The popular MMTTY engine by JE3HHT is used many ham control software programs to provide excellent RTTY operation. To set up MMTTY with Navigator, go to Options(O) and select "Setup MMTTY(O)" as shown in the screen shot below.

KK7UQ (KK7UQ.MDT) - MMTTY Ver1.65		
File(E) Edit(E) View(Y) Option(Q) Profiles(S) Program(E) (Help(H)	
Control Demodul Soundcard output level(V) FIG Mark 14 Soundcard input level(I)	Macro	
UOS Shift I' Test Disable transmission	2X3 M6 EE M14	
TX BW 6(Way to send(5) TXOFF AV. 7(Auto send CR/LF with TX button	DE3 M7 M11 CQ2 UR599 M8 M12 CQ1	
V Word wrap on keyboard	ame My	🖌 His 599 💌 14 💌
Setup MotTY(O)		
Clear 1X1 DEAR ANS BTU	•_	Edit Char. wait
-		<u>×</u>

This will bring up tabbed options setup for MMTTY. Click on "Misc" as shown below, and set up the Device ID for the USB Audio Codec. If your "preferred soundcard" is the internal sound card of your PC, then select "1" to represent the 1st audio device <u>after</u> the preferred sound device (0). If you have set up your PC to have the Navigator Audio Codec be the preferred sound device, then enter 0 there instead.

Note: Normally the internal sound card is left as the "preferred" so you can hear normal Windows sounds on your speakers.

Next click the radio button "COM-TxD(FSK)" under TxPort. This means that you will be sending digital FSK signals to the transceiver instead of audio.

Setup MMTTY			
Demodulator AFC/ATC/PLL	Decode	TX	Font/Window Misc
Sound Card FIFO RX 12 • TX 4 •	□ Save	e windov	ow location
Priority	Sound	loopba	ick Tx Port
🕤 Normal 🕤 Highest	C OFF	7	 Sound
• Higher • Critical	 Int. 		© Sound + COM-TxD (FSK)
Device ID 1	C Ext.	(SAT)	• COM-TxD(FSK) USB Port
Source © Mono © Right	System	n Font	
• Left	Windo	W	Times New Roman Set 0 🗸
Clock	Fired	vitab	Countier New Set 0 -
11025 • Hz Adj	Fixed	onen	Courier New Set 10
Tx offset 15.00 Hz			Japanese English
HAM Set Default(I)emodulat	or)	? OK Cancel

Next click on "USB Port". See next page.

Click on "A:Normal". Then click "OK".

USB Port Option							
Processing method							
• A: Normal							
C B: Polling							
C C: Limiting speed							
C D: Polling and Limiting speed							
Please try to test B, C, D, if you have a trouble in the USB-COM adaptor. (C)Limiting speed seems to be well.							
OK Cancel							

When you return to the previous screen, click on the "TX" tab to bring up the screen Under "PTT", select the port number of the Navigator FSK port. In out below. examples earlier, this is port "COM8". Yours may vary - check using device manager to find the COM port assigned to FSK. After you have selected the COM port, click on "Radio Command".

Setup MMTTY	
Demodulator AFC/ATC/PLL Decode T	TX Font/Window Misc
DIDDLE C NONE C BLK C BLK C LTR Random WaitTimer TxBPF/TxLPF TxBPF/TxLPF TxBPF/TxLPF TxBPF Tap 48 • f TxLPF Freq 100 • Hz Input Button 1x1 DEAR ANS BTU	Digital Output nar. Wait Diddle Wait Macro Your Callsign KK7UQ Convert Immediately PTT Port COM8 Invert Logic Radio command IX2 QANS SK RY 2X3 M6 EE M14 DE3 M7 M11 CQ2 UR5 99 M8 M12 CQ1
HAM Set Default(Demodulator)) ? OK Cancel

Navigator

If you are running MMTTY as a stand alone program, then use this screen to set up CAT control using MMTTY. If you are using MMTTY as an "Engine" under another program, then check your documentation for that program to see if CAT is done here, or if it is done in the main program.

If you do CAT in MMTTY, then specify Port as the Navigator CAT function COM port. In our example, this was COM5. Check Windows Device Manager to find the COM port assigned to Navigator CAT. The rest of the screen is specific to your rig. Check the MMTTY documentation to set up for your rig. Click OK to return to the previous screen.

