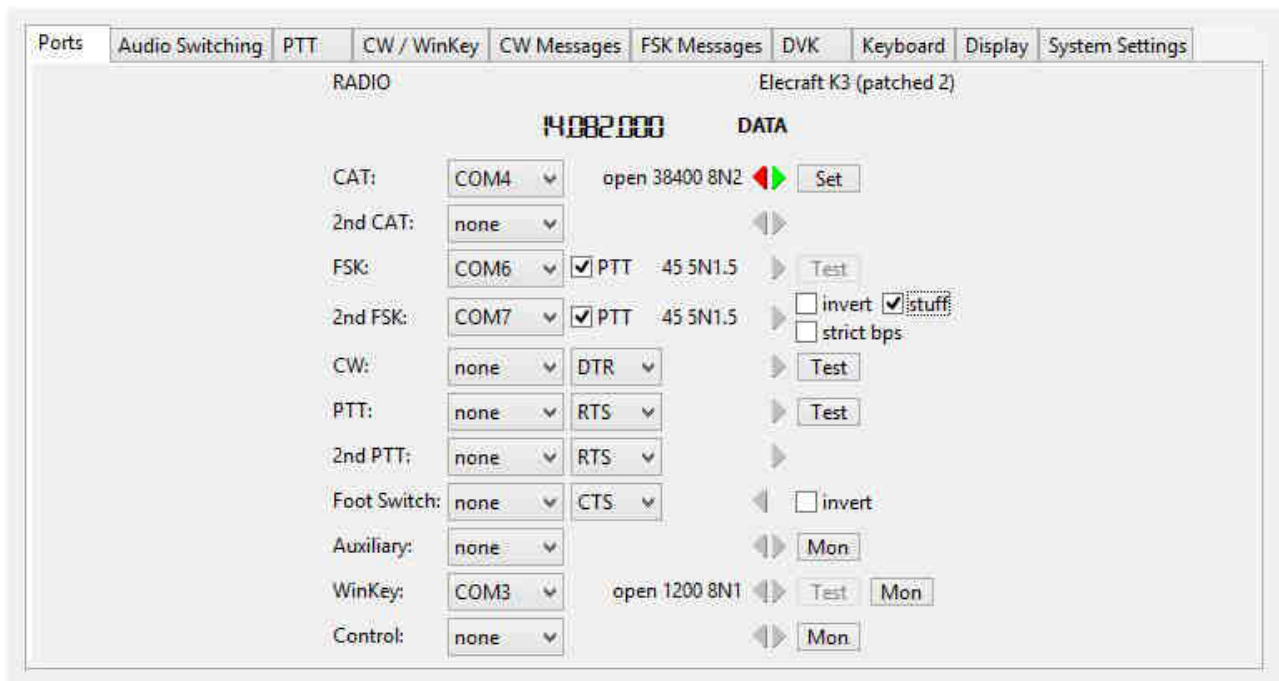


microKEYER II and N1MM Logger+ Setup

Router setup:

Note: The specific port numbers are not important. The key is consistency - the same port number must be used for a specific function in both Router and the logger.

1. Assign a virtual COM port for radio control (CAT). Click the **Set** button, select the transceiver from the drop down box, set the Baud Rate and CI-V address if needed.
2. Assign a port for FSK and check the PTT box. If you plan to use MMTTY FSK or MMVARI FSK with the COM8250 driver, check the **"Stuff"** box (enable diddle stuffing). If you will be using 2-Tone FSK or MMVARI FSK with the EXTFSK driver, do not check the "Stuff" box. If you will not be using FSK, you may skip this step.
3. Assign a port for WinKey. Select the appropriate PTT output and QSK or PTT operation on Router's PTT tab.



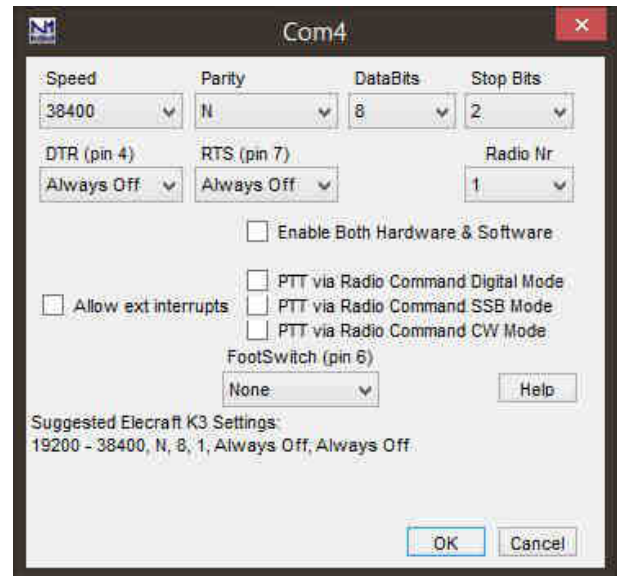
4. On the **Audio Switching** tab, set VOICE to "Microphone jack, logger or DVK control" and set FSK/DIGITAL to "Line input (rear)."
5. Set the appropriate PTT outputs for each mode on the the **PTT** tab.
6. Save settings to a preset by selecting menu **Preset | Save as**. Choose a position and name it N1MM.

