MK2R/MK2R+ and N1MM Logger Setup
"USB Only" SO2R

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 virtual COM ports for control of both radios. Click the **Set** button for each radio and select the radio on that port from the drop down box. Uncheck **Disable router queries** box.

2. Assign PTT to RTS on the same ports as you used for CAT.

3. Assign ports for FSK and check the PTT box.

4. Assign a port for WinKey. Select the appropriate PTT output and QSK or PTT operation for each radio on Router's PTT tab.

5. Select the audio switching for *EACH* radio on the **Audio Switching** tab.
   CmCmA is recommended for **Voice** Modes.
   If you do not intend to change DVK messages "live," use ACmA.

6. Assign a port for Control. N1MM Logger will use this port to control MK2R or MK2R+.

7. Select "microHAM control protocol on COM port" on the **SO2R** tab. This setting permits N1MM Loggger to control:
   - ♦ **Transmit focus**
   - ♦ **Receive Focus**
   - ♦ **Stereo (Split) Headphones**
        Stereo receive is commanded by the "`" (grave accent or unshifted tilde key) and the {STEREOON} and {STEREOOFF} macros.
   - ♦ **Antenna Selection**

Antenna Relay is enabled on the Accessory tab.   MK2R and MK2R+ provide a four bit (binary) signal to drive a user supplied 1 of 16 decoder for each radio. Seen the N1MM Logger manual for information on configuring the antenna selections.

Set pins 6-9 and 10-13 to "Controlled by microHAM control protocol" for N1MM Logger to control the ACC port outputs for antenna switching.
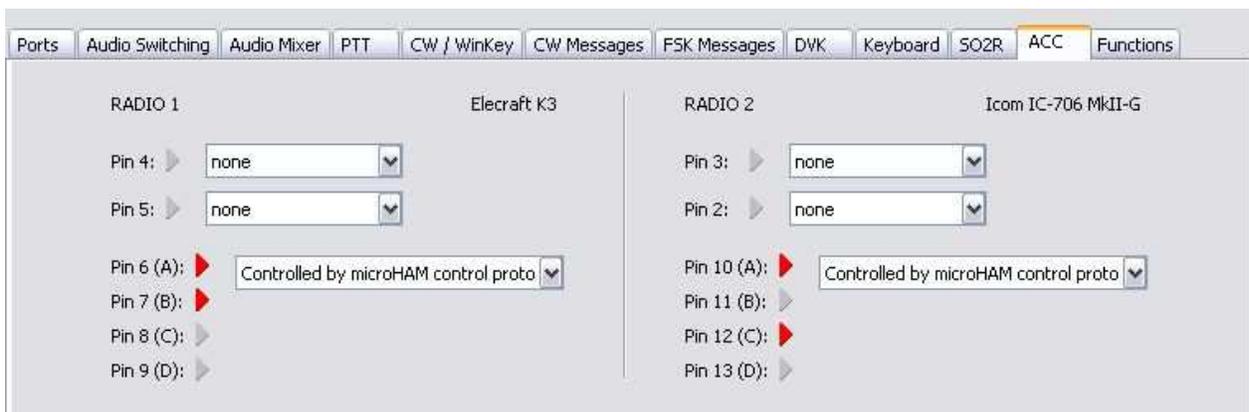

8. Save the settings to a preset by selecting menu Preset | Save as. Choose a position and name it N1MM.

N1MM hardware setup:

1. Click Config | Configure Ports, Telent Addresses, Other ...

2. Assign each radio to the virtual COM port you used in Router's Ports tab
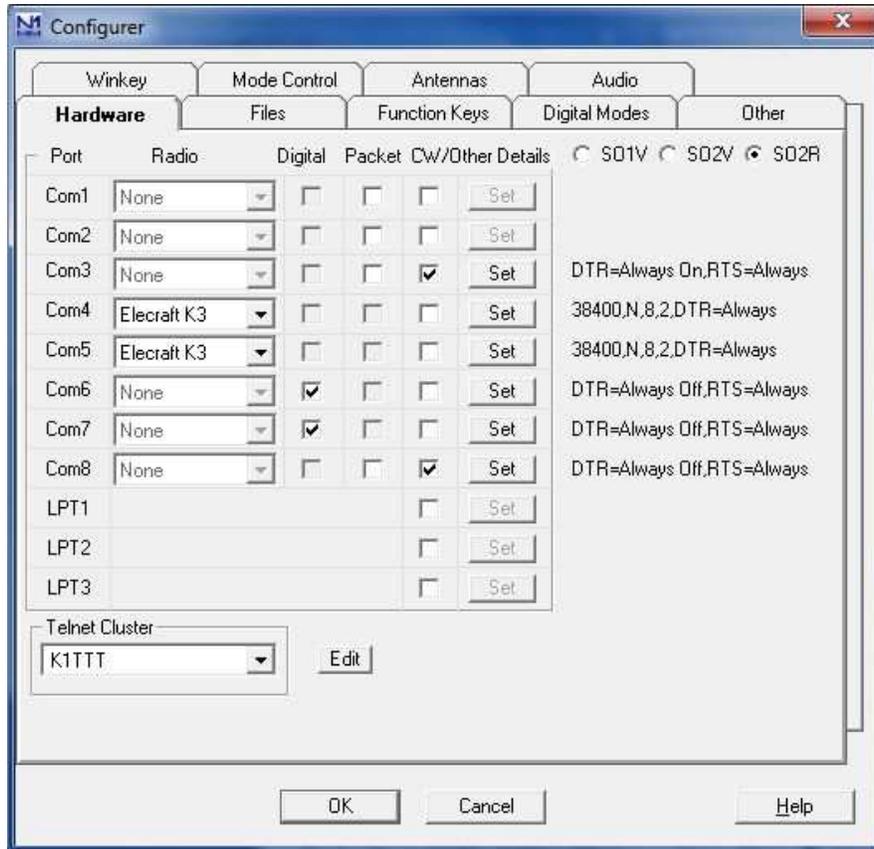
3. For each radio port click **Set** and configure the proper communication parameters.

