

Getting Started with RTTY Contesting

MM-DD HH:MM Call Freq Name Sect M1 M2

07-16 05:29	NA7RH	7101.56	BOB	AZ		
07-16 05:32	NN4K	3584.64	MAC	GA		
07-16 05:33	KC3HPS	3584.64	ANDREW	MD		
07-16 05:33	KM4ALP	7101.56	BRIAN	FL		
07-16 05:35	WV2ZOW	7101.56	MIKE	NJ		
07-16 05:39	K5CM	7101.56	CON	OK		
07-16 05:40	K5HPS	7101.56	MIKE	OK		

Band	QSOs	Pts	Sec	Mt2	Pt/Q
3.5	83	83	27	0	1.0
7	243	243	43	2	1.0
14	232	232	50	4	1.0
21	37	37	17	1	1.0
28	5	5	5	0	1.0
Total	600	600	142	7	1.0

Score: 89,400
1 Mult = 4.0 Q's

RTTY Engine 1

View(V) Option(O) Profiles(S)

Control

FIG Mark 2121 Hz Type Rev HAM

UOS Shift 170 Hz SQ Not BPF

TX BW 60 Hz

TXOFF AV 70 Hz ATC NET AFC

14090.00 RTTY K3 - VFO A

File Edit View Tools Config Window Help

RTTY

160

80

40

20

15

10

Run S&P

F1 CQ F2 Exch F3 RPT E F4 K9WX

F7 K9WX-4 F8 AGN F9 NAME? F10 QTH? F11 AGN

Esc: Stop Wipe Log It Edit Mark Store Spot It QRZ

Heading appears here when enabled.

Call history UserText appears here when enabled.

0 spots loaded after filtering. 600/142/7 89,400

Letters/Figs

C KBWKKWX

GWFOW ZGJAYXX

CQ NA K9WX K9WX CQ

UM;h1:)031529\$SYU

/)

A

PDW

VLWUUEH

1hXVIAGHNKZKVVK

K9WX

Align TX

Tim K9WX

FTx: A Digital DXCC and Dxpedition Game Changer

Baker Island KH1/KH7Z June/July 2018

Mode	QSOs
CW	32,442
SSB	18,908
FT8	16,671
RTTY	931

FT8 was less than 1 year old!



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FTx: A Digital DXCC and Dxpedition Game Changer

- I just worked a new one on FT8 with my attic dipole!



Are you a FTx basher?

- I just worked a new one on FT8 with my attic dipole!

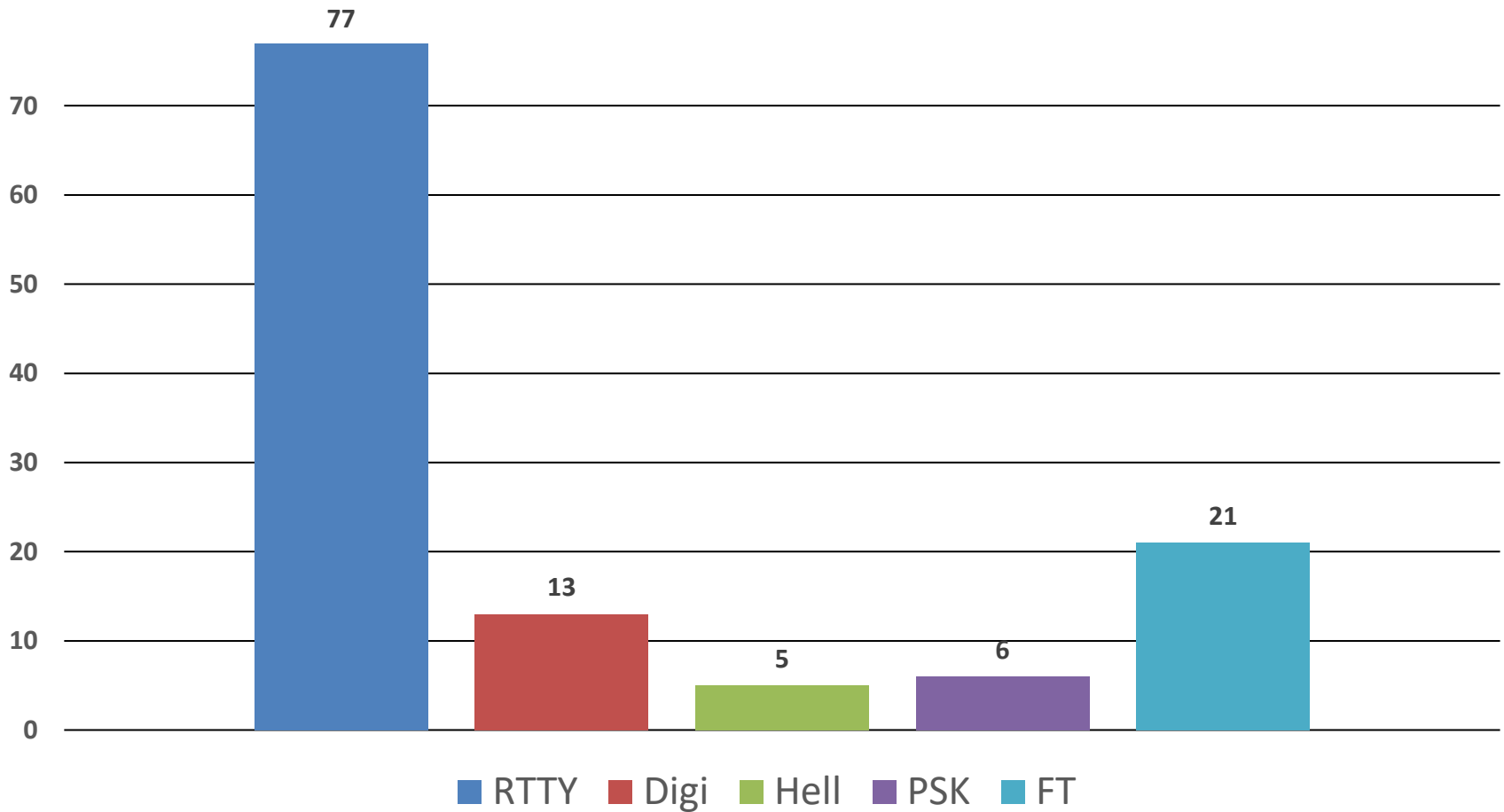
**THAT'S
NOT HAM
RADIO!!!**



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Digital Mode Contests on ContestCalendar.com

May 2022



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My RTTY History

If we're going to
have a
relationship, you
should know I like
RTTY.

First
licensed
September
1993



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My RTTY History

If we're going to
have a
relationship, you
should know I like
RTTY.

My first HF
QSO
January
1994



My RTTY History

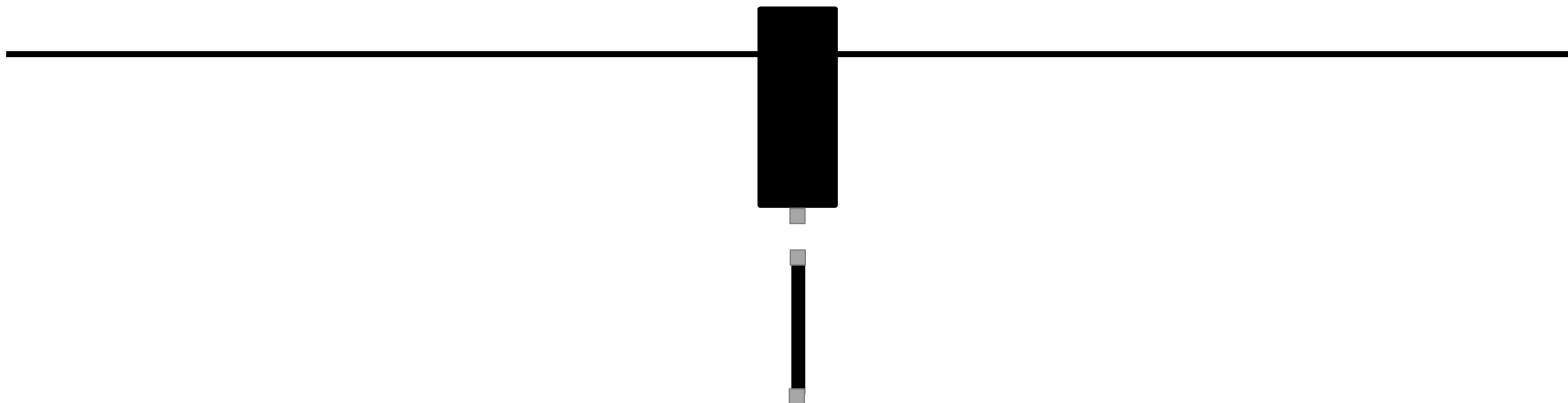
If we're going to
have a
relationship, you
should know I like
RTTY.