N1MM hardware setup:

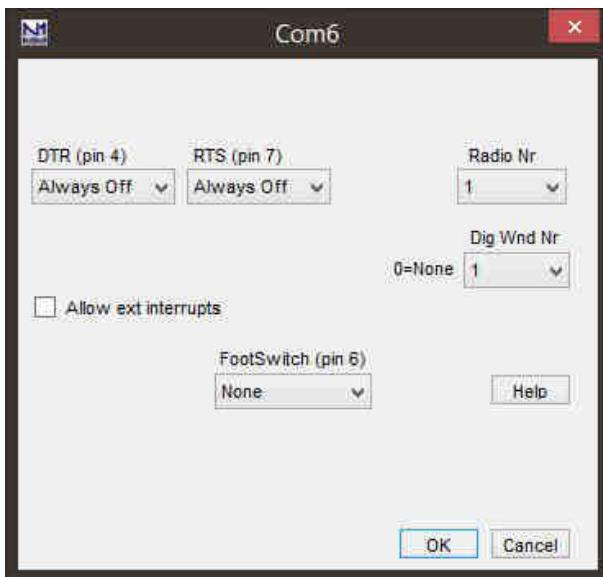
Port	Radio	Digital	CW/Other	Details
COM3	None	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Set
COM4	Elecraft K3	<input type="checkbox"/>	<input type="checkbox"/>	Set
COM5	None	<input type="checkbox"/>	<input type="checkbox"/>	Set
COM6	None	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Set
COM7	None	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Set
COM8	None	<input type="checkbox"/>	<input type="checkbox"/>	Set
None	None	<input type="checkbox"/>	<input type="checkbox"/>	Set
None	None	<input type="checkbox"/>	<input type="checkbox"/>	Set
LPT1		<input type="checkbox"/>	<input type="checkbox"/>	Set
LPT2		<input type="checkbox"/>	<input type="checkbox"/>	Set
LPT3		<input type="checkbox"/>	<input type="checkbox"/>	Set

1. Click **Config | Configure Ports, Mode Control, Audio, Other ...**
2. Assign the radio to the virtual COM port you used in Router's Ports tab
3. Check **Digital** for the FSK and 2nd FSK ports you created in Router
4. Check CW/WinKey for the port you assigned to WinKey in Router.

5. Click **Set** for the Radio port and set proper the communication parameters.
6. Set DTR and RTS to Always Off.
7. **Uncheck** "Enable Both Hardware & Software"
8. **DO NOT** check any of the "PTT via Radio Command" options.



9. Click **Set** for the Digital Port(s)
10. Configure the Digital ports taking care to associate each port with the correct Radio (Radio Nr) and Digital Interface (Dig Wind Nr) if your transceiver supports SO2V operation.



11. Set DTR and RTS to Always off.
12. For the CW Port click **Set**, check the WinKey box.
13. Set Radio/VFO to **Both**.

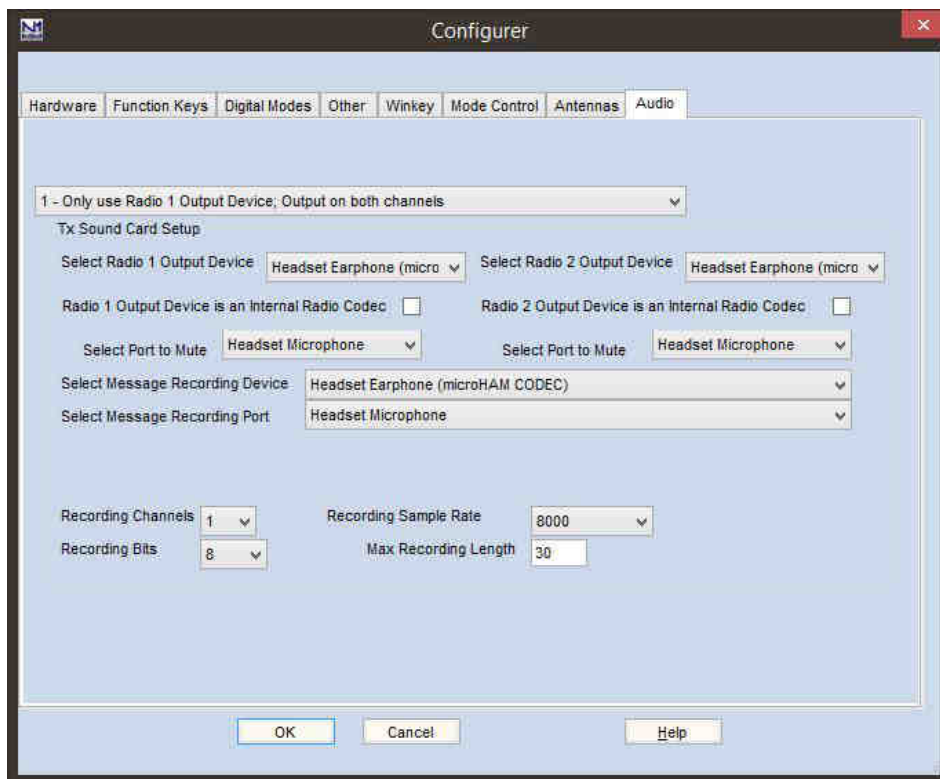
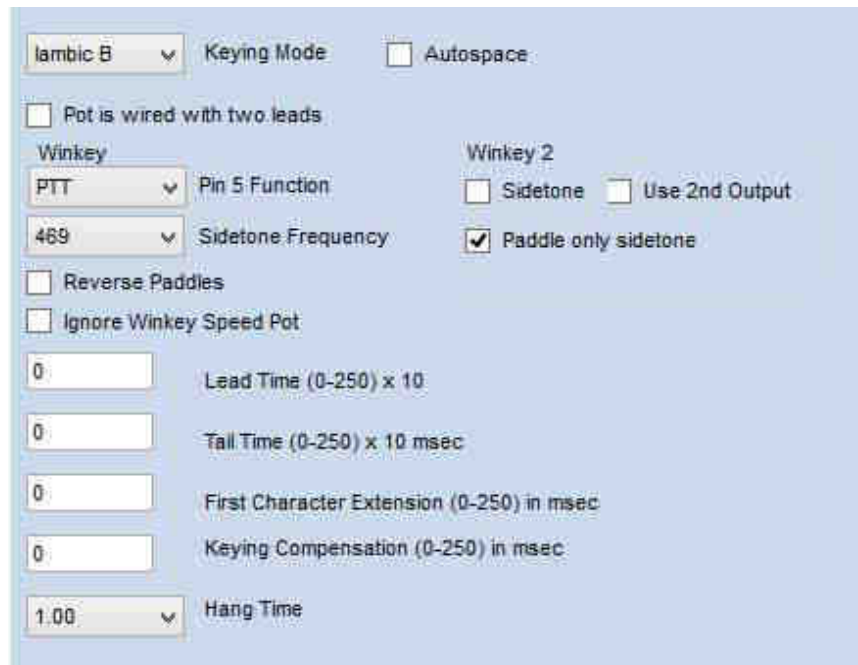