4. For both radios, set RTS (pin 7) to PTT, DTR (pin 4) to Always Off, **Uncheck** "Energize Hardware & Software PTT" and **DO NOT** check any of the "PTT via Radio Command" options.
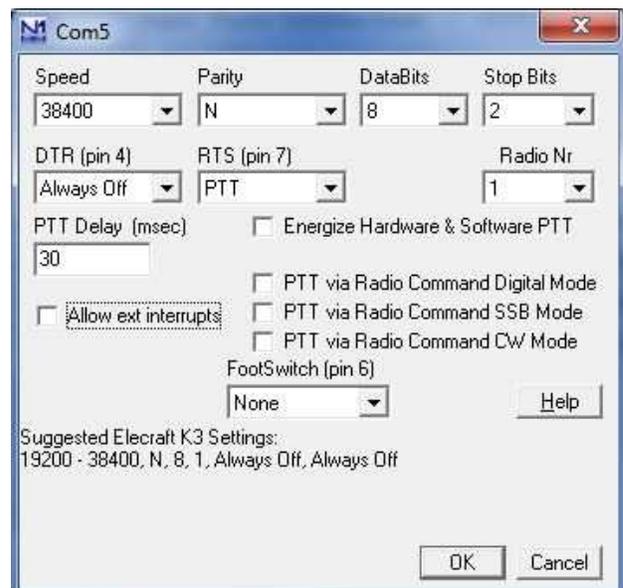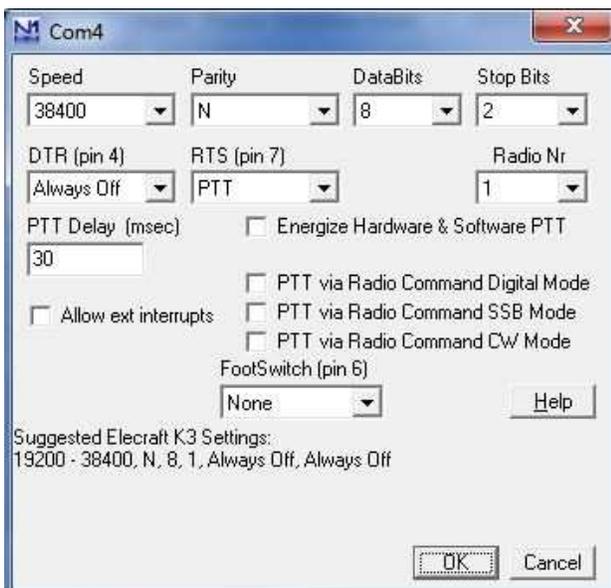
5. Configure the Digital ports taking care to associate each port with the correct Radio (Radio Nr) and Digital Interface (Dig Wind Nr).

6. Set DTR to "always Off" and set RTS (pin 7) to PTT. PTT will be available in all modes.

Com6

DTR (pin 4)	RTS (pin 7)		Radio Nr
Always Off	PTT		1

PTT Delay (msec) Dig Wnd Nr
30   0=None 1

☐ Allow ext interrupts
☐ WinKey
Two Radio Protocol   FootSwitch (pin 6) CW/PTT Port Addr
None   None   3E0   Help

OK   Cancel

Com7

DTR (pin 4)	RTS (pin 7)		Radio Nr
Always Off	PTT		2

PTT Delay (msec) Dig Wnd Nr
30   0=None 2

☐ Allow ext interrupts
☐ WinKey
Two Radio Protocol   FootSwitch (pin 6) CW/PTT Port Addr
None   None   2E0   Help

