

MMTTY Setup Information
For Kenwood TS-570D Radio
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This software, designed by JE3HHT (Makoto "Mako" Mori) and updated by AA6YQ (Dave Bernstein) allows you to send and receive RTTY signals using a serial port on your computer.

Download the software MMTTY Engine Ver. 1.65 from:

<http://mmhamsoft.amateur-radio.ca/mmtty>

The software runs on Windows.

Radio Setup:

Set Transmitter to $\frac{1}{2}$ maximum power level
Set VOX Off
Turn Speech Processor Off
Set Mode FSK
Set Filter 500

Menu Setup:

Menu Number:

29	FSK shift	170
30	Key-down polarity for FSK mode	ON
31	Tone frequencies for FSK mode	2125 Hz
32	Filter bandwidth for digital operation	OFF
33	AF input level for digital operation	2
34	AF output level for digital operation	4
35	Communications Parameters	9600-1

RIGblaster Pro Digital Interface:

To connect the RIGblaster Pro to the transceiver, purchase and use the (optional) Kenwood 13 pin DIN Fixed Level Audio/FSK cable sold by West Mountain Radio for \$25.00

One end of the optional cable is a 13 pin DIN connector and the other end of the cable has two mini-plug connectors.

1. Connect the RIGblaster Pro interface cable DIN connector to the Kenwood TS-570D transceiver "AUX2" jack with the silver mark located at the top of the connector.
2. Connect the RIGblaster Pro interface cable mini-plug labeled "KN13/FSK" to the RIGblaster Pro port 6, which is labeled "FSK Out",
3. Connect the RIGblaster Pro mini-plug labeled "AUDIO" to the computer sound card "Line In" port.

The RIGblaster Pro comes with a DB9M to DB9F cable. Connect the DB9M serial connector to the RIGblaster Pro interface port R3 (Serial COM RS232 In/Out A).

Connect the other end of the DB9M to DB9F cable to a computer serial port or USB port (if using the USB/serial port converter that is provided with the RIGblaster Pro).

RIGblaster Pro cable connections:

R1	Power input	Power Transformer
R2	DB9M serial connector	Not Used
R3	DB9M serial connector	Connect to Computer COM3
R4	CTL In/Out	Not Used
R5	CW Out	Kenwood "CW Key" Jack
R6	FSK Out	KN13/FSK cable to Radio Aux 2
R7	Mic Out	Not Used
R8	Speaker Out	Connect to Computer Speakers
R9	Line In	Connect to Computer Sound Card Line Out
R10	Line Out	Not Used
R11	Audio In	Not Used
R12	Speaker Out	Not Used
R13	PTT Out	Connect to Foot Switch
R14	PTT In	Not Used
R15	MIC Out	Microphone Cable RJ45 to 8 Pin on Radio

RIGblaster Pro Switches:

Power	On
Process	On for RTTY or CW Off for SSB

How to Setup MMTTY Software on Computer:

My computer serial port connections are:

COM-1 Serial port	RIGblaster Pro interface
COM-3 USB port	Radio interface (optional for rig control)

Note: While following these next instructions, the MMTTY software will constantly close the "Option(O)" menu and you will have to return to the menu bar and click on "Option(O)" to continue the necessary setup.

From Main Menu Click on "Option(O)"
Select "Soundcard Output Level(V)"
Set all between marks 5 & 6 counting from top

From Main Menu Click on "Option(O)"
Select "Soundcard Input Level(I)"
Set all between marks 5 & 6 counting from top
Checkmark "Line In"
If this is not set, MMTTY will NOT receive RTTY

From Main Menu Select "Option(O)"
Left click on "Test", if you wish to test the interface
Characters will be displayed on the MMTTY screen if the software is working
Left click on "Test" again, if you wish to stop the interface test

From Main Menu Select "Option(O)"
Do NOT click on "Disable Transmission"

- From Main Menu Select "Option(O)"
 Click on "Ways to send(S)"
 Click on "Character Out"
- From Main Menu Select "Option(O)"
 Do NOT click on "Auto send CR/LF..."
- From Main Menu Select "Option(O)"
 If there is not a checkmark in front of
 "Word wrap on keyboard", left click on the text
- From Main Menu Select "Option(O)"
 Click on "PTT Timer..."
 Set to "0" (turns PTT off)
 Click on "OK"
- From Main Menu Select "Option(O)"
 Do NOT click on "Running Mode"
- From Main Menu Select "Option(O)"
 Left click on "Setup TNC Emulation" (if desired)
 Configure the menu as follows:
- | | |
|--------------|----------------|
| Port | None |
| Band | 1200 |
| Data Length | 8 bits |
| Stop | 1 bit |
| Parity | None |
| Flow Control | Check XON/XOFF |
| TNC Type | KAM |
| Local Echo | After sending |
- Click on "OK"
- From Main Menu Select "Option(O)"
 Left click on "Setup Logging" (if desired)
- From Main Menu Select "Option"
 Select "Setup MMTTY"

Select "Demodulator" tab

Note: The "Demodulator" settings are program defaults

Set "Discriminator Type" IIR resonator

Set "Mark" 2125

Set "Shift" 170

Set "BW" 60

Set "Limit Amp" Checkmark "AGC"

Set "Gain" 200

Set "Smooth LPF" Check "FIR av"

Set "Freq" 70

Set "Ham Default" 2125 / 170

Click on "BPF" tab

BPF tab

Do NOT check "On"

Set "Tap" 56

Set "Fw" 100

Checkmark "AFC Connection"

Click on "LMS/Notch" tab

Set "Pre-Filter" LMS/Notch tab

Checkmark "Notch"