14. Configure WinKey using the WinKey tab.

15. Pin 5 Function should be PTT.

Note: Timing parameters (Lead, Tail, Compensation, etc.) are set on the CW/WinKey tab in Router. Router will override any settings made in N1MM Logger.

16. Click the Audio tab to configure DVK.



17. Select "1 – Only use Radio 1 Output Device, Output on both Channels"

18. Set Radio 1 Output Device = "Headset Earphone (microHAM CODEC)"

19. Set Port to Mute = Headset Microphone

20. Set Message Recording Device = "Headset Earphone (microHAM CODEC)"

21. Set Message Recording Port = Headset Microphone

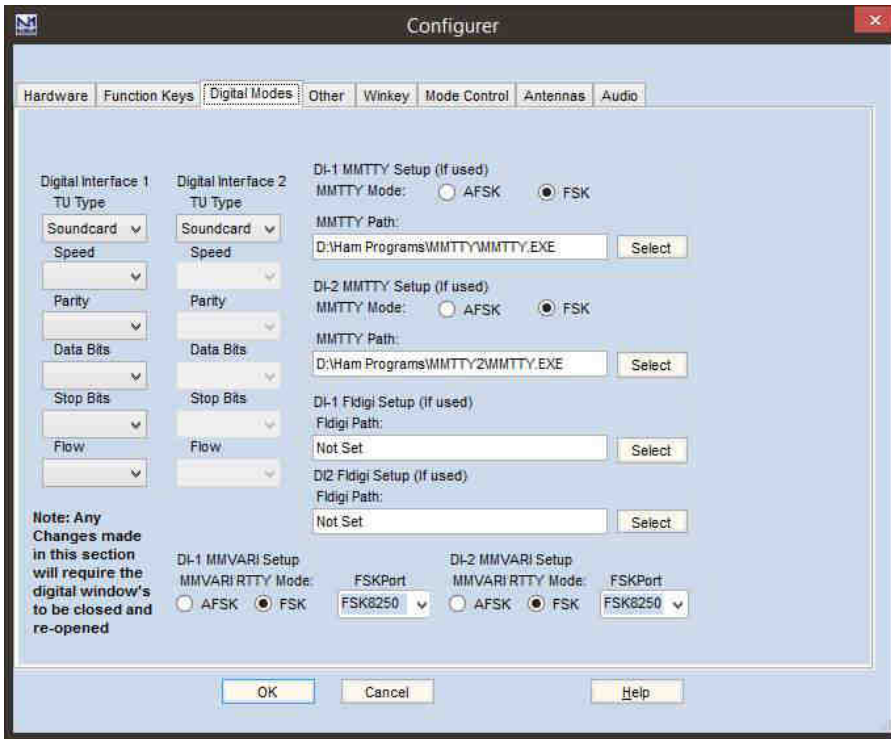
22. Set Recording Channels = 1

23. Set Recording Bits, Sample Rate, and Max Recording Length as needed.

24. Click OK to save and close the N1MM Logger+ Hardware Configuration

MMTTY FSK setup:

N1MM Logger Plus supports the MMTTY Engine, MMVARI, 2-Tone and/or an external TNC for RTTY contesting. This configuration is based on using MMTTY in FSK mode.



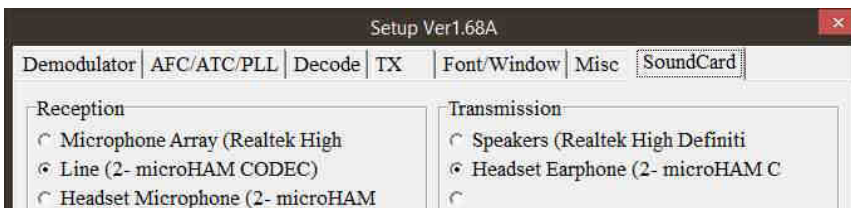
1. Install MMTTY.
2. **Note:** If your radio supports dual receiver (SO2V) operation, you may want to install MMTTY to two *different* directories on your hard disk.
3. Select the **Digital Modes** tab in **Configure Ports, Mode Control, Audio, Other ...**
4. Set TU Type to Soundcard
5. Select FSK as the MMTTY mode for DI-1 and DI-2 if using SO2V.
6. Enter the path to each MMTTY installation.

7. Open the **Mode Control** tab
8. Select the method to determine the mode to log.
9. Set the appropriate RTTY and PSK modes for your transceiver. .



Note: See the N1MM Logger Help files for the supported RTTY and PSK modes for each transceiver.

10. Click "OK" to save the settings and close the Mode Control.
11. Activate the left Entry Window (Radio 1) and Enter RTTY to open DI 1.
12. If this is the first time you have used the MMTTY interface, click on **Interface | MMTTY** to activate the MMTTY interface.