OK   Cancel

7. Assign a port for WinKey and select both radios. Use the port you created for WinKeyer2 in Router.

Com3

DTR (pin 4)	RTS (pin 7)	Radio Nr
Always On	Always Off	Both

PTT Delay (msec)
30

☐ Allow ext interrupts
☑ WinKey
Two Radio Protocol   FootSwitch (pin 6) CW/PTT Port Addr
None   None   3E8   Help

OK   Cancel

Com8

DTR (pin 4)	RTS (pin 7)	Radio Nr
Always Off	Always Off	Both

☐ Allow ext interrupts
☐ WinKey
Two Radio Protocol   FootSwitch (pin 6) CW/PTT Port Addr
MK2R   None   260   Help

OK   Cancel

8. Check **CW/Other** for the MK2R Control port, click the **Set** button. Set Radio/VFO to **BOTH** and select **MK2R** for Two Radio Protocol.
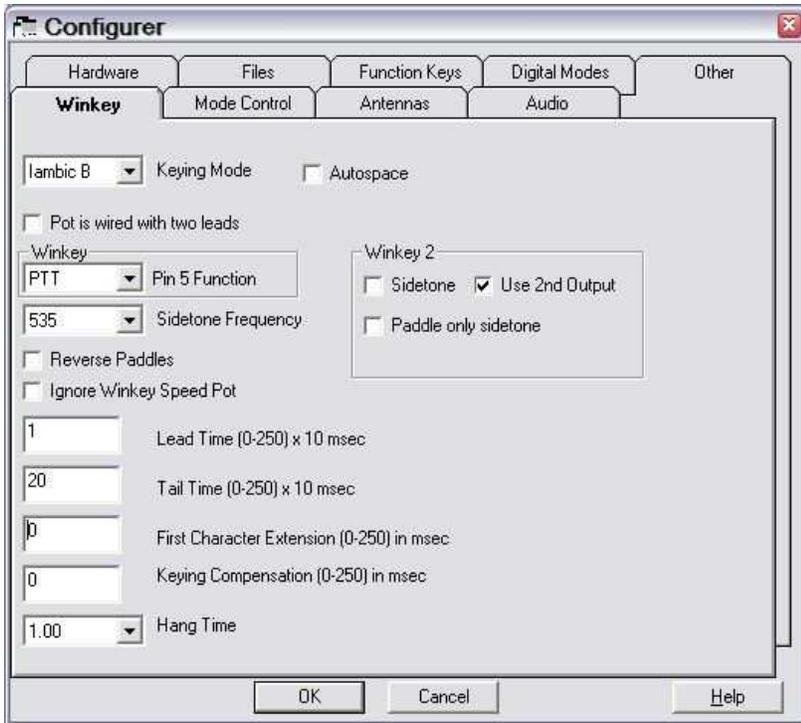
9. Configure WinKey with the N1MM WinKey tab.

10. "Use 2ⁿᵈ Output" should be checked

11. Pin 5 Function should be PTT unless you are using QSK

   Note: Timing parameters are set on the CW/WinKey tab in Router. Router will override any settings made in N1MM Logger.

12. Configure Audio for "2 – Two Radio, No Sound Card SO2R"

13. Select "Speakers (USB Voice CODEC)" as the Output Device.

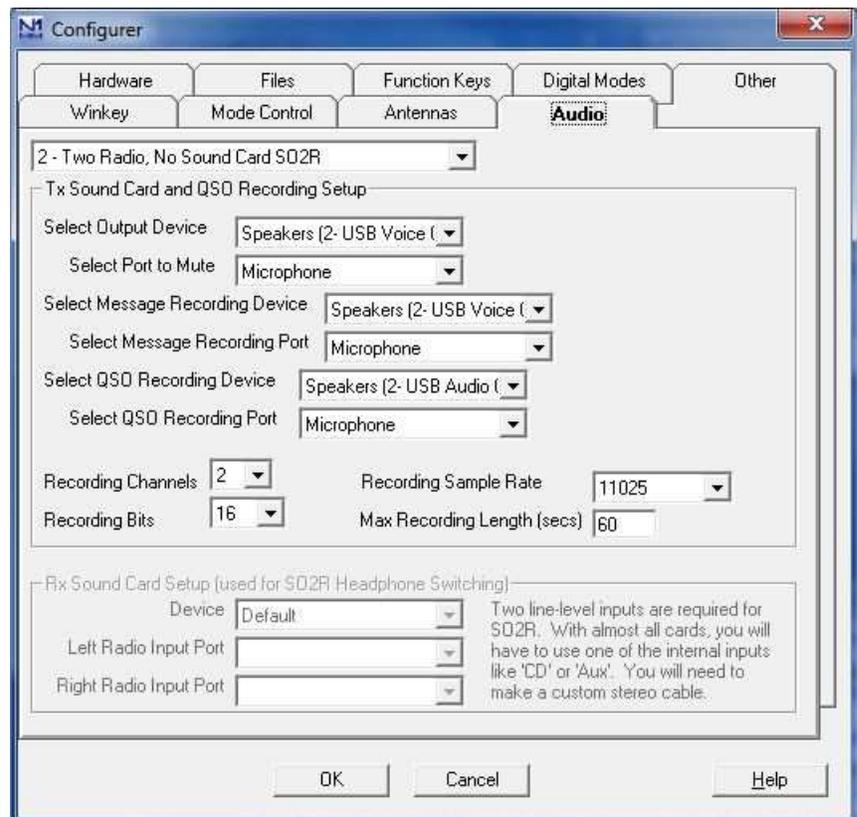14. Select Microphone as the Port to Mute.