First RTTY
QSO 4
Years Later:
March
1998!



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What You Need: CW



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What You Need: Phone



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What You Need: RTTY



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What You Need: RTTY



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Presentation Overview

- Why I like RTTY contesting
- Operating demonstration
- Three decisions to make as you get started
- RTTY messages



A Tale of Three Surveys

- 2010 AA5AU and rttycontesting.com
- 2015 AA5AU and rttycontesting.com
- 2021 K9WX



Why Do I Like RTTY Contesting?

What makes a great operator?

- On Phone and CW: Ability to copy is THE skill that separates great testers from average.
- RTTY: Ability to copy is simply not a factor. The decoder copies for you.



Why Do I Like RTTY Contesting?

- The RTTY operator can bring other skills, techniques and strategies to the chair
- High-performance contesting is enabled for more participants



Why Do I Like RTTY Contesting?

- On a good day, I am an average CW contester
- On an average day, I am a good RTTY contester
- It doesn't matter what day it is, I am a lousy Phone contester



Why Do I Like RTTY Contesting?

CW contesting is a lean-forward experience:

- Tense
- White-knuckled
- Straining to hear every dot and dash through the static



Why Do I Like RTTY Contesting?

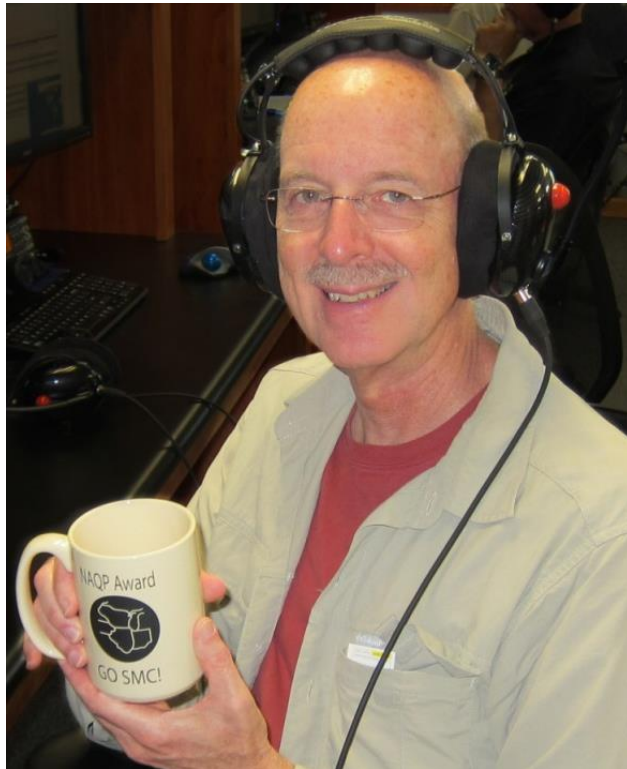
RTTY contesting is a lean-back experience

- More relaxed
- Calmer
- I let the computer do some of the hard work

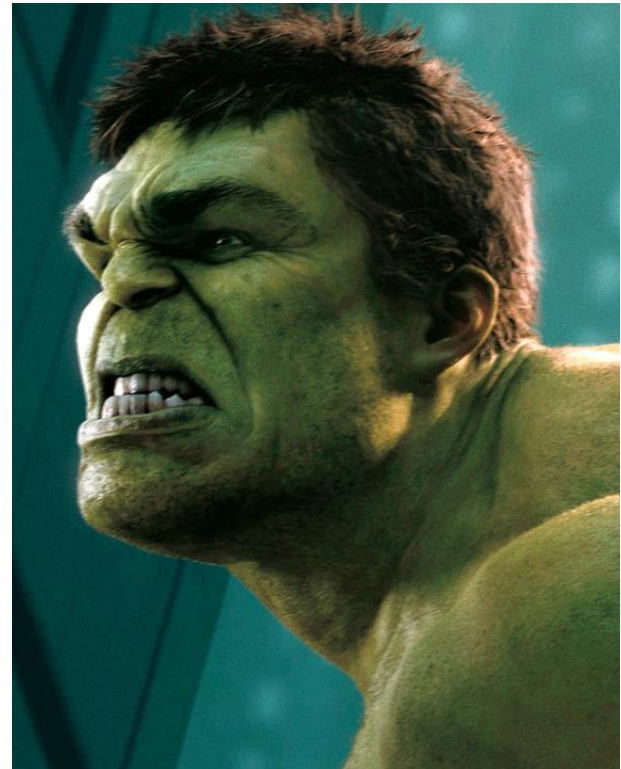


Why Do I Like RTTY Contesting?

After RTTY Contest



After CW Contest



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Operating Essentials

When operating RTTY:

- Think mouse, not keyboard
- You can operate 95% of a RTTY contest with the mouse, never touching the keyboard