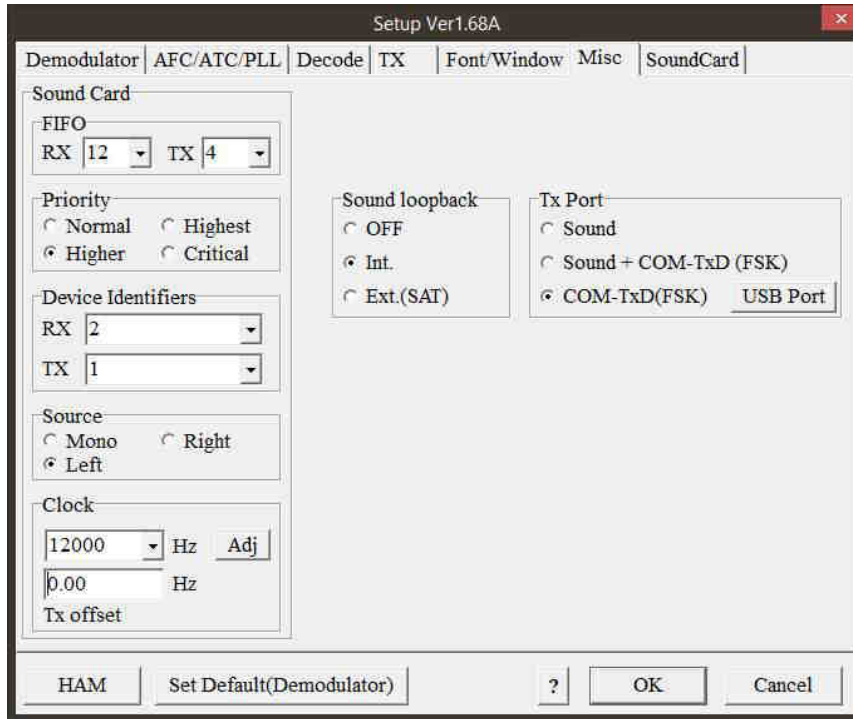
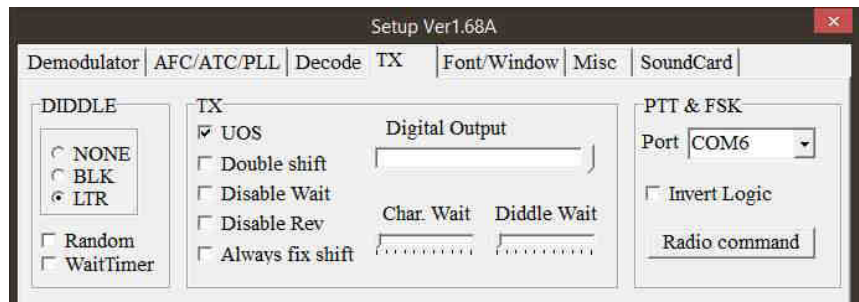


13. In the Digital Interface, Click **Setup | Setup MMTTY**.
14. Select the "SoundCard" tab.
15. Select "Line (microHAM CODEC)" for Reception.

16. Select the TX tab

17. Set PTT & FSK to the port used for Router's FSK port.

18. Select the Misc Tab

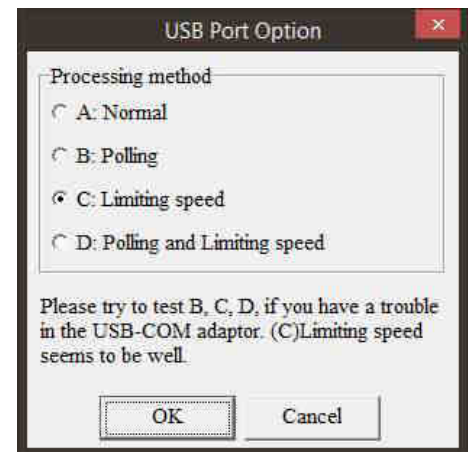


19. Set Source = Left

20. Set Tx Port to COM-TxD(FSK)

21. Set Clock = 12000 Hz

22. Click the **USB port** button, choose **C: Limiting speed** and click OK

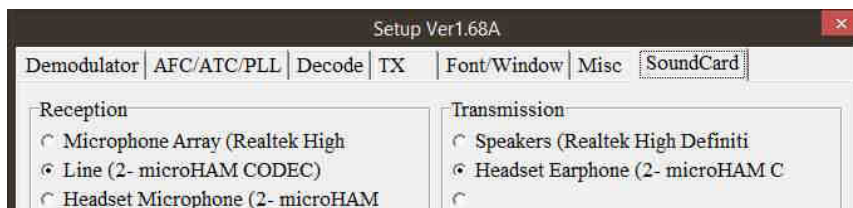


23. Click "OK" on the Misc tab to close the MMTTY Set-up for Radio 1

If your radio does not support dual receive (SO2V) operation, FSK configuration is complete.

