in normal mode to check for a lock symbol on the screen. If the keys are locked, unlock them. Once unlocked, power off the radio and begin the Communications process again.
- 2. The key specified is "touchy" and responds if it is touched just the right way.

This has been the case on several of the mobile radios. Try again with a shorter or longer touch on the button. When you get that touch just right, the radio will respond.

3. The wrong cable is being used. This is true for several of the hand held radios that use the 4-pin plug. If you attempt this process with a stereo plug, the radio will not respond when you attempt the cloning process.

#### The radio never went into send (TX) mode (Get data from radio process).

Now that the radio is in Clone mode, one more button press is required to start the data transfer (Get data from) or to make the radio ready to receive the data (Send data to).

- 1. The wrong cable is being used. This is true for several of the hand held radios that use the 4-pin plug. If you attempt this process with a stereo plug, the radio will not respond when you attempt to access the Clone option of the startup menu.
- 2. The keys on the radio are locked. Turn the radio off then back on in normal mode to check for a lock symbol on the screen. Once the keys have been unlocked, power off the radio and begin the Communications process again

#### Radio is not on at the time of data transfer.

This can get the process "out of sync". Cancel the Communications screen on the computer. Then access that screen again and start over with turning the radio on in Clone mode. Be sure the battery is charged on your handheld radio or that you are connected to external power to prevent an unexpected shutdown during this process.

#### General Issue

#### Followed the Steps Incorrectly or executed the wrong process.

Get data from the radio:

- 1. Go to "Communications" in the top menu.
- 2. Click "Get Data from Radio".
- 3. Read and follow each step. (Remember, the keystrokes are different for each

radio. They are detailed for a particular radio on the Get Data from radio screen. The trick is to follow each step... one at a time.)

Send data to the radio:

- 1. Go to "Communications" in the top menu.
- 2. Click "Send Data to Radio".
- 3. Read and follow each step. (Remember, the keystrokes are different for each radio. They are even different for this process than they were for the Get Data from Radio process. They are detailed for a particular radio on the Get send data to radio screen. The trick is to follow each step... one at a time.)

#### Cable Issues

#### Check that you are using the correct cable for this radio.

Many radios have jacks that will accommodate the programming cable from a different radio. Although the cable fits in the jack, the radio does not accept programming through the wrong jack.

You can see the cables for each radio by clicking on Programming Cable Chart

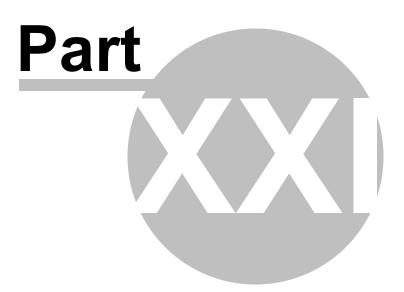
#### Check that the cable is securely in the USB Port.

Be sure it has not pulled loose (this is easy to do with a USB). Also, the cable should be plugged into a USB port on the computer rather than on a USB hub.

#### Check that the cable is plugged into the radio securely.

On cables with 6- or 8-pin round din plugs, you may want to check that the pins are not bent in such a way that they are making a bad connection. Unplug the cable from the radio and check by looking at the pins in the plug.

On cables with 4, 6, or 8 pin modular plugs that address the mic jack, push the cable toward the connector to be sure the modular plug is plugged into the mic jack completely. There can be a good bit of play between the mic jack and the plug. Hold the cable securely until the process is complete.



#### 21 Contact Us

#### *RT Systems, Inc.* 510 Compton Street, Suite 105 Broomfield, CO 80020

Technical support	303-586-6510
Fax	770-216-1836
Technical Support Hours	Monday through Friday 10:30AM until 6:00 PM (Eastern Time) 9:30AM until 5:00 PM (Central Time) 8:30AM until 4:00 PM (Mountain Time) 7:30AM until 3:00 PM (Pacific Time) Other times by appointment. Call or e-mail to make arrangements.
Web Page	www.rtsystemsinc.com Program updates Answers to frequently asked questions can be reviewed under FAQs on our site.
E-mail	<ul> <li><u>techsupport@rtsystemsinc.com</u></li> <li>Should you choose to send a message via e-mail, be sure to include at the very least the following details:</li> <li>The radio with which you use the Programmer</li> <li>The version number of the Programming software</li> </ul>

(found in the Programmer under Help | About)

Based on the information given, we will respond as quickly as possible.

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