Operating Essentials

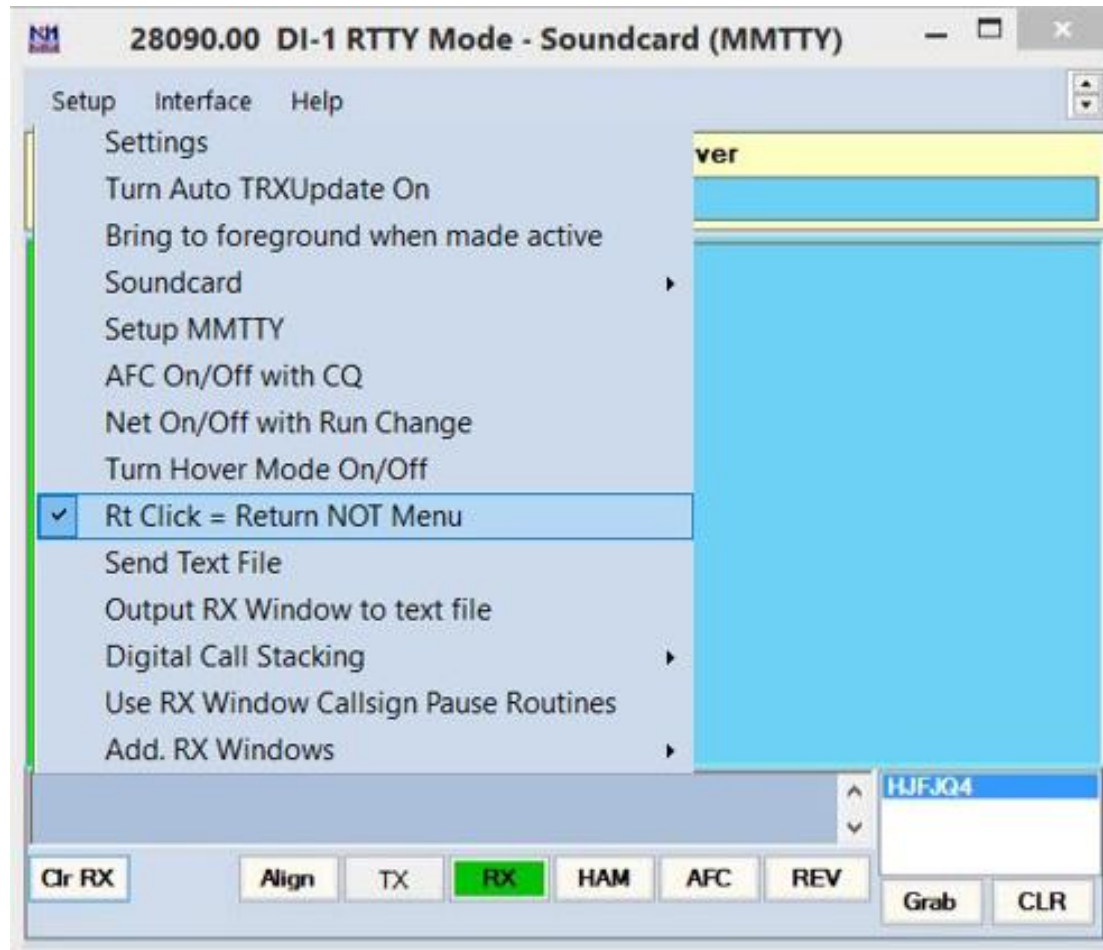
N1MM and MMTTY as Operating Partners

The image displays two software windows used for RTTY operation. The top-left window is titled "RTTY Engine 1" and shows a control panel with various settings like Mark, Shift, BW, and AV, along with a waterfall display. The bottom-left window is titled "28090.00 RTTY Elecraft K3" and shows a menu bar, a list of RTTY frequencies, and a grid of function keys (F1-F12). The "S&P" (Send & Print) button is circled in red, and the "F4 K9WVX" button is also circled in red. The right window is titled "28090.00 DI-1 RTTY Mode - Soundcard (MMTTY)" and shows a large display area with the text "WANOR ETUA" and a "MouseOver" section. The bottom of this window has buttons for "Clr RX", "Align", "TX", "RX", "HAM", "AFC", "REV", "Grab", and "CLR".

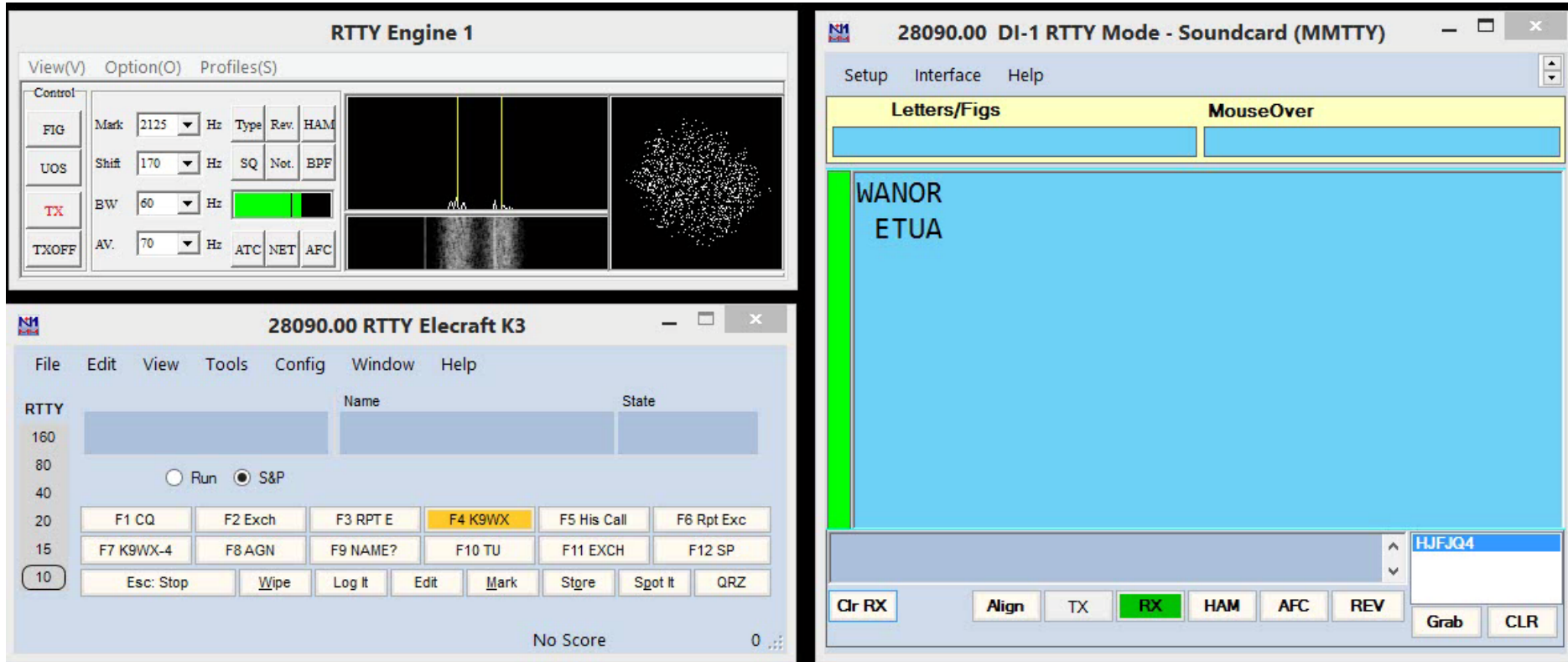


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Operating Essentials



Operating Essentials



The image displays three screenshots of RTTY (Radio Teletype) software interfaces, arranged in a 2x2 grid with the bottom-right cell empty.

- Top Left: RTTY Engine 1**
 - Menu: View(V) Option(O) Profiles(S)
 - Control Panel:
 - FIG: Mark 2125 Hz, Type Rev, HAM
 - UOS: Shift 170 Hz, SQ Not, BPF
 - TX: BW 60 Hz, [Green Bar]
 - TXOFF: AV 70 Hz, ATC NET AFC
 - Visuals: Two side-by-side displays. The left shows a waveform with two vertical yellow lines. The right shows a scatter plot of signal activity.
- Bottom Left: 28090.00 RTTY Elecraft K3**
 - Menu: File Edit View Tools Config Window Help
 - RTTY Section:
 - Name: [Empty]
 - State: [Empty]
 - Run: ☐ Run ☒ S&P
 - Function Keys: F1 CQ, F2 Exch, F3 RPT E, F4 K9VWX (highlighted), F5 His Call, F6 Rpt Exc, F7 K9WX-4, F8 AGN, F9 NAME?, F10 TU, F11 EXCH, F12 SP
 - Bottom Row: Esc: Stop, Wipe, Log It, Edit, Mark, Store, Spot It, QRZ
 - Status: No Score 0
- Top Right: 28090.00 DI-1 RTTY Mode - Soundcard (MMTTY)**
 - Menu: Setup Interface Help
 - Letters/Figs: [Empty]
 - MouseOver: [Empty]
 - Main Display: Large blue area showing the text "WANOR ETUA" in white.
 - Bottom Section:
 - Call Sign: HJFJQ4 (in a dropdown)
 - Buttons: Clr RX, Align, TX, RX (highlighted), HAM, AFC, REV, Grab, CLR

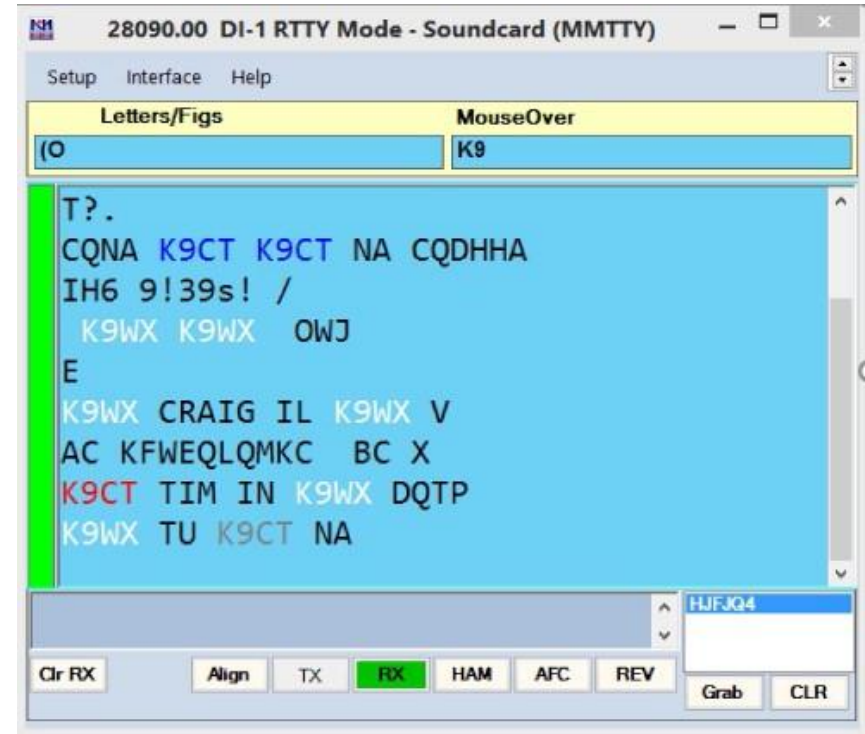
NAQP RTTY



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Operating Essentials

- Decodes in real time
- 20 seconds or less to make a QSO
- Is FT4 faster for contesting?