24. Activate the right Entry Window (Radio 2) and enter RTTY to open the Digital Interface.

25. If necessary, Click on **Interface | MMTTY** to activate the MMTTY interface.



26. In the Digital Interface, Click **Setup | Setup MMTTY**.

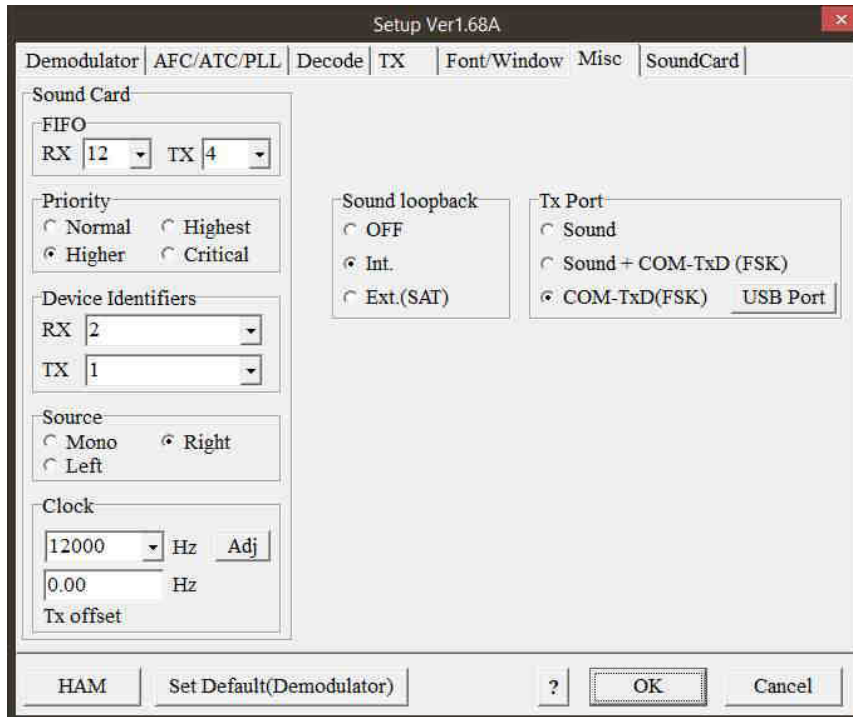
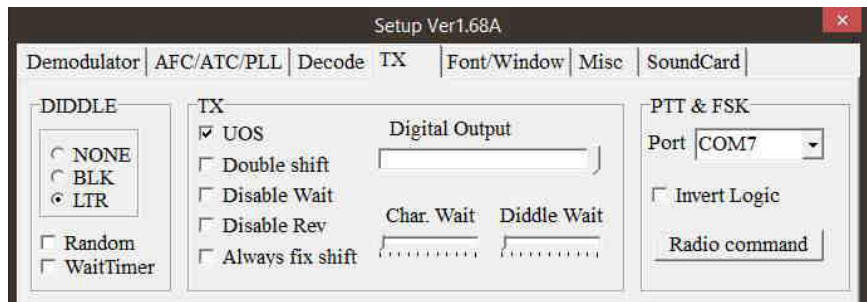
27. Select the "SoundCard" tab.

28. Select "Line (microHAM CODEC)" for Reception.

29. Select the TX tab

30. Set PTT & FSK to Router's 2nd FSK Port.

31. Select the Misc Tab

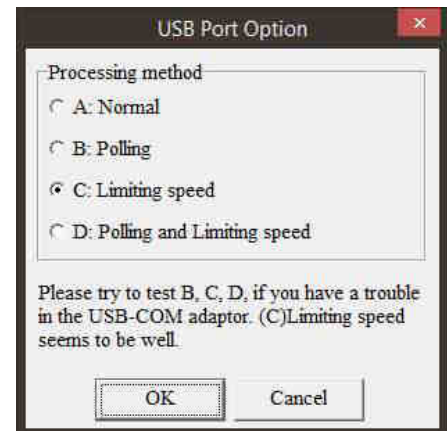


32. Select **Source = Right**

33. Set Tx Port to COM-TxD(FSK)

34. Set Clock = 12000 Hz

35. Click **USB port** button, choose **C: Limiting speed** and click OK

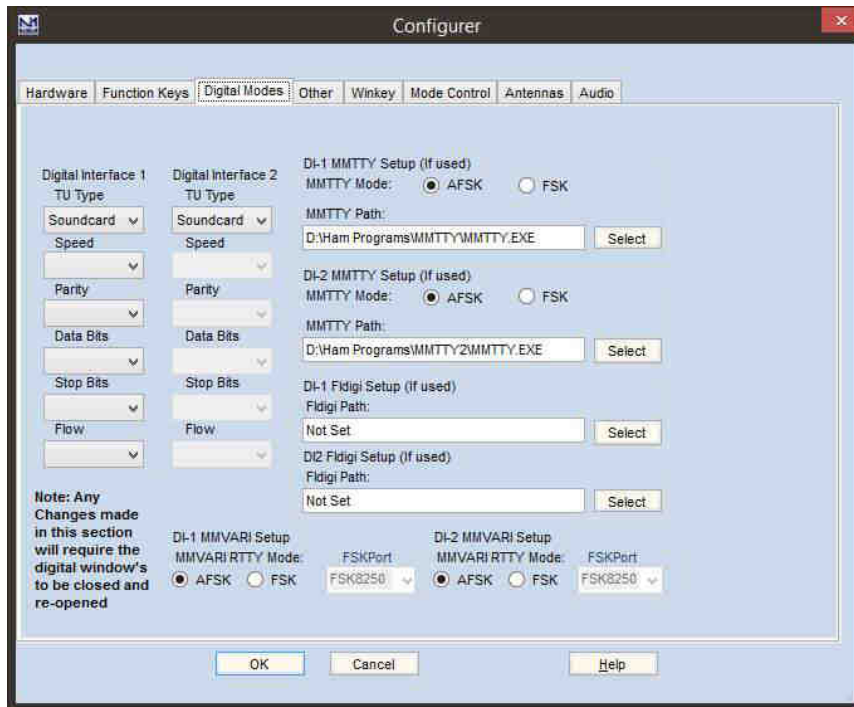


36. Click "OK" on the Misc tab to close the Set-up for DI 2

MMTTY setup (AFSK):

N1MM Logger supports the MMTTY Engine, MMVARI, 2-Tone and/or an external TNC for RTTY contesting. This configuration is based on using MMTTY in AFSK mode.

AFSK does not require a digital port for each radio. If you will be using only AFSK and PSK, it is not necessary to define "Digital" ports on the N1MM "Hardware" tab or FSK ports in Router.



1. Install MMTTY.

Note: If your radio supports dual receiver (SO2V) operation, you may want to install MMTTY to two *different* directories on your hard disk.