15. Select "Speakers (USB Voice CODEC)" as the Message Recording Device.

16. Select Microphone as the Message Recording Port.

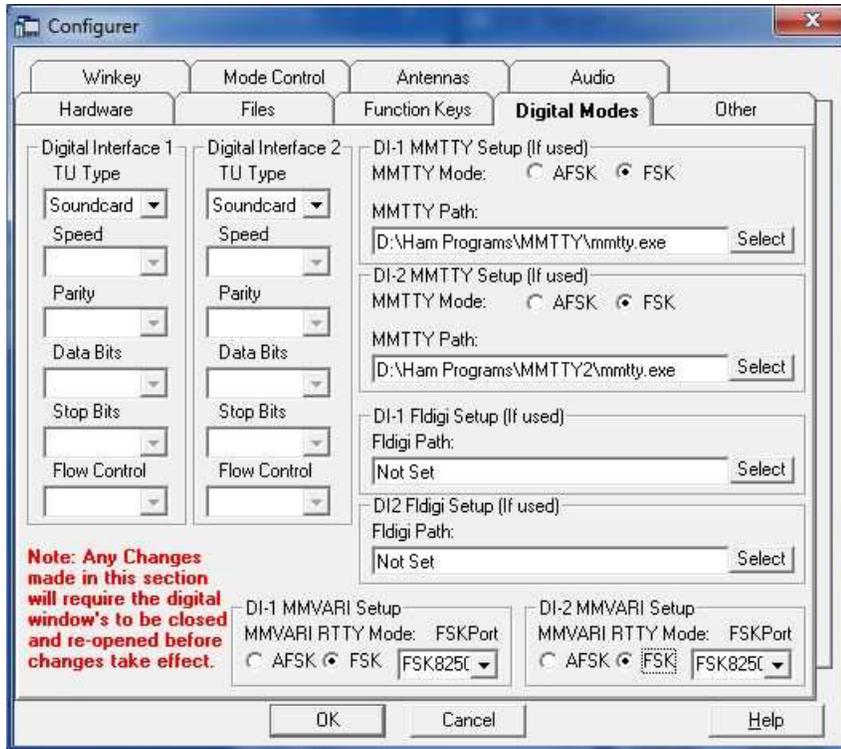17. Select "Speakers (USB Audio CODEC)" as the QSO Recording Device.

18. Select Microphone as the QSO Recording Port.

19. Set Recording channels to Two (2)

FSK with MMTTY:

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


1. Install MMTTY in two *different* directories on your hard disk.

2. Select the **Digital Modes** tab in the N1MM Logger Configurer.

3. Set TU Type to Soundcard

4. Select FSK as the MMTTY mode for DI-1 and DI-2.

5. Enter the path to each MMTTY installation.

6. Open the **Mode Control** tab

7. Set the appropriate RTTY and PSK modes for each radio.

   Note: See the N1MM Logger Help files for the supported RTTY and PSK modes for your radios.

8. Set the method to determine the mode to log.

9. Click "OK" to save the settings and close the Configurer.
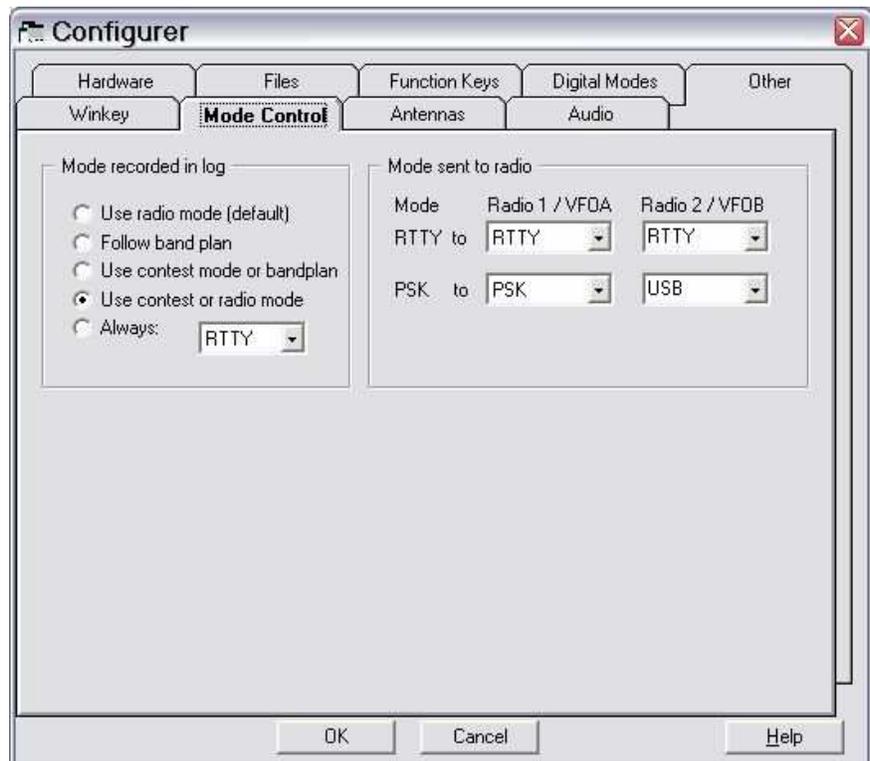
10. Activate the left Entry Window (Radio 1) and open the Digital Interface.