Operating Essentials

- “There has been no hyping of FT4... and we did not suggest that FT4 should necessarily be superior to FT8 for contesting.”

K1JT, December 2021



Operating Essentials

- Easily detect if someone else is on your frequency



Operating Essentials

- Allows for custom messages



Operating Essentials

- Allows for custom messages



Operating Essentials

- Opportunities to develop operator tricks and techniques



Three Important Decisions

- TX: AFSK or FSK?
- Radio to PC interface
- Software

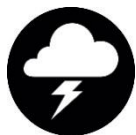
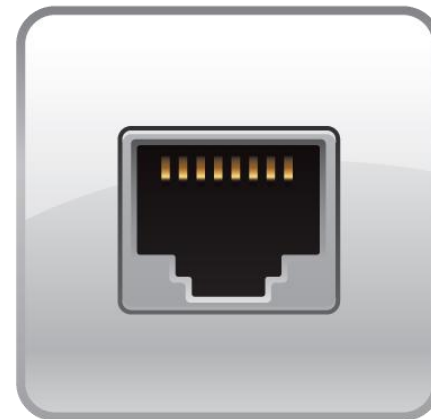


Technology Changes Over Time: The Flintstone vs. The Jetsons



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Flintstones Jetsons

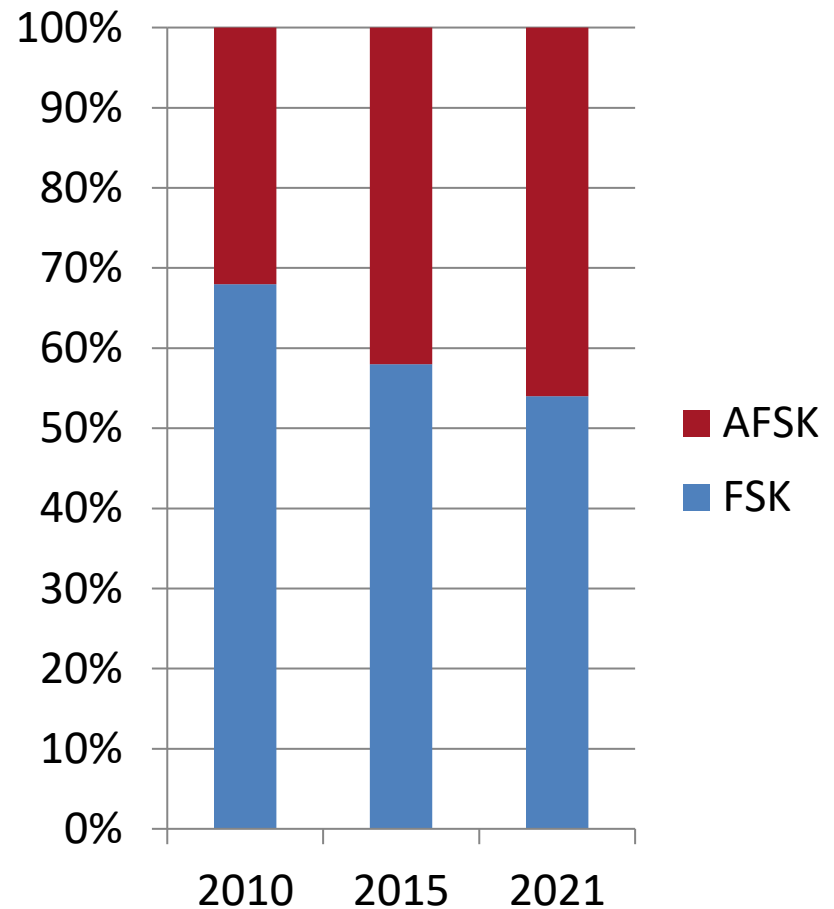


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AFSK or FSK?

- Use of AFSK is growing.

Source: rttycontesting.com (2010, 2015)
and K9WX (2021)



AFSK or FSK?

FSK: Frequency Shift Keying

- Directly keys transmitter like CW
- Alternating carriers 170 Hz apart
- A radio-specific feature
- Radio mode is RTTY or FSK



AFSK or FSK?

AFSK: Audio Frequency Shift Keying

- Audio tones generated in PC's sound card, fed into mic or aux audio input on the radio
- OR, audio tones are generated by the radio's sound CODEC
- Radio mode may say AFSK, AFSK-R, Digi-L, RTTY
- Radio TX is really LSB



AFSK or FSK?

AFSK

- Any LSB radio
- May be limited by SSB filters
- Dial = suppressed carrier freq.
- VOX
- Sound card/radio CODEC for TX
- Manage audio levels, compression, Windows sounds

FSK

- Radio specific
- RTTY RX filters
- Dial = Mark freq.
- PTT
- Com port for TX
- No audio level worries



AFSK or FSK?

FSK or AFSK, which should you use?
The answer is:

*It won't make any difference to your
QSO partners.*



AFSK or FSK?

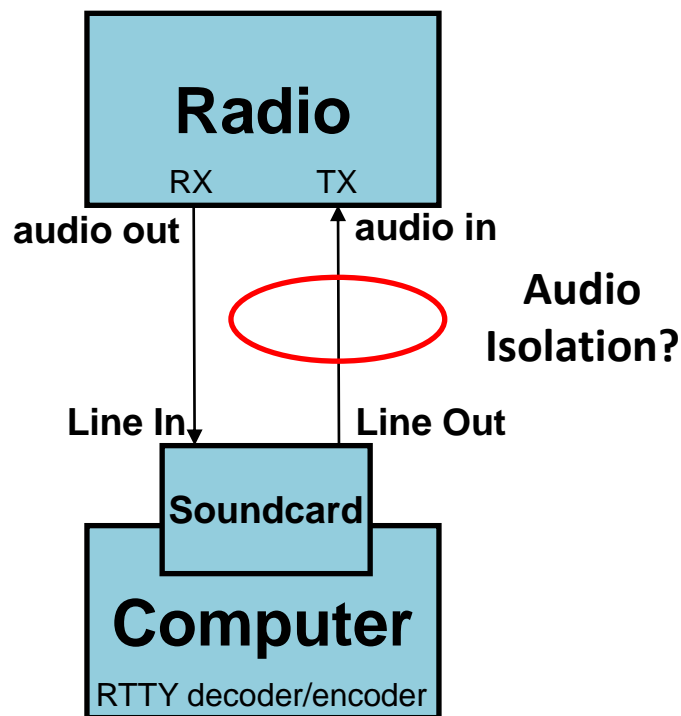
FSK or AFSK, which should you use?

The interface and setup used for FT8 may also work for AFSK RTTY.



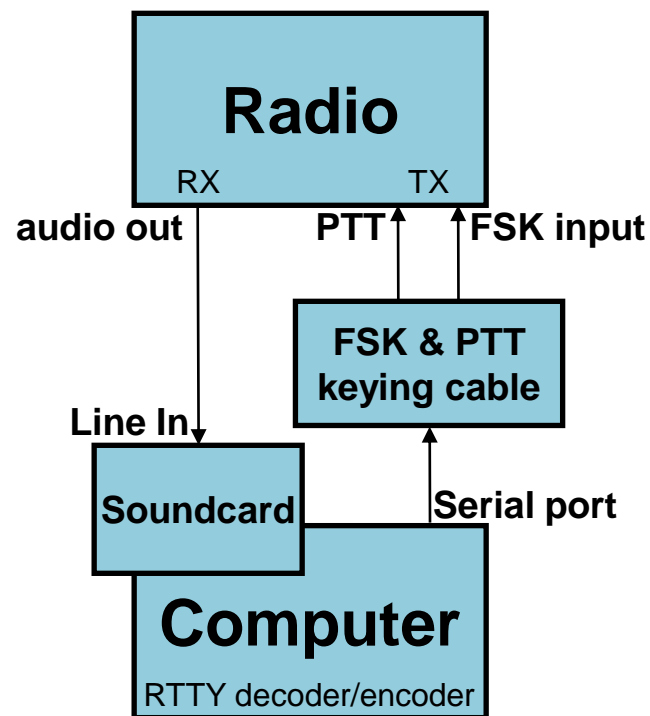
Radio to PC Connection

AFSK



Should work for FTx.

