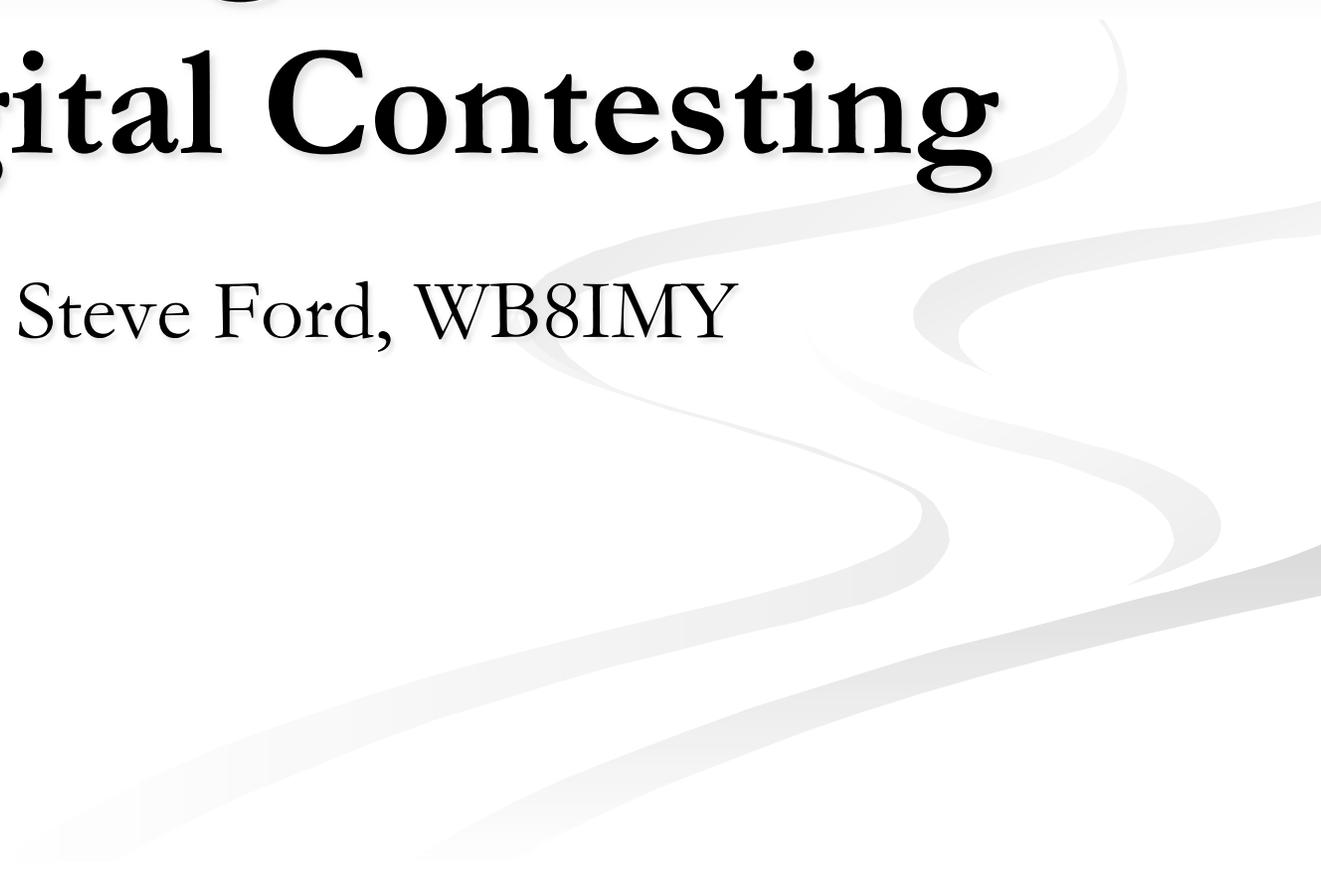


**MicroHAMS Digital Conference 2009**

# **Getting Started in Digital Contesting**

Steve Ford, WB8IMY

The background of the slide features several light gray, wavy, horizontal lines that sweep across the lower half of the page, creating a sense of motion and depth.