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.**
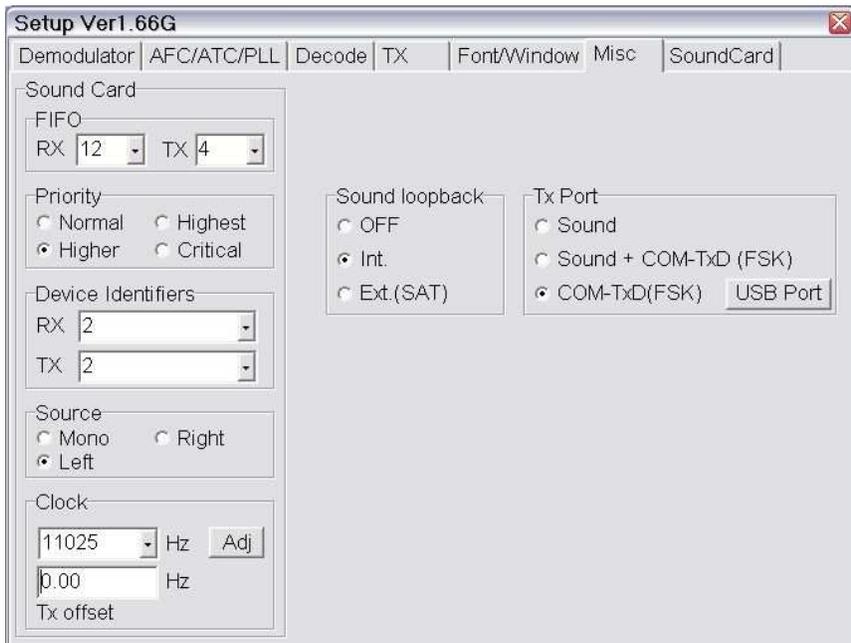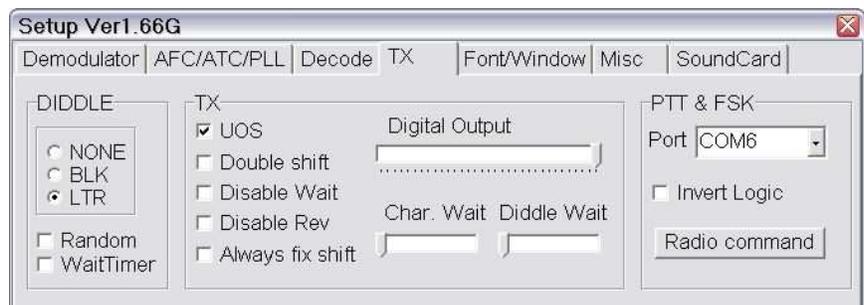

13. Select the "SoundCard" tab.

14. Set Reception and Transmission to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R.

15. Select the TX tab

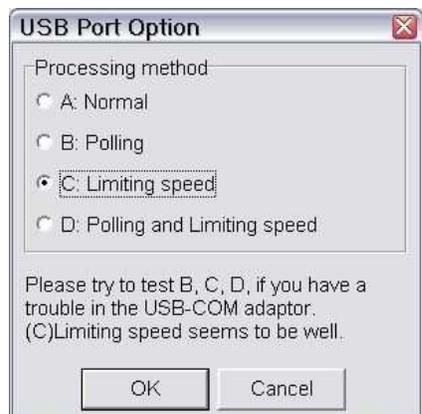**16.** Set PTT & FSK to the port used for Router's Radio 1 FSK port.