FSK

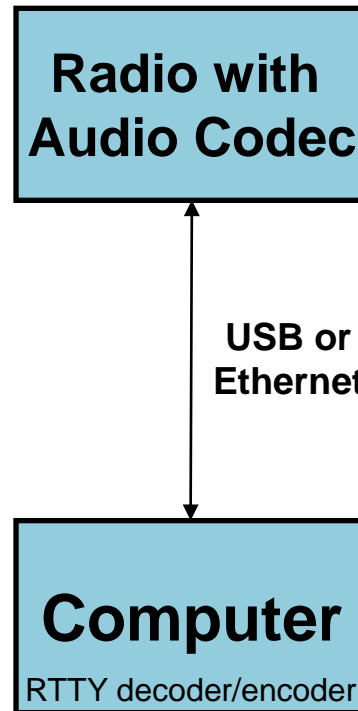


Will not work for FTx.



Radio to PC Connection

AFSK & Maybe FSK

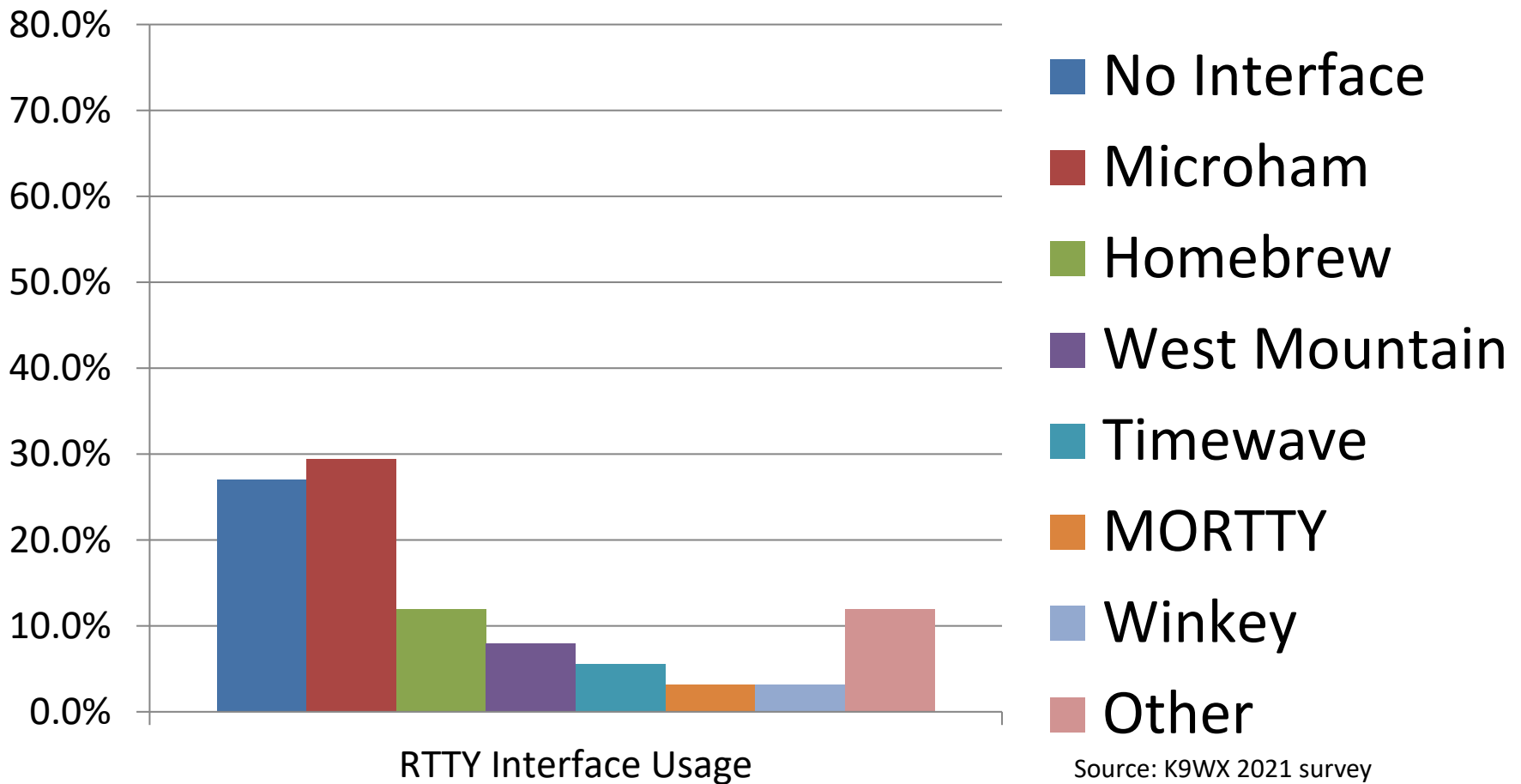


Should work for FTx.

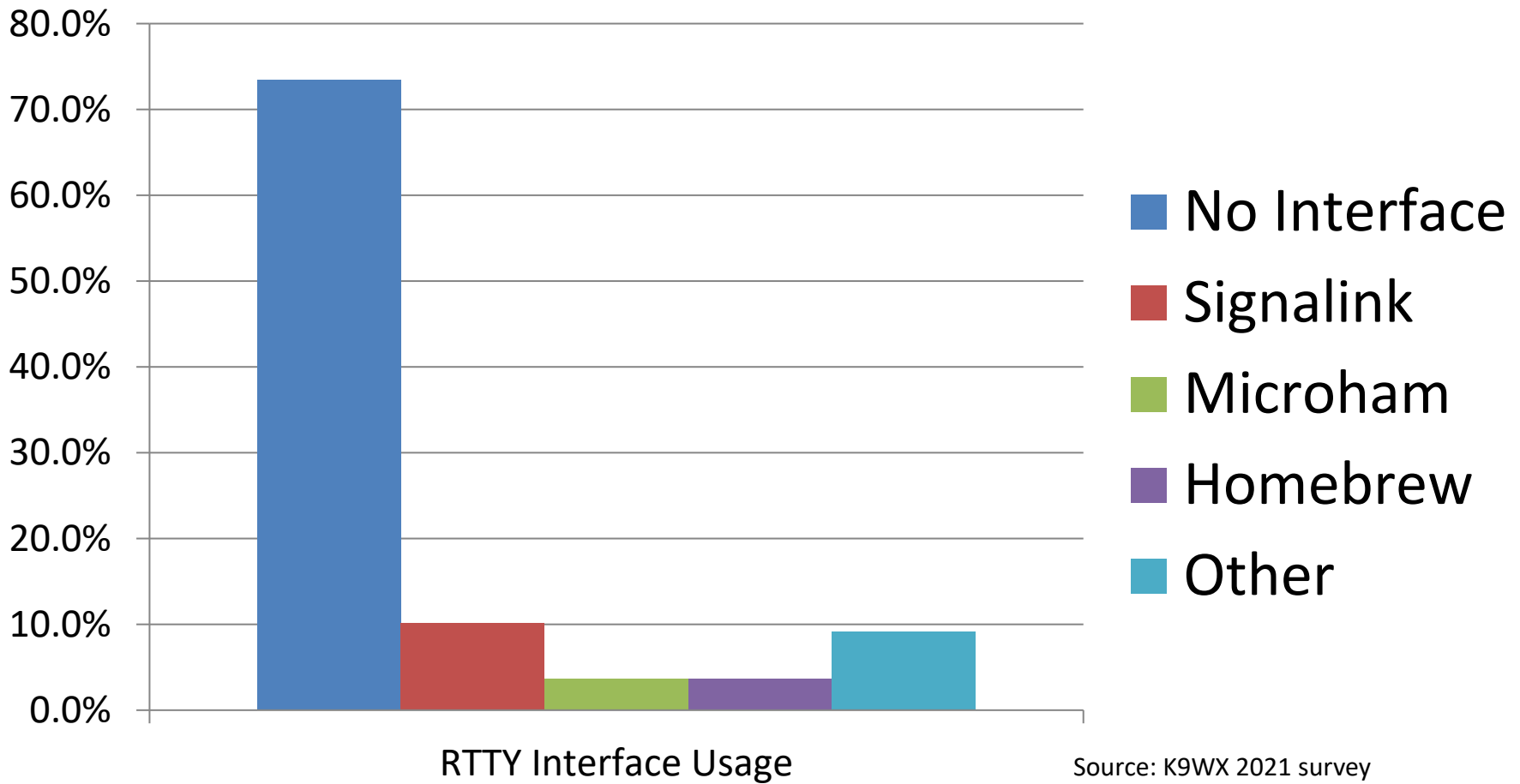


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Radio to PC Connection: FSK



Radio to PC Connection: AFSK



Radio to PC Interface: Commercial?