# Why Contest at All?

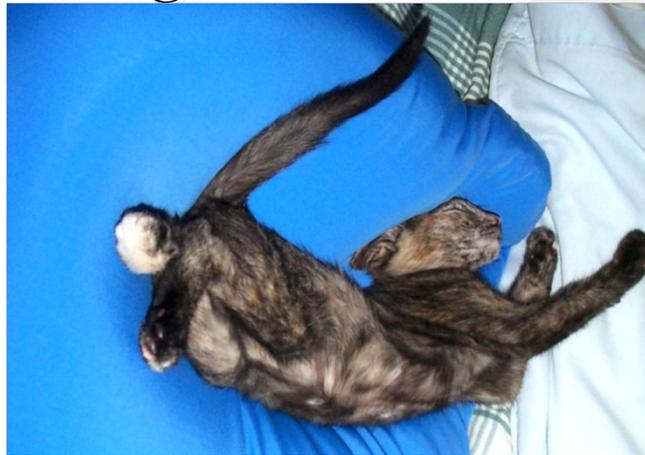
- To enjoy the pleasure of the challenge – you against the world or just you against yourself
- To sharpen your operating skills
- To better understand your station
- To better understand the vagaries of propagation
- To contact states, grids, counties, DXCC entities, etc for various awards

# Contesting is Growing

- Despite poor HF propagation, the 2008 ARRL CW and Phone Sweepstakes saw a record number of log submissions
- The 2009 RTTY Roundup set an all-time record with 1,564 logs submitted
- Even VHF contesting, which has been in a decade-long slump, is on the rise

# Why *Digital* Contesting?

- It is easy on the body – no sore throats or worn out fingers
- It lets you explore the pleasures of integrating your computer and your radio
- You don't need a big station to make a difference
- It's *quiet!*



# RTTY Is the King of Digital Contesting

- Radioteletype (RTTY) is one of the oldest digital modes in Amateur Radio, but it remains the most popular mode for digital contesting.
- RTTY is fast (as fast as most of us can type) and it avoids the “capture effect” common to other digital modes (where the strongest station is the only one copied).

# Other Contest Modes

- There are also PSK31 contests and even Hellschreiber contests, but none have yet matched the popularity of the RTTY slugfests.

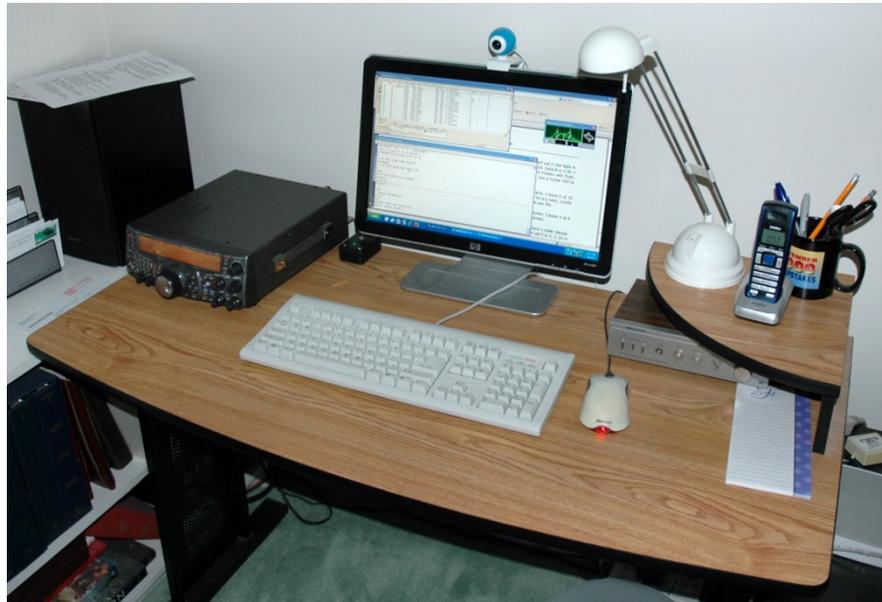


# 14 Major RTTY Contests per Year

- First weekend in January **ARRL RTTY Roundup**
- Second weekend in February **CQ World Wide WPX RTTY Contest**
- Fourth weekend in February **North American QSO Party**
- Third weekend in March **BARTG Spring RTTY Contest**
- First weekend in April EA RTTY Contest
- Second weekend in May A.Volta RTTY DX Contest
- Second weekend in June ANARTS WW RTTY Contest
- Third weekend in July **North America QSO Party**
- Third weekend in August SARTG RTTY Contest
- Last weekend in September **CQ WW RTTY DX Contest**
- Second weekend in October BARTG RTTY SPRINT
- Third weekend in October JARTS World Wide RTTY Contest
- Second weekend in November Worked All Europe DX Contest
- Third weekend in December **OK DX RTTY Contest**