Set "Tap" 72

Select "AFC/ATC/PLL" tab

Set "AFC" Options

Checkmark "AFC"

Select Shift "FSK"

Set "Time" 8

Set "SQ" 32

Set "Sweep" 1

Do NOT check "ATC"

Set "ATC Time" 4

Set "PLL" Options

Set "VCO Gain" 3

Set "LoopLFP (IIR)"
"Order" 2

"FC" 250

Set "OutputLFP (IIR)"

Set "Order" 4

Set "FC" 200

Select "Decode" tab

Set "BaudRate" 45.45

Checkmark "Majority Logic"

Select "BitLength" 5bit

Select "StopLength" Rx=1bit, Tx=1.5Bit

Select "Parity" None

Select "Default RxStop bit" Rx=1bit, Tx=1.5bit

Select "BAUDOT Codeset" S-BELL

Select	"TX" tab
Set "DIDDLE"	LTR
Do NOT check	Random
Do NOT check	WaitTimer
Checkmark	Tx BPF
Do NOT check	Tx LPF
Set "TxBPF Tap	48
Set "TxLPF Freq	100
Set "TX"	UOS
Set "Your Callsign"	CALLSIGN (replace with your callsign)
Set "PTT Port"	COM3 (note: this port may vary)

Select "Radio Command" box

Set "Port definition"

Port	None	
Baud	9600	for Kenwood TS-570D
Char wait	50	
Set "Data length"	8 bits	
Set "Stop"	1 bit	
Set "Parity"	None	
Set "flow control"	XON/XOFF	
Do not set "DTR/RTS"	leave PTT box empty	
Set "Commands"		
Init	leave blank	
Rx	RX;	for Kenwood TS-570D
Tx	TX;\w10	for Kenwood TS-570D

Note: "Commands" are entered automatically, if you select "Kenwood" in the radio box located in the lower left corner of the window.

Set "VFO polling"	Kenwood (use auto info)
Set "Frequency offset"	OFF
Set "Polling interval"	1

Click on "OK" to return to "TX Window"

Edit Macro boxes, if you wish from the "TX Window" screen
To edit, click on an individual box

Select "Font/Window" tab

You will probably not make any changes in this window, but you can experiment with fonts, if you wish.

Do checkmark the box "slash zero".

Select	"Misc" tab
Set "Sound Card FIFO"	
Set RX	12
Set TX	4
Select "Priority" box	Critical
Select "Device ID"	-1
Select "Source"	Mono
Select "Clock"	11025
Select "Tx offset"	0.00
Checkmark	"Save window location" (check or not as desired)
Select "Sound loopback"	Int
Select "Tx Port"	Sound + COM-TxD (FSK)

Note regarding the "Tx Port" selection:

Sound	selects AFSK (sound card mode)
Sound + COM-TxD (FSK)	selects both modes of operation as it enables the audio tones for monitoring
COM-TxD (FSK)	selects FSK (UART mode) (only if the proper COM number is selected for PTT on the TX tab)

Select "System Font"

Window	Times New Roman
Set	0
Fixed Pitch	Courier New
Set	0

Click on "OK" to save modifications and return to main MMTTY window.

Main MMTTY Window:

In the "Control" section of the window you will see a number of buttons, some of which can be turned on and off by clicking on the button. When the button is selected (On), the button color will be light gray.

FIG	should be OFF
UOS	should be ON
TX	will be ON or OFF depending upon sending or receiving
TXOFF	will be ON or OFF depending upon sending or receiving

All the top six boxes in the "Demodulator (FIR) section of the window should appear up (not selected).

Click "HAM" button at least once to set Mark to 2125 and Shift to 170

Below the "Green Squelch bar",

ATC	should be OFF
NET	should be ON
	Causes MMTTY to transmit where it last received
AFC	should be ON

Type text in bottom panel and press F11 to transmit.

Or

Setup and use the "Macro" keys (recommended)

Suggested Macro key setup is shown on the next page.

Macro Setup

F1	CQ	\RYRY CQ CQ CQ DE %m CQ CQ DE %m RYRY CQ CQ CQ DE %m CQ CQ DE %m K\
F2	RST	\%c RST is %r %r in FM29Im Delaware\
F3	TU	\%c tut u de %m \
F4	N3ME	\%m %m %m\
F5	Call ?	\What is your call?\
F6	QSO B4	\qso b4 \
F7	Report	\My report?\
F8	Name	\my name is Tony\
F9	QTH	\QTH is: Town: Bethany Beach, County: Sussex County State : Delaware Grid: FM28Im\
F10	Final	\%c (%n) tnx for QSO 73 73 de %m SK\
F11	Equip	\Equipment here is: Kenwood TS-570D Transceiver RIGblaster Pro Digital Interface Antenna 1: Force 12 C-4/D Antenna Antenna 2: Dipole at 55' for 80 meters Software: MMTTY v1.65.d\
F12	Me	\Radio Amateur since 1976 Age 65 years and retired I am the Mayor of our small, ocean side town in SE Delaware DXCC Countries Confirmed: 345 Happy to add you to my log\
F13	BTU	\BTU %c de %m KN\

Frequencies:	160	1.800 - 1.842	fsk / lsb	
	80	3.580 - 3.645	fsk / lsb	
		3.590 DX	fsk / lsb	
	40	7.000 - 7.100	fsk / lsb	
	40	7.020 - 7,040	fsk / lsb	DX
	20	14.080 - 14.099	fsk / lsb	
	15	21.080 - 21100	fsk / lsb	
	10	28.080 - 28100	fsk / lsb	
	6	50.7	fsk / lsb	