Radio-specific
cables
available at an
additional cost



RTTY Software

RTTY Software should:

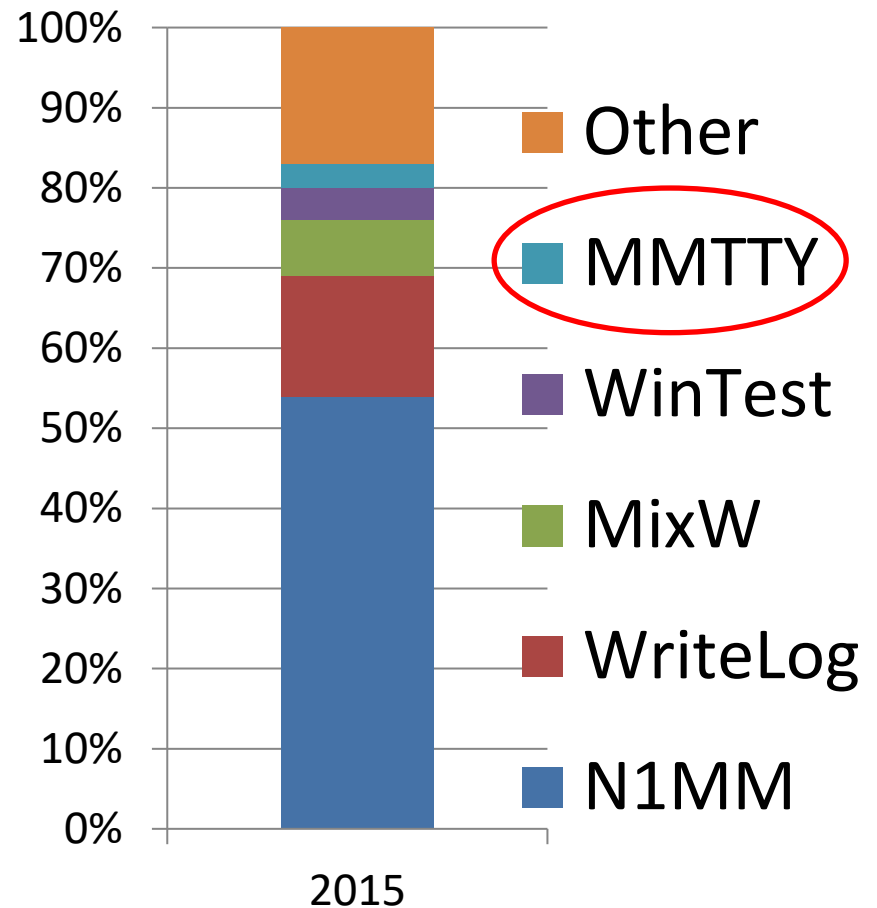
- Encode your transmissions
- Decode received signals
- Log your QSO's
- Provide contest-enhancing functionality:
telnet, rates, multipliers, real-time scoring



RTTY Software

RTTY Software

- N1MM and WriteLog accounted for nearly 70% of all users
- N1MM share was growing while all other shares were shrinking



Source: rttycontesting.com

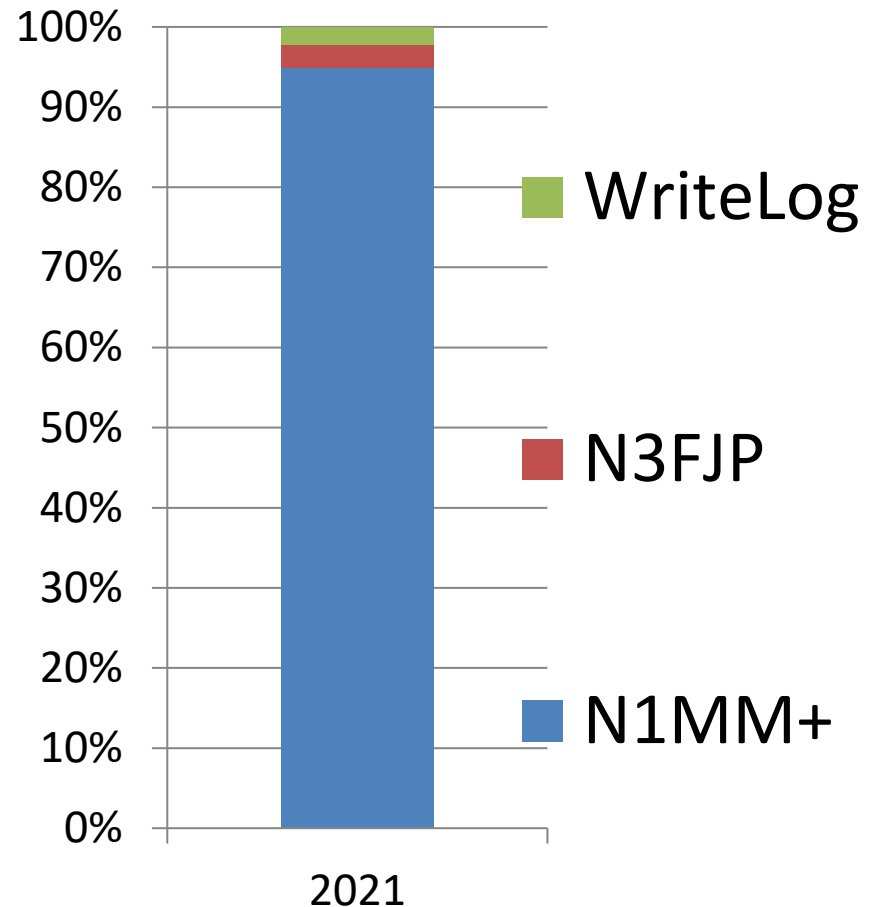


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RTTY Software

RTTY Software

- N1MM+ has become the dominant contest logger for RTTY in North America
- Does not have a native RTTY feature