17. Select the Misc Tab

18. If the same sound card will be used with both radios, select **Source = Left**

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

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

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

22. Activate the right Entry Window (Radio 2) and open the Digital Interface.

23. Click on **Interface | MMTTY** to activate the MMTTY interface.

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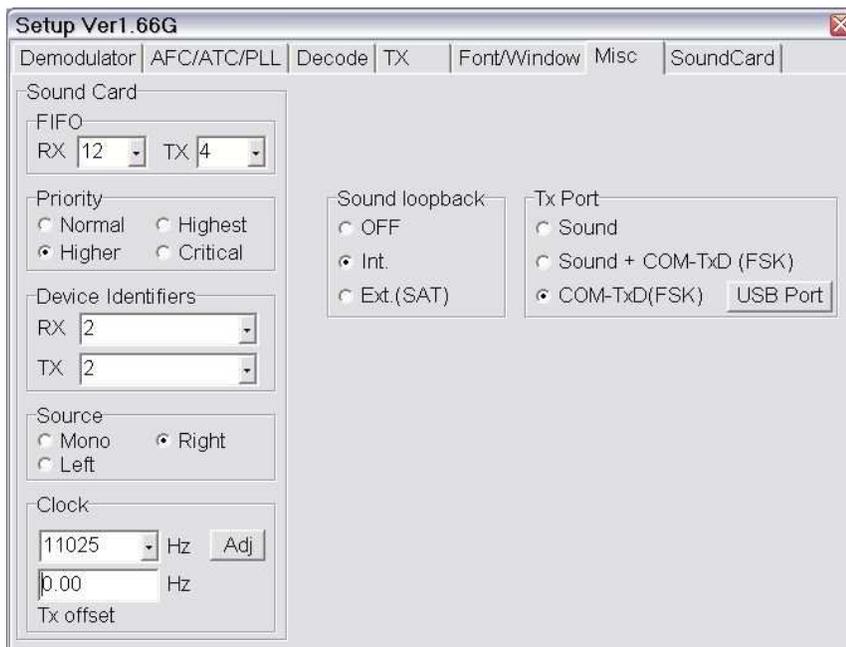

25. Select the "SoundCard" tab.

26. Set Reception and Transmission to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R.

27. Select the TX tab

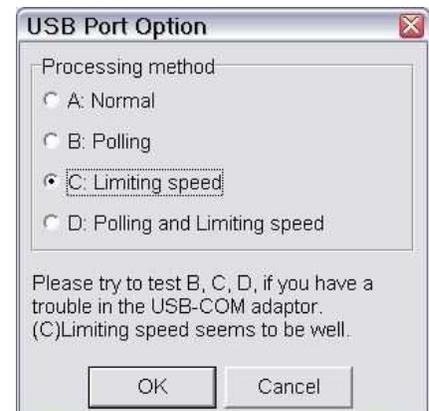**28.** Set PTT & FSK to the port used for Router's Radio 2 FSK port.

29. Select the Misc Tab

30. If the same sound card will be used with both radios, select **Source = Right**

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

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

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

AFSK with MMTTY:

N1MM Logger supports the MMTTY Engine, MMVARI 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.
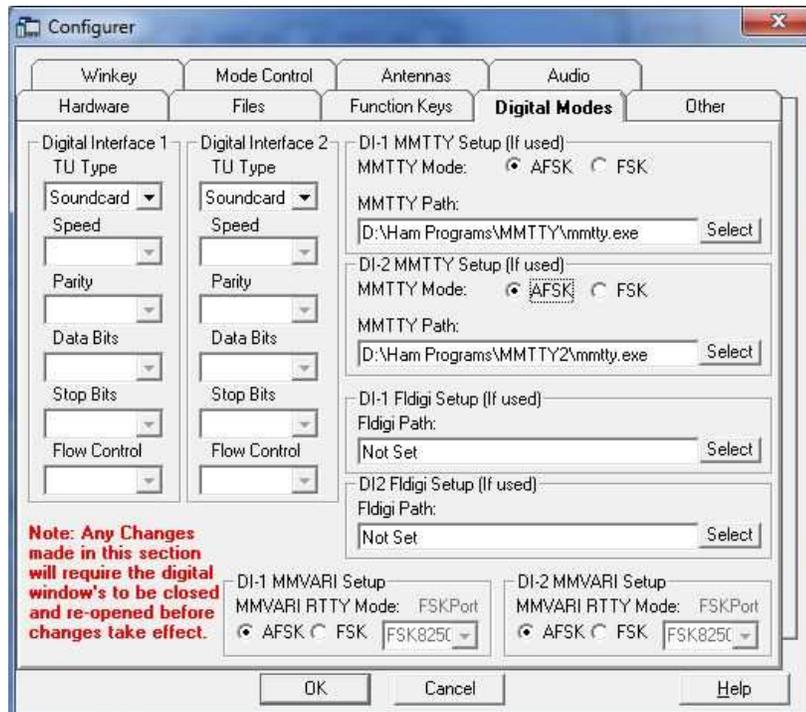

1. Install MMTTY in two *different* directories on your hard disk.

2. Select the **Digital Modes** tab in the N1MM Logger Configurer.

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. Set the appropriate RTTY and PSK modes for each radio.

    Note: See the N1MM Logger Help files for the supported RTTY and PSK modes for your radios.