Radio co	ommand 🛛 🛛 🔀					
_Port d	lefinition					
Port	COM5 Baud 19200 Char. wait 0 ms					
Data	a length Stop Parity flow control DTR/RTS					
07	bits © 1bit © None 🔽 XON/XOFF 🗖 PTT					
• 8	bits C 2bits C Odd CTS					
Comm	nands					
Init	xx= 04					
Rx	\\$FEFExxE01C0000FD					
Tx	\\$FEFExxE01C0001FD\w10					
VFO polling NONE Frequency offset OFF © LSB © USB Polling interval 1 • s						
ICOM	xx=addr 01-7F - Load Save ? OK Cancel					

When you have returned to the tabbed options screen, select "Decode" and see the next page for the Decode screen.

This screen defines the FSK options. The setup below is the standard MMTTY HAM screen. Note that Rx=1bit, Tx=1.5bit is selected. If you select another Stop Length than 1.5, be sure and change the stop length in NavOptions to match this. See the next page for more information.

Setup MMTTY		
Demodulator	AFC/ATC/PLL Decode TX	Font/Window Misc
BaudRate	45.45 ▼	ority Logic re framing error
BitLength	StopLength	Parity
© 5bit	⊂ 1bit	• NONE C 1
⊂ 6bit	C 1.5bit	C Even C O C Odd
o 7bit	• Rx=1bit, Tx=1.5bit	Default RxStop bit ← Rx=1bit, Tx=1.5bit
C 8bit	C Rx=1.42bit, Tx=1.5bit	C Rx=1.42bit, Tx=1.5bit
BAUDOT C	Codeset	
HAM	Set Default(Demodulator)	? OK Cancel

The Navigator Options screen from the NavOptions program is represented below. Select FSK Stop to be 1.5, then click "Save to Default" to make this your default setting. Note that the MixW program uses 2 bits as the FSK Stop, so you will have to change it back if you use that program.

Other FSK related items on the NavOptions screen are the FSK Polarity. Most rigs use the Normal. Kenwood rigs use the Reverse polarity, so if you are using Kenwood, you will probably have to select "Reverse". If your rig generates a side tone for FSK operations, set FSK Side Tone to "Off", so that you only listen to the one from your rig, instead of Navigator. Leave FSK PTT "On". Set FSK Baud to 45.45.

NavOptions	
Navig	ator
Port	Status
12 👻 Por	t 12 Connected
Discor	nnect
CH1 Atten	FSK Polarity Normal 💌
CH2 Atten	FSK Side Tone
RF Atten Normal ▼	FSK PTT
WinKey PTT	FSK Baud 45.45 •
LED Normal 💌	FSK Stop
CAT LED	
Restore Default	Save to Default
Navigator Firr NavOptions	mware Ver 1.00 Version 1.04

If you haven't already done so, on the MMTTY setup screen, click "OK" to return to the main MMTTY screen, shown on the next page.

Normal operation of MMTTY is now done from this screen, or a similar screen if you are using the MMTTY engine with a control program.

κκτυς	(KK7UQ.	MDT) - MN	ATTY V	er1.65											
File(<u>F</u>) Edit	(<u>E</u>) View(V) Option((2) Prof	iles(<u>5</u>) f	Program(<u>P</u>)	Help	H)								
Control	Demo	dulator (II	R)		1	I N	lacro		,	,			de ab		
FIG	Mark	1465	- Hz	Type I	Rev. HA	.M _	1X2	QANS	SK	RY		ь.М	/ ^m wyWW	La.	
UOS	Shift	170 -	- Hz	SQ 1	Not. BF	PF _	2X3	M6	EE	M14	s.M	WWWWW.		"WWWWWWW	
TX	BW	60 .	- Hz				DE3	M7	M11	CQ2	h with			Y Y	
TXOFF	AV.	70 .	• Hz	ATC	NETA	rC U	R59	M 8	M12	CQ1					
QSO Da	ta Init	Call			Find	Nan	ne			My		-	His 599	•	14 🗸
<ø7ø11	6 15	Ø3 : 35	TX>	>											<u>^</u>
<ø7ø11	6 15:	Ø3:38	RX>	>											
<ø7ø11	6 15:	Ø3:41	TX>	•											
RYRYRY	RYRY	RYRYR	YRYF	NY RY	RYRY	RYRY	R	YRYR	YRYRY	Z RYI	RYRY	RYRY			
RYRYRY	RYRY	RYRYR	YRYF	Y RY	RYRY	RYR	-								
															V
Clear	1X1	DEAR	AN	ន ា	вти					•	Edit		Cl	nar. wait	
_															A
															v

This completes the setup for the MMTTY engine.