Source: contestonlinescore.com July 2021 NAQP RTTY



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RTTY Software

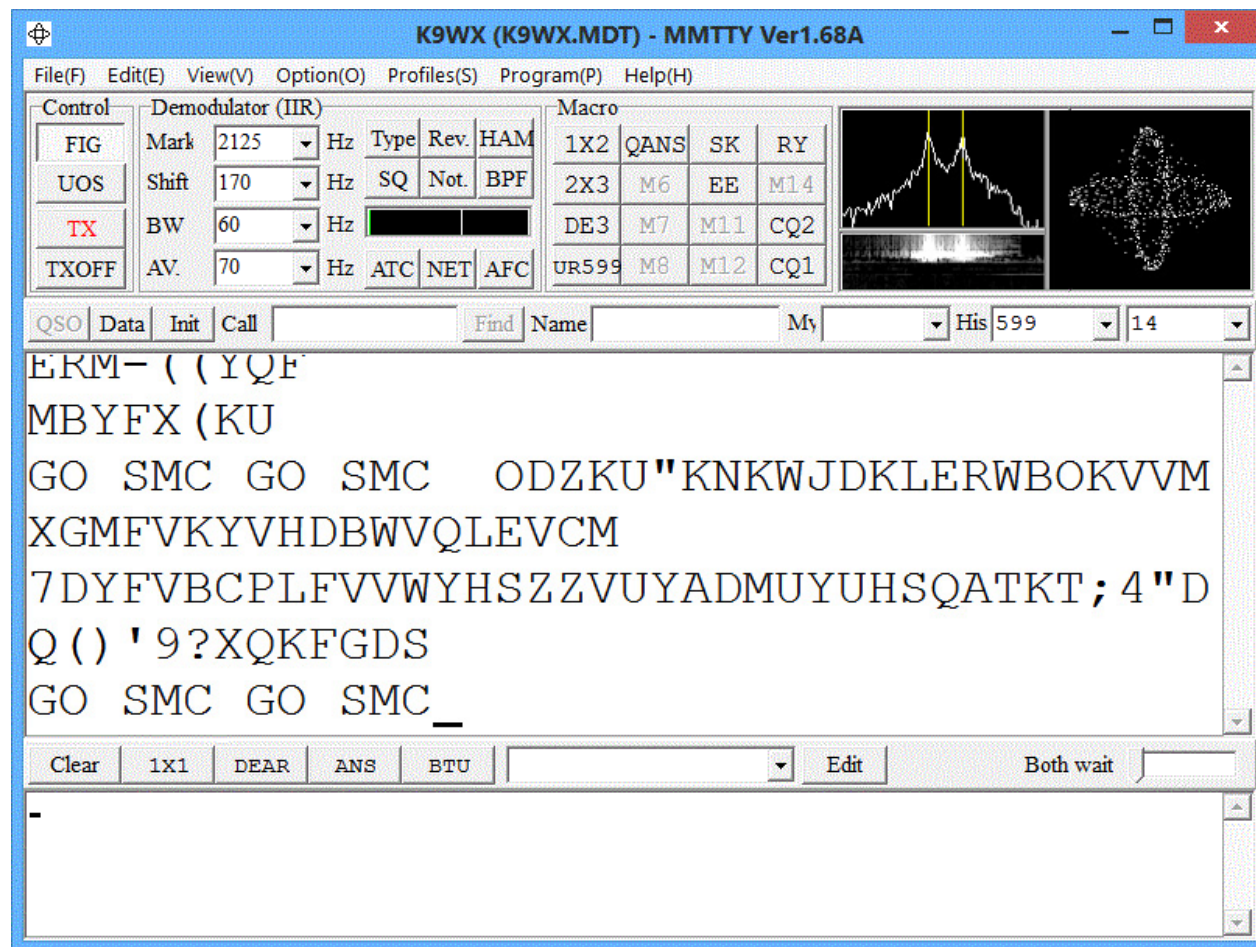
MMTTY

- Has a contest interface but probably not your first choice for contest software
- Has an excellent decoder
- Extensively used as a decoder/encoder with N1MM and WriteLog
- Get MMTTY working on a stand-alone basis as your first step (hamsoft.ca)