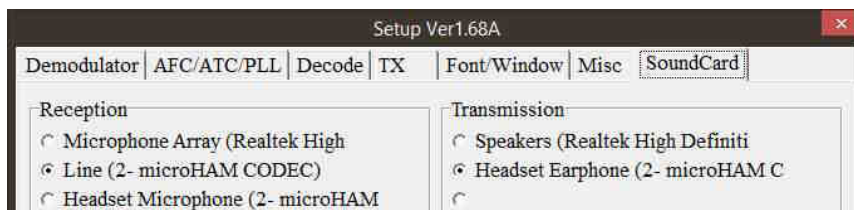
2. Select the **Digital Modes** tab in **Configure Ports, Mode Control, Audio, Other ...**
3. Set the TU Type to Soundcard
4. select AFSK as the MMTTY mode for both DI-1 and DI-2.
5. Enter the path to each copy of MMTTY.

6. Open the **Mode Control** tab
7. Select the method to determine the mode recorded in the log.
8. Set the appropriate RTTY and PSK modes for your transceiver.



Note: See the N1MM Logger Plus Help files for a list of supported RTTY and PSK modes for each transceiver.

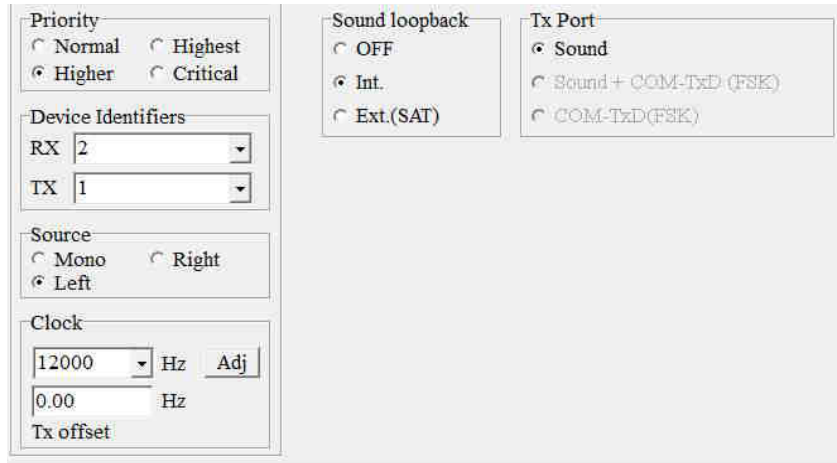
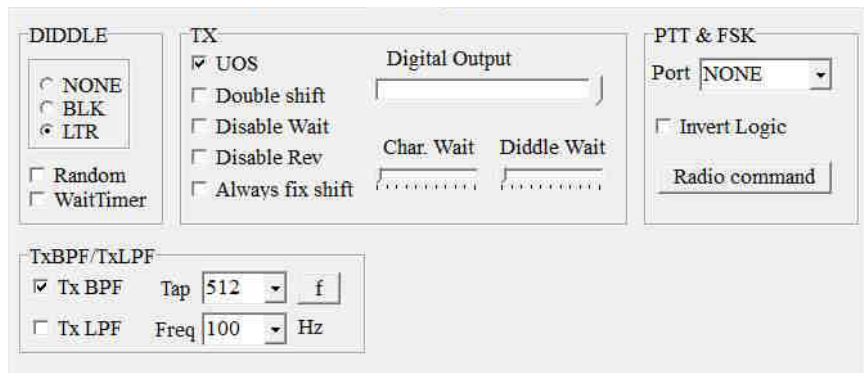
9. Click OK to Close the Mode Control window and save the configuration.
10. Activate the left Entry Window (Radio 1) and enter RTTY to open DI 1.
11. If this is the first time you have used the MMTTY interface, click on **Interface | MMTTY** to activate the MMTTY interface.



12. In the Digital Interface, Click **Setup | Setup MMTTY**.
13. Select the "SoundCard" tab.
14. Select "Line (microHAM CODEC) for Reception.

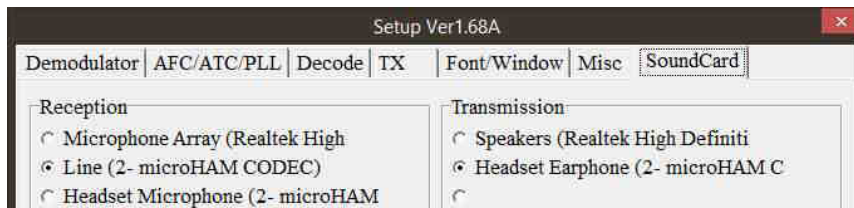
15. Select "Headset Earphone (microHAM CODEC) for Transmission.

16. Select the TX Tab
17. Set PTT & FSK Port = None
18. Check TX BPF
19. Set Tap = 512 and Freq = 100 Hz to filter the transmitted audio and minimize QRM.



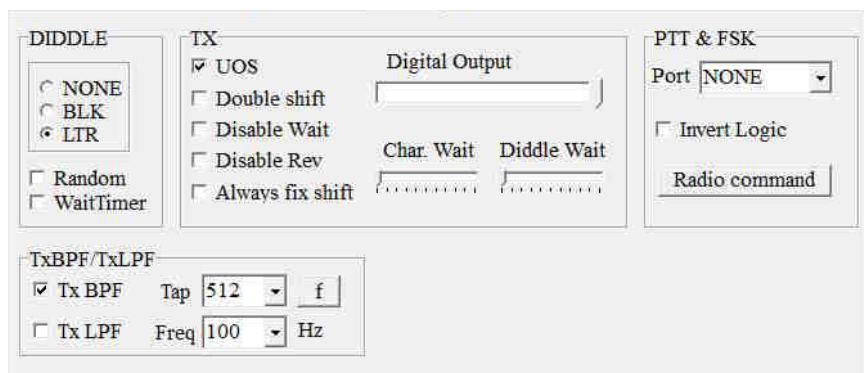
20. Select the Misc Tab
 21. Select **Source = Left**
 22. Set Clock = 12000 Hz
 23. Set Tx Port to **Sound**.
 24. Click "OK" to close MMTTY Set-up for Radio 1
- If your radio does not support dual receive (SO2V) operation, AFSK configuration is complete.