8. Set the method to determine the mode recorded in the log.

9. Save and Close the Configurer.

10. Activate the left Entry Window (Radio 1) and open the Digital Interface.
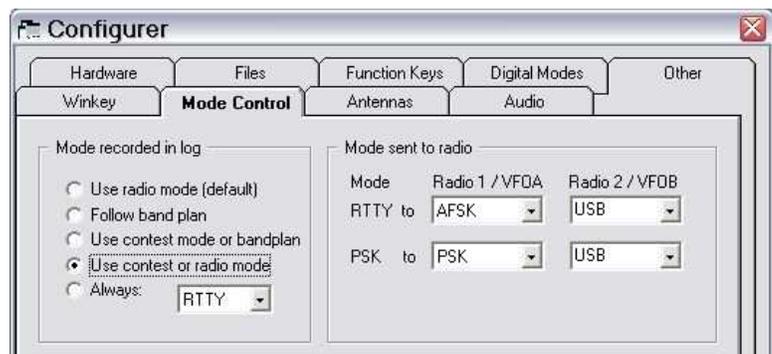
11. If this is the first time you have used the MMTTY interface, click on **Interface | MMTTY** to activate the MMTTY interface.

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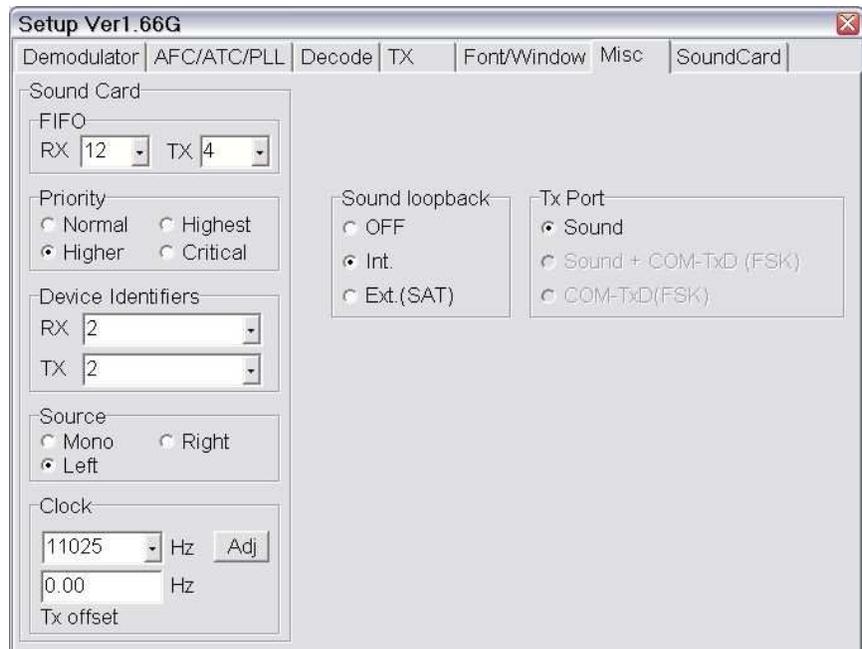

13. Select the "SoundCard" tab.

14. Set Reception and Transmission to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R.

15. Select the Misc Tab

16. Select **Source = Left** if using the same sound card for both radios

17. Set Tx Port to **Sound**.

18. Click "OK" to close MMTTY Set-up for Radio 1

19. Activate the right Entry Window (Radio 2) and open the Digital Interface.

20. Click on **Interface | MMTTY** to activate the MMTTY interface.

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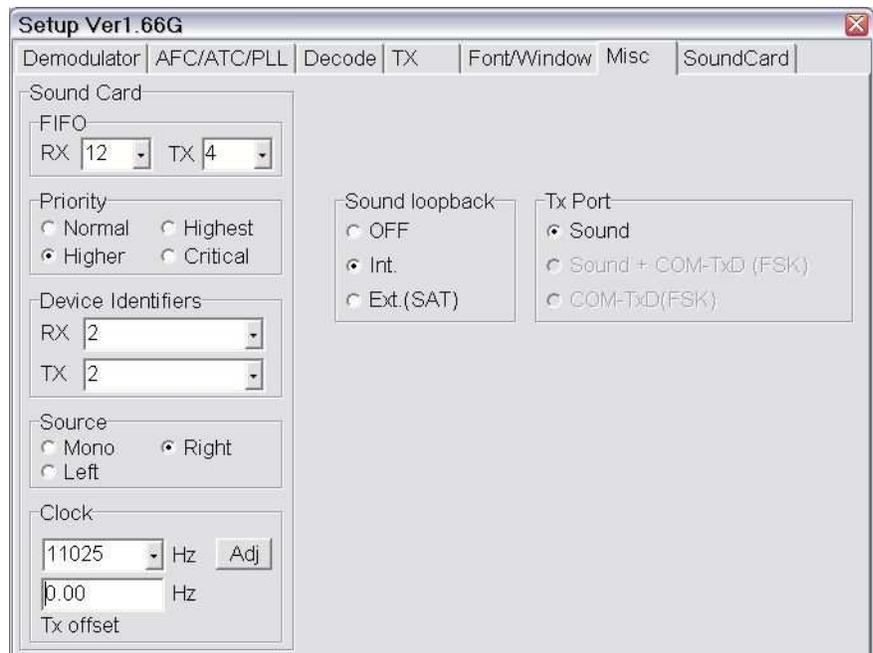