RTTY Software

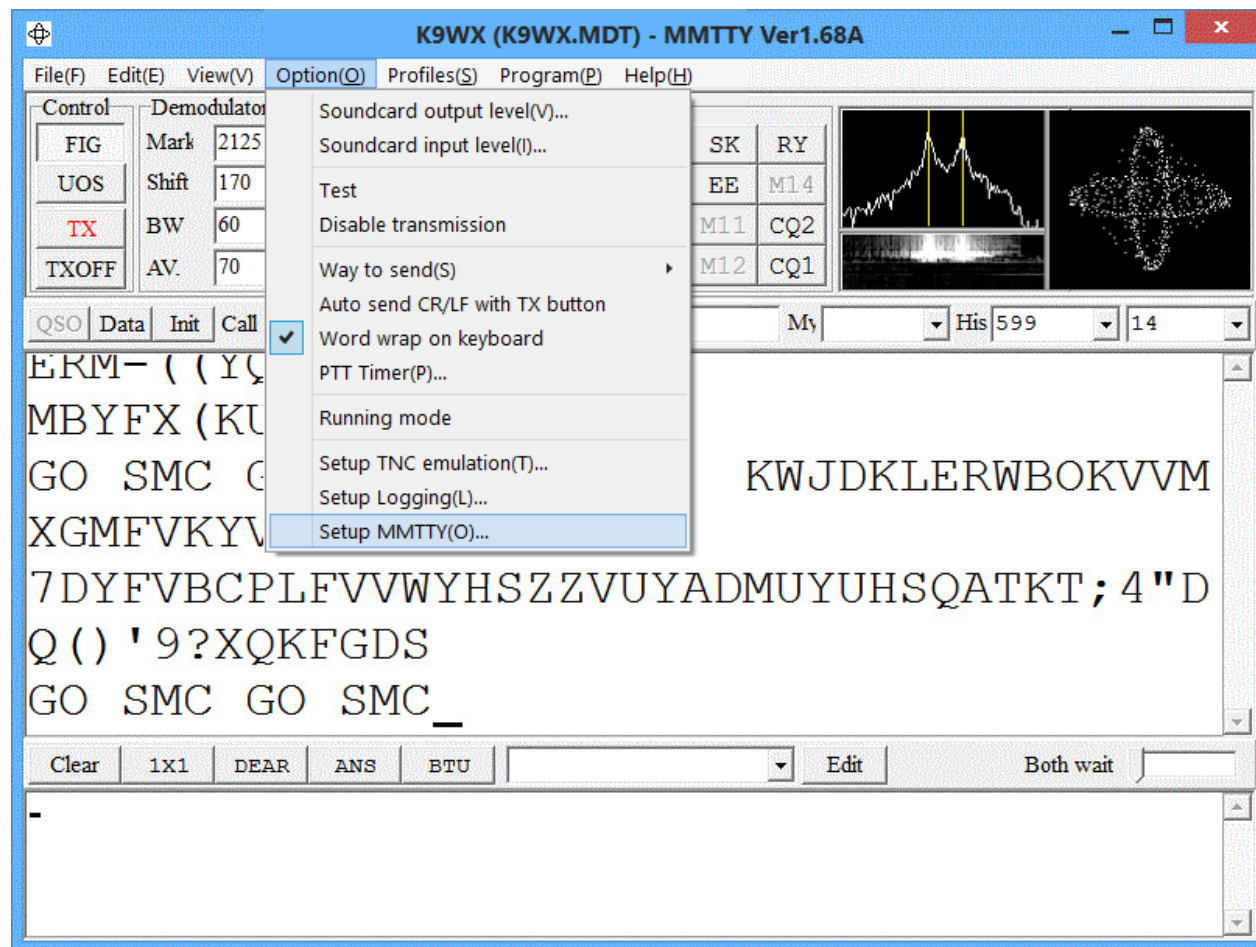
MMTTY Set up



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RTTY Software

MMTTY Set up

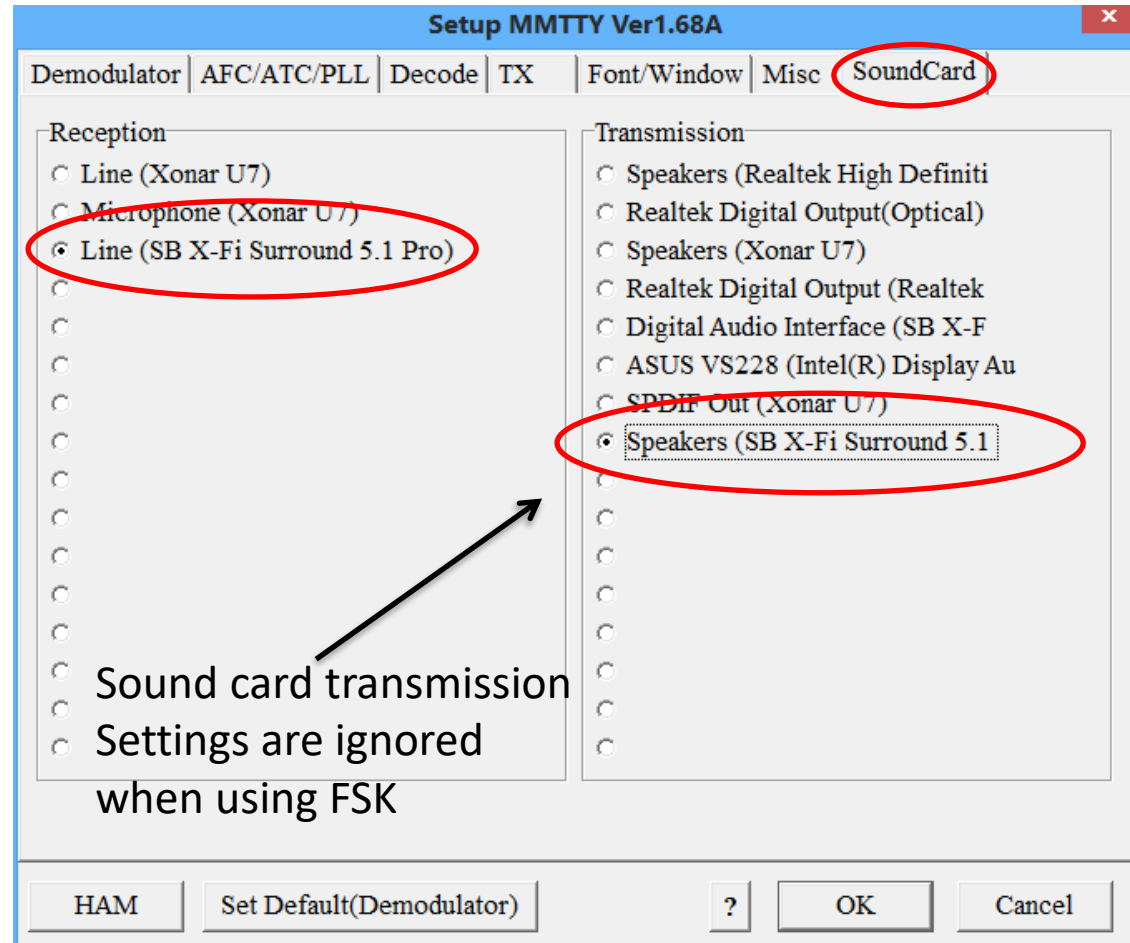


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Getting Started with RTTY

MMTTY Set up

*Make sure all
cables are
connected
before running
MMTTY!*



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RTTY Software

Integrate
MMTTY
with
N1MM

The screenshot shows the 'Configurer' window for N1MM, with the 'Digital Modes' tab selected. The window has a green title bar and a tabbed interface. The 'Digital Modes' tab is highlighted with a red circle. Within this tab, the 'Digital Ir TU Type' dropdown is set to 'Soundcard' (circled in red). The 'DI-1 MMTTY Setup (if used)' section is also circled in red, showing 'MMTTY Mode' set to 'AFSK' and 'MMTTY Path' set to 'C:\MMTTY\MMTTY.EXE'. Other sections like 'DI-2 MMTTY Setup', 'DI-1 Fldigi Setup', 'DI-2 Fldigi Setup', 'DI-1 MMVARI Setup', and 'DI-2 MMVARI Setup' are visible but not circled. A note at the bottom right states: 'Note: Any Changes made in this section will require the digital windows to be closed'. The window has 'OK', 'Cancel', and 'Help' buttons at the bottom.

Configurer

Hardware Function Keys **Digital Modes** Other Winkey Mode Control Antennas Score Reporting Broadcast

Digital Ir TU Type: Soundcard

Digital Ir TU Type: None

DI-1 MMTTY Setup (if used)
MMTTY Mode: ☒ AFSK ☐ FSK
MMTTY Path: C:\MMTTY\MMTTY.EXE [Select]

DI-2 MMTTY Setup (if used)
MMTTY Mode: ☒ AFSK ☐ FSK
MMTTY Path: Not Set [Select]

DI-1 Fldigi Setup (if used)
Fldigi Path: Not Set [Select]

DI-2 Fldigi Setup (if used)
Fldigi Path: Not Set [Select]

DI-1 MMVARI Setup
MMVARI RTTY Mode: ☒ AF ☐ FS [Select]

DI-2 MMVARI Setup
MMVARI RTTY Mode: ☒ AF ☐ FS [Select]

Note: Any Changes made in this section will require the digital windows to be closed

OK Cancel Help



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RTTY Software

Getting your hardware and software to work together can be challenging.

Don't be afraid to look for an Elmer!



Operating Essentials

“Radiosport is unique in that competitors must cooperate to score points.”

- Ed W0YK



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Operating Essentials

The Challenge for
your RTTY messages:
Find the balance
between

- Short (speed)
- Longer with added redundancy (fewer fills or repeats)



Operating Essentials

Messages Matter

- Manage redundancy: How and when to repeat exchange elements
 - Signal reports: don't include if it's not part of the exchange
 - Signal reports: send once, don't repeat
 - Name & QTH: send once or twice
 - Serial numbers: send twice



Operating Essentials

Second
decoder

14085.13 DI-1 RTTY Mode - Soundcard (MMTTY)

Setup Interface Help

TX Letters/Figs MouseOver

LRX/7
WSY
9WX TU DE KC2IEB QRZ?
Y

K9WX K9WX OQFMGh9&
K9WX CHRIS NJ-CHRIS NJ-CHRIS NJ K9WX B
TIM IN IN A OVV3.
K9WX TU DE KC2IEB QRZ? XUT

Cir RX		Align	TX	RX	HAM	AFC	REV
K9WX-2	CQ	IN IN	TIM	TIM	IN IN	CQ	K9WX-2

N8EUI
N8EUIIM8EUI
AR8DY
KK4HEG
KD5ILA
VK9WX

Grab CLR



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Operating Essentials

14087.00 DI-1 RTTY Mode - Soundcard (MMTTY)

Setup Interface Help

TX	Letters/Figs	MouseOver
	K9WX JACK JACK JACK AR AR ARKANSAS	
	K9WX OF XQ	
	8/4- X	
	185+9# K9WX QSL TU TIM DE KD5ILA CQ	
	785") K9WX QSL TU TIM DE KD5ILA CQ	
	ZPHLMJ,7749'	
	; :	

Clr RX		Align	TX	RX	HAM	AFC	REV
K9WX-2	CQ	IN IN	TIM	TIM	IN IN	CQ	K9WX-2

KD5ILA
VK9WX
KS1OU
KF5MU
W1QKYTEMCS
WB2COY

Grab CLR



Operating Essentials

7091.88 DI-1 RTTY Mode - Soundcard (MMTTY)

Setup Interface Help

Letters/Figs	MouseOver

U XXMN
N6DW DE VE3ZDR
PSE COPY DAVE ON DAVE ON
JFMDO

PSE COPY DAVE ON DAVE ON
JLH
MJGTYAQFNZO O

Clr RX		Align	TX	RX	HAM	AFC	REV
K9WX-2	CQ	IN IN	TIM	TIM	IN IN	CQ	K9WX-2

N6DW
VE3YDJ
K3GP
NA8ARY
N5RN
KE4S

Grab CLR



Operating Essentials

7079.72 DI-2 RTTY Mode - Soundcard (MMTTY)

Setup Interface Help

TX	Letters/Figs	MouseOver
'1		GSQ

2
1

KEKMIX
K9WX DE VE3NUM
PSE COPY ADRIENNE ON ADRIENNE ONAWA83
BAS TBCUSKM KL GSQ

K9WX DE VE3NUM

PSE COPY ADRIENNE ON ADRIENNE ON

CLUE HQ 040000 040

Clr RX		Align	TX	RX	HAM	AFC	REV
K9WX-2	CQ	IN IN	TIM	TIM	IN IN	CQ	K9WX-2

Grab CLR



Operating Essentials

Messages Matter

- Run the default messages for your software for your first contest
- Then work on optimizing your messages
- Many expert RTTY contesters now recommend the use of CW-like messages
- Adjust redundancy, on-the-fly if necessary, to match band conditions



Operating Essentials

Try these:

- Reduce fatigue by lowering headphone volume to a bare minimum
- Eliminate headphones entirely
- Learn your software and try out new features
- Automate yourself – develop muscle memory



Operate!

The next NAQP RTTY is
July 16!



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Getting Started with RTTY Contesting



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