25. Activate the right Entry Window (Radio 2) and Enter RTTY to open DI 2.
26. If necessary, click on **Interface | MMTTY** to activate the MMTTY interface.



27. In the Digital Interface, Click **Setup | Setup MMTTY**.
28. Select the "SoundCard" tab.
29. Select "Line (microHAM CODEC)" for Reception.

30. Select "Headset Earphone (microHAM CODEC)" for Transmission.
31. Select the TX Tab
32. Set PTT & FSK Port = None
33. Check TX BPF
34. Set Tap = 512 and Freq = 100 Hz to filter the transmitted audio and minimize QRM.



Priority
 Normal Highest
 Higher Critical

Device Identifiers
RX
TX

Source
 Mono Right
 Left

Clock
 Hz
 Hz
Tx offset

Sound loopback
 OFF
 Int.
 Ext.(SAT)

Tx Port
 Sound
 Sound + COM-TxD(FSK)
 COM-TxD(FSK)

35. Select the Misc Tab

36. Select **Source = Right**

37. Set Clock = 12000 Hz

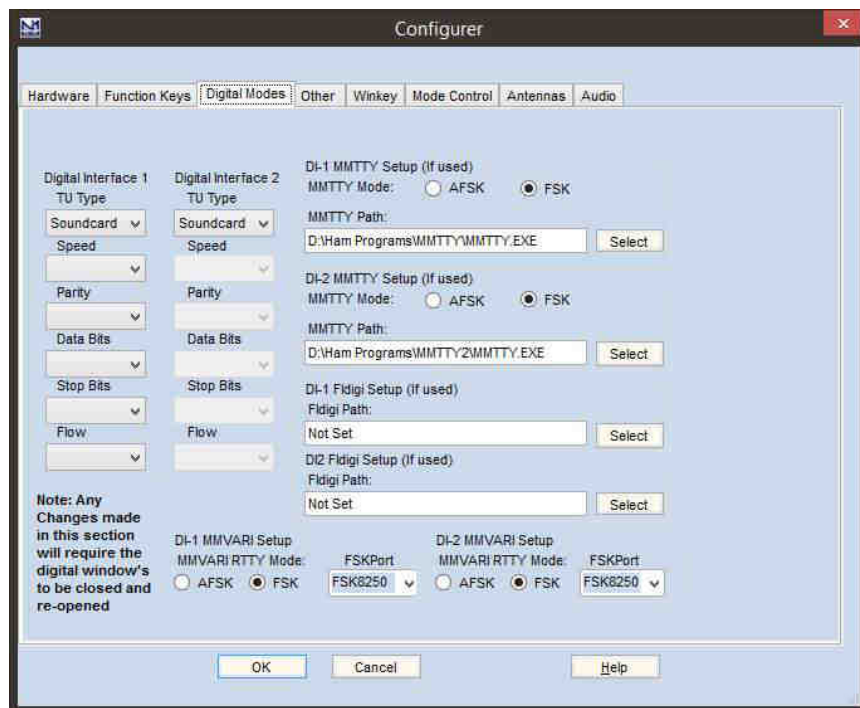
38. Set Tx Port to **Sound**

39. Click "OK" to close MMTTY Setup for Radio 2.

MMVARI Setup with FSK:

N1MM Logger supports the MMTTY Engine, MMVARI, 2-Tone and/or an external TNC for RTTY contesting. This configuration is for **FSK RTTY** and PSK with MMVARI.

FSK requires a digital port for each receiver (DI). Be sure you have defined Digital ports for each DI in the N1MM "Hardware" tab and FSK ports in Router.



1. Select the **Digital Modes** tab in **Configure Ports, Mode Control, Audio, Other ...**
2. Set the TU Type to Soundcard
3. select FSK as the MMVARI RTTY mode for both DI-1 and DI-2.
4. Set the FSK Port to FSK8250 for both DI-1 and DI-2
5. Open the **Mode Control** tab

6. Open the **Mode Control** tab
7. Select the method to determine the mode to log.
8. Set the appropriate RTTY and PSK modes for your transceiver.



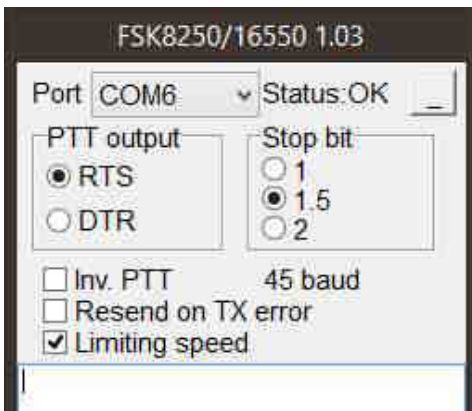
Note: See the N1MM Logger Plus Help files for the supported RTTY and PSK modes for each transceiver.

9. Click "OK" to save the settings and close the Mode Control.
10. Activate the left Entry Window (Radio 1) and enter PSK.
11. Click **Setup | Settings** and select MMVARI as the Default RTTY Interface and MMVARI as the Default PSK Interface.
12. Select **MMVARI Setup**.



13. Select Soundcard Setup.
14. Set DI1 MMVARI SoundCard: Input Soundcard # to "Line (microHAM CODEC)" and select the **Left** Input.
15. Set DI1 MMVARI SoundCard: Output Soundcard # to "Headset Earphone (microHAM CODEC)".
16. Set DI1 MMVARI SoundCard: Clock Adjustment to 12000 Hz.