# RTTY and the Casual Contester

- Casual contesting is competition for the sheer fun of it, on your own terms as your time permits.
- Many contesters are casual with very modest stations
- Digital contesting is ideal for modest stations because you can accomplish a lot with relatively little power and minimal antennas



MicroHAMS Digital Conference 2009

# What Do You Mean You Don't Have a Digital Station?

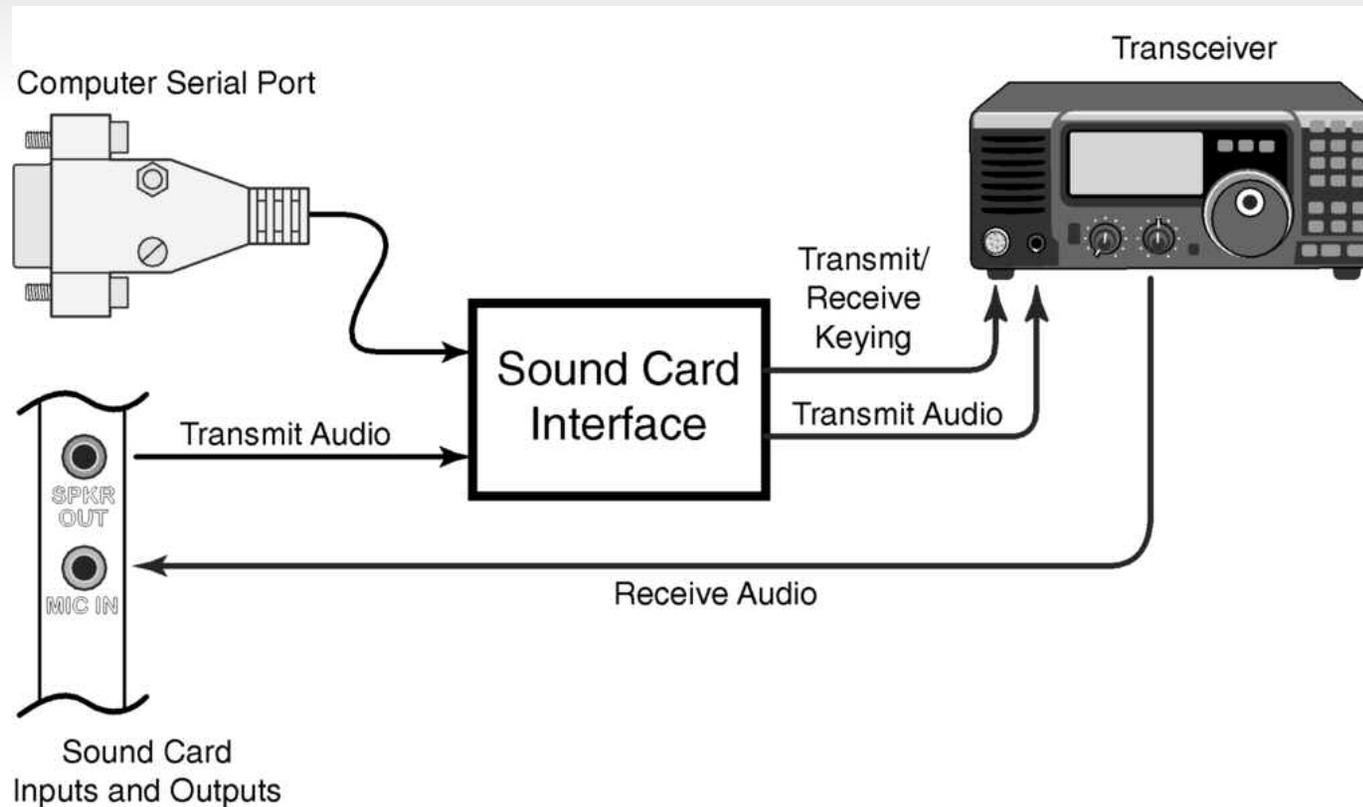
All you need is . . .