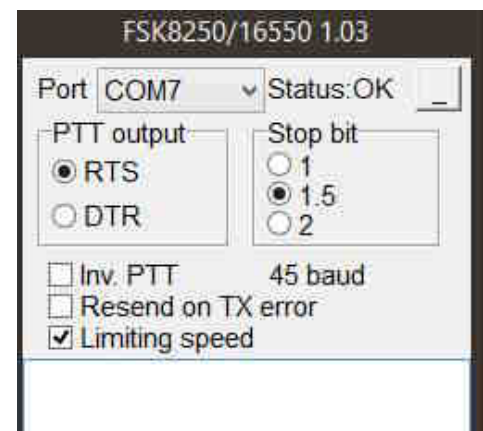
17. Set DI2 MMVARI SoundCard: Input Soundcard # to "Line (microHAM CODEC)" and select the **Right** input.
18. Set DI2 MMVARI SoundCard: Output Soundcard # to "Headset Earphone (microHAM CODEC)"
19. Set DI2 MMVARI SoundCard: Clock Adjustment to 12000 Hz
20. Save the configuration.



21. Select RTTY-L mode in MMVARI in DI-1 or enter RTTY in Entry Window 1
22. Select the MMVARIFSK1 window from the Windows Task Bar.
23. Set Port to the port you chose for FSK in Router
24. Set PTT output to RTS
25. Check Limiting Speed
26. Return the MMVARIFSK1 window to the Task Bar.

If your radio does not support dual receive (SO2V) operation, FSK configuration is complete.

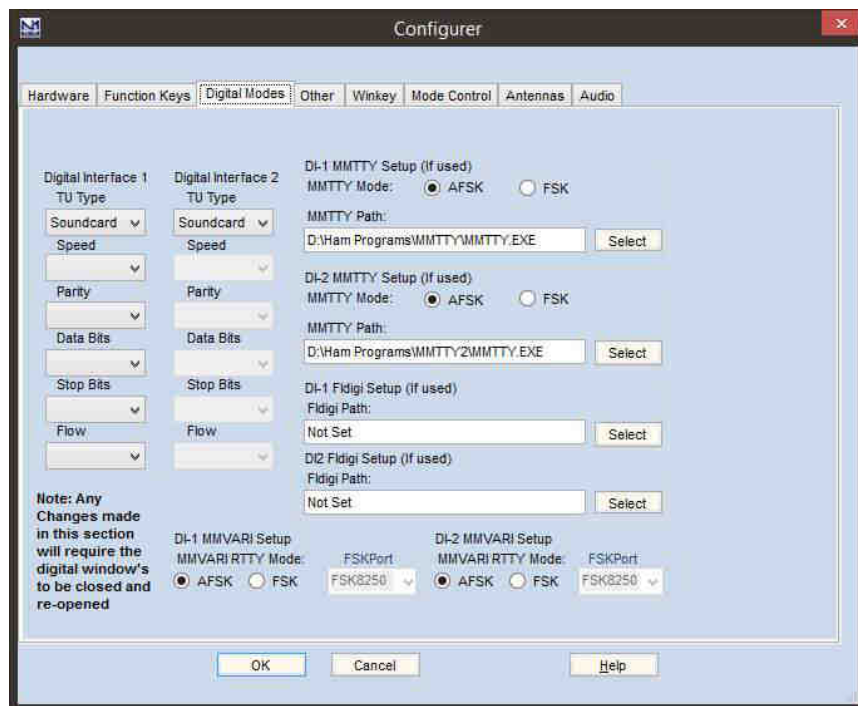
27. Select RTTY-L mode in MMVARI in DI-2 or enter RTTY in Entry Window 2
28. Select the MMVARIFSK2 window from the Windows Task Bar.
29. Set Port to the port you chose for 2nd FSK in Router.
30. Set PTT output to RTS
31. Check Limiting Speed
32. Return the MMVARIFSK2 window to the Task Bar.



MMVARI setup with AFSK:

N1MM Logger supports the MMTTY Engine, MMVARI, 2-Tone and/or an external TNC for RTTY contesting. This configuration is for **AFSK RTTY** and PSK with MMVARI.

AFSK and PSK do not require the use of a digital port for each radio. Do not configure a Digital Port in N1MM Logger or a FSK Port in Router.



1. Select the **Digital Modes** tab in **Configure Ports, Mode Control, Audio, Other ...**
2. Set the TU Type to Soundcard
3. select AFSK as the MMVARI RTTY mode for both DI-1 and DI-2.
4. Open the **Mode Control** tab

5. Select the method to determine the mode recorded in the log.
6. Set the appropriate RTTY and PSK modes for your transceiver.

Note: See the N1MM Logger Plus Help files for a list of supported RTTY and PSK modes for each transceiver.



7. Click OK to Close the Mode Control window and save the configuration.
8. Activate the left Entry Window (Radio 1) and enter PSK.
9. Click **Setup | Settings** and select MMVARI as the Default RTTY Interface and MMVARI as the Default PSK Interface.
10. Select **MMVARI Setup**.



11. Select Soundcard Setup.
12. Set DI1 MMVARI SoundCard: Input Soundcard # to "Line (microHAM CODEC)" and select the **Left** Input.
13. Set DI1 MMVARI SoundCard: Output Soundcard # to "Headset Earphone (microHAM CODEC)".
14. Set DI1 MMVARI SoundCard: Clock Adjustment to 12000 Hz.

15. Set DI2 MMVARI Sound Card: Input Soundcard # to "Line (microHAM CODEC)" and select the **Right** input.
16. Set DI2 MMVARI Sound Card: Output Soundcard # to "Headset Earphone (microHAM CODEC)"
17. Set DI2 MMVARI SoundCard: Clock Adjustment to 12000 Hz
18. Save the configuration.