- An HF SSB transceiver
- A computer with a sound card or sound chipset
- A sound card interface
- Software
- Refreshments optional

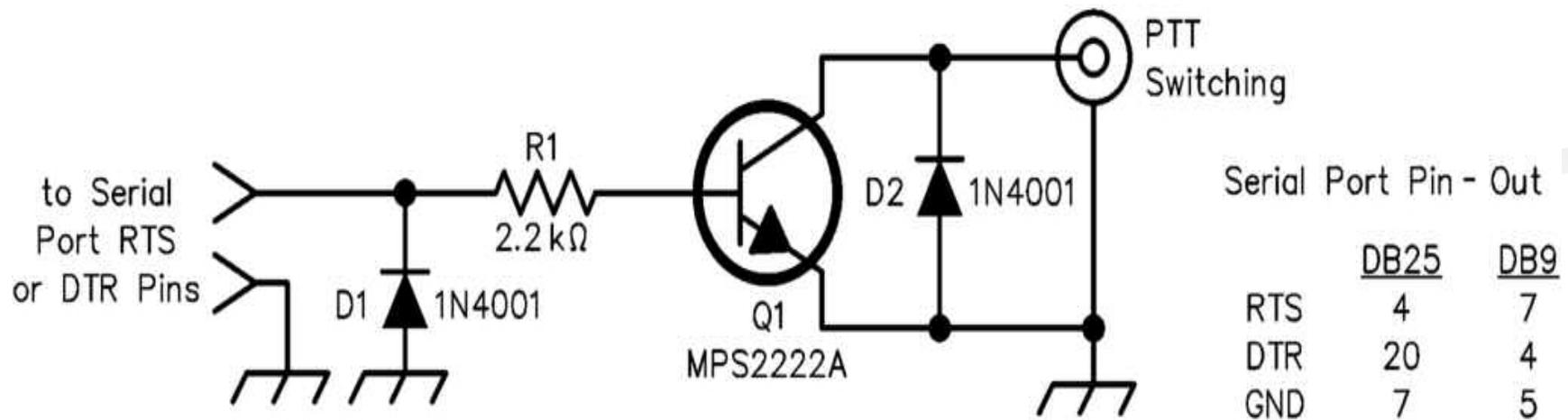


# Sound Card Interfaces

- They can be simple or complex



# If All You Want to do Is Control Transmit/Receive Switching, a Single Transistor Does the Trick



# Or You Can Buy an Interface Off the Shelf



# Digital Contest Software

- Contest-specific programs are best because they provide all the features you need . . .

Automatic scoring

Duplicate contact checking

Multiplier tracking

Log submissions

# WriteLog

- \$30 from <http://www.writelog.com/>
- Includes sound-card based RTTY functionality

The screenshot displays the WriteLog software interface. The main window, titled "roundup99.wl - WriteLog", features a radio control panel with fields for "Radio" (14087 KHzFSK), "SEQ" (853), "CALL" (KE3ZR), and "RCU" (599). Below this is a log table with columns for SEQ, TIME, FREQ, CALL, SNT, RCU, QTH, ML, and COUN. The log table contains several entries, with the last one highlighted in black: SEQ 852, TIME 1948, FREQ 14080, CALL W2JGR/0, SNT 599, RCU 599, QTH MN, ML Unit, COUN Unit.

Other windows include "60 WPM Baudot - Rttyrite" showing a log of RTTY text, "Tuning" with a waterfall plot, and "Band Summary" with a table showing scores for different bands:

Band	Score	QSO	Sta	Prov	Dx
80M	87,550	94	2	2	0
40M		231	7	1	16
20M		210	24	1	22

The "Rates" window shows statistics for the last 60 and 118 minutes, including "Time On" (16:22) and "Time Off" (10:35).

# N1MM Logger

- Free for downloading at <http://www.n1mm.com/>
- Does not include a RTTY application, but can be used with the free *MMTTY* software available at <http://mmhamsoft.amateur-radio.ca/mmtty/>

The screenshot displays the N1MM Logger software interface. The main window shows a log table with columns for Time, Call, Freq, SNT, RCV, Powe, Mult, and Prefi. The current frequency is 28025.00. A list of stations is visible on the left side of the interface. The bottom window shows a packet list with columns for Packet, Telnet, and a list of call signs and dates.

Time	Call	Freq	SNT	RCV	Powe	Mult	Prefi
02/16/02 00:18:42	I4EAT	3515.03	599	599	300	Yes	I
02/16/02 00:19:04	559A	3512.18	599	599	KW	Yes	55
02/16/02 00:19:54	9H1ZA	3502.14	599	400	Yes	9H	
02/16/02 15:33:46	OK2RZ	28019.80	599	599	K	Yes	OK
02/16/02 15:37:37	SN6N	28027.30	599	599	400	Yes	SP
02/16/02 15:38:39	SM6X	28031.32	599	599	1000	Yes	SM
02/16/02 15:39:28	OE8SKQ	28041.13	599	400	Yes	OE	
02/16/02 15:39:46	OH2U	28049.41	599	599	K	Yes	OH
02/16/02 15:40:05	EA88H	28057.45	599	599	K	Yes	EA8

Packet	Telnet
28155.7	L29V 16-Feb-2002 15482 LZ <K40J>
21100.2	OK2PKF 16-Feb-2002 15472 OK <V6TK>
28169.8	UR7LW 16-Feb-2002 15472 OSX CQ UR <K40J>
28120.6	VH2U 16-Feb-2002 15472 psk31 K <R94HIE>
28148.7	3V95M 16-Feb-2002 15472 ORP 3V <NDIG>
N1MM de N2TX 16-Feb-15512 arc >	
DX de VE7MJ:	28466.0 9L1BTB up 4 9L 15512 BC
DX de K3LR:	21056.7 0M7M OH 15502 PA

# Contest Tips and Tricks!

- Read the rules before the contest starts
- Choose your operating category . . .

**Single Op** All Band or Single Band?

**MultiSingle?** (Several operators, but only one transceiver)

**MultiMulti?** (Several operators on different transceivers)

# Contest Tips and Tricks!

- Know the exchange

Examples . . .

Signal report, serial number (beginning with 001) and time

Signal report and state

Serial number and age

Signal report and IARU Zone

- Many contest programs already “know” the necessary exchanges for all major contests

# OK DX Contest Example

The screenshot shows a terminal window titled "60 WPM Baudot - Rttwrite" with a menu bar (File, Edit, Port, Mode, IU type, FSK-Norm!, FSK-Rev!, Help). The terminal text is as follows:

```
WCIATTJPTO
CQ CQ OK TEST DE KK5OQ KK5OQ K
HGX
!(;9
IOTAI
CJ
J
CQ CQ OK TEST DE KK5OQ KK5OQ K
KXAO
GNLLDEA
LANMA T HV
CQ CQ OK TE
XB
RCN I
U3):
CQ CQ OK TEST DE KK5OQ KK5OQ K
D3NG DJ3NG M
UO
DJ3NG 599-04-04 BK
QSL! UR 599-1;-150U C
TEA
DJ3NG RRR TU 73 DE KK5OQ QRZ TEST K
DE SP5ZCC SP5ZCC
TB
TFTEJ
SP5ZCC 599-04-04 BK
UK5OQ P599 15 BOE
SP5ZCC RRR TU 73 DE KK5OQ QRZ TEST K
V
BMWAOZY RXC
CQ CQ OK TEST DE KK5OQ KK5OQ K
'98:
:0 NE
S$9
CQ CQ OK TEST DE KK5OQ KK5OQ K
```

Red annotations with arrows point to specific lines in the log:

- "KK5OQ finished with DJ3NG and sends 'QRZ Test'" points to the line: `DJ3NG RRR TU 73 DE KK5OQ QRZ TEST K`
- "He is answered by SP5ZCC" points to the line: `DE SP5ZCC SP5ZCC`
- "KK5OQ sends a signal report and the fact that he is in IARU Zone 4" points to the line: `SP5ZCC 599-04-04 BK`
- "SP5ZCC sends 599 IARU Zone 15" points to the line: `UK5OQ P599 15 BOE`
- "Done and on to the next!" points to the line: `CQ CQ OK TEST DE KK5OQ KK5OQ K`

At the bottom left, there is a "WriteLog ..." button with a close icon.

# Contest Tips and Tricks!

- “Running” vs. Searching and Pouncing



# Contest Tips and Tricks!

- Make it easy with *Macros* (*Writelog* examples)

**KEY F5** = WB8IMY WB8IMY %E

**KEY F4** = %D 599 CT CT DE WB8IMY K %E

**KEY F9** = MY STATE CT CT CT CT DE  
WB8IMY K %E

# Contest Tips and Tricks!

- Watch out for duplicate contacts, better known as *dupes*

The screenshot displays the ARRL RTTY Round Up software interface. The main window shows a log of contacts with the following text:

```
N0WVY WRKD B4 ON 20 MERERS AT 21:
52Z CUL DE W4MWH
WS
DENKG5RM KG54. KM
KG5RM 599 KY KY W4MWH
VOUXGVKVE
TMXQNEZR DE VE3HOL VE3HOL K
TM337599-";,7
KE3ZR 599 ON ON DE VE3HOL BK
MMWENHOL TNX QRZ DE KE3ZR K
KO
D
NNWVY IZ
G
TSTQCT DEPE3APVZ KE ER DEL K
F
KEWEZ
E M01226 N0WVY KM CM H XO
GAIN DE KE3Z.#?
KE3ZR DE N0WVY N0WVY KXBO
,00;26&6215NF MVFNK?O
KSD.TU 599-M
KE3ZR 599 IA DE N0WVY N0WVY BKT
N0WVEX QRZ DE KE3ZR K
APUWDQWEAGO
CUEST DE KE3R K
MEXT DE
N NQ . .
?
99;
,13TOOADEL BK
CL0LUZ3N NUBN GT
NQ;,#9; QRZLDE KEZR K
```

Other windows include:

- Tuning:** A tuning display showing a signal on a frequency scale.
- Band Summary:** A table showing scores for different bands.
- Check Call:** A list of contacts with call signs and scores.
- Check partial:** A list of partial contacts.
- Rates:** A window showing the number of contacts in the last 60 and 118 minutes, and the time on and off the air.
- roundup99.wl - WriteLog:** A window showing a list of contacts with columns for SEQ, TIME, FREQ, CALL, SNT, RCU, QTH, HL, and COUN.

Band	Score	QSO	Sta	Prov	Dx
80M	94	2	2	0	
40M	231	7	1	16	
20M	210	24	1	22	

Radio	SEQ	CALL	RCU	QTH
14087 KHzFSK	853	KE3ZR	599	

SEQ	TIME	FREQ	CALL	SNT	RCU	QTH	HL	COUN
848	1943	14062	K9TM	599	599	OH	Unit	
849	1944	14104	K0BX	599	599	MO	Unit	
850	1945	14093	W8EB	599	599	MI	Unit	
851	1946	14093	I2UIV	599	599	374	Euro	
852	1948	14080	W2JGR/0	599	599	MN	Unit	

# Contest Tips and Tricks!

- IF filters are a must – 500 Hz or even 250 Hz in extremely crowded conditions



Without filters to separate the signals, you'll quickly go insane.

# There is a RTTY Contest Going on *Right Now!*

- The BARTG HF RTTY Contest began Friday evening at 0200 UTC (7 PM local) and will continue until 7PM Sunday.
- Exchange: RST, Message Number (beginning with 001) and Time (UTC)
- Rules online at <http://www.bartg.org.uk/contests/08hfrules.htm>
- Download *MMTTY*, run an audio cable from your radio to your sound card and watch the action. Or, jump into the fray!

# References

- *ARRL HF Digital Handbook* ([www.arrl.org/catalog](http://www.arrl.org/catalog))
- *WriteLog for Windows* <http://www.writelog.com/>
- *N1MM Logger* <http://www.n1mm.com/>
- *CocoaModem* (MacOS)  
<http://homepage.mac.com/chen/w7ay/Site/index.html>
- *MMTTY*  
<http://mmhamsoft.amateur-radio.ca/mmtty/>
- *AA5AU RTTY Contesting*  
<http://www.rttycontesting.com/>

# References

## Common RTTY Contest Frequencies

- 3570 to 3600 kHz
- 7030 to 7050 kHz
- 14075 to 14110 kHz
- 21075 to 21100 kHz
- 28070 to 28100 kHz