22. Select the "SoundCard" tab.

23. Set Reception and Transmission to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R.

24. Select the Misc Tab

25. Select **Source = Right** if using the same sound card for both radios
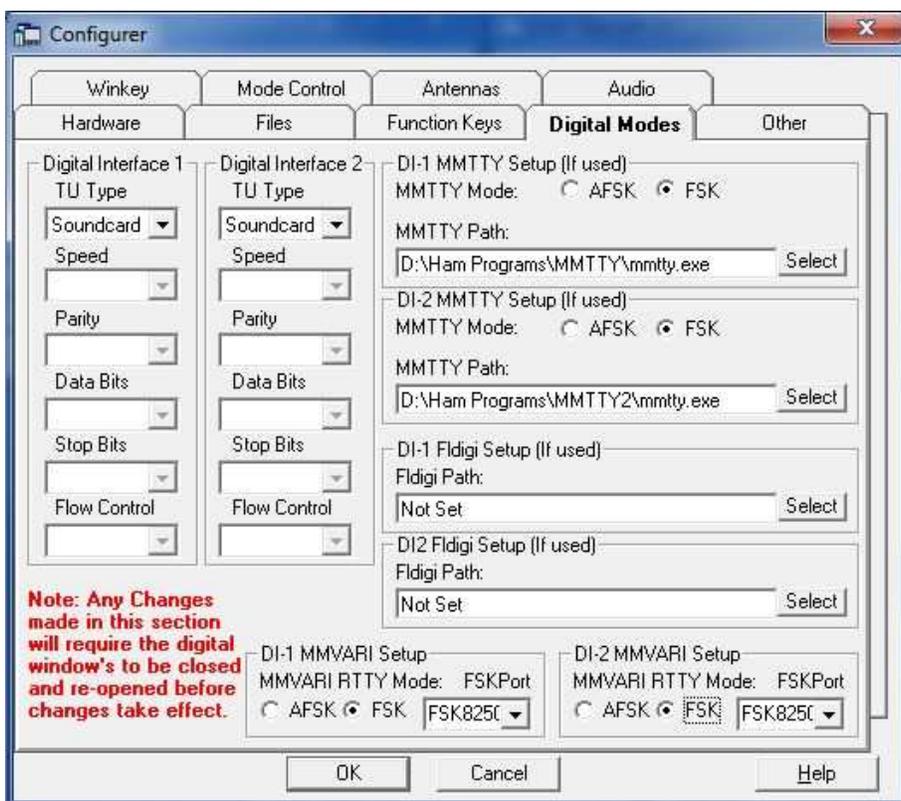
26. Set Tx Port to **Sound**

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

FSK/PSK31 with MMVARI:

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

FSK requires use of a digital port for each radio. Be sure you have defined Digital ports for each radio in the N1MM "Hardware" tab and FSK ports in Router.


1. Select the **Digital Modes** tab in the N1MM Logger Configurer.

2. Set the TU Type to Soundcard

3. select FSK as the MMTTY 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. Set the appropriate RTTY and PSK modes for each radio.

   Note: See the N1MM Logger Help files for the supported RTTY and PSK modes for your radios.

7. Set the method to determine the mode recorded in the log.

8. Save and Close the N1MM Configurer.
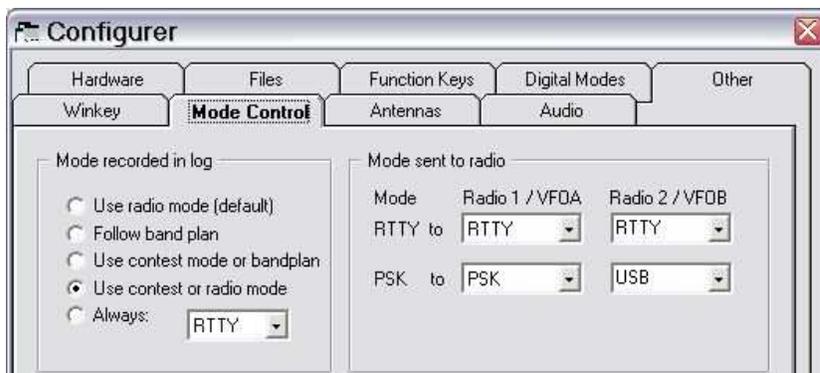
9. Activate the left Entry Window (Radio 1) and enter PSK.

10. Click **Setup | Settings.** Select MMVARI as the Preferred RTTY Interface and Preferred PSK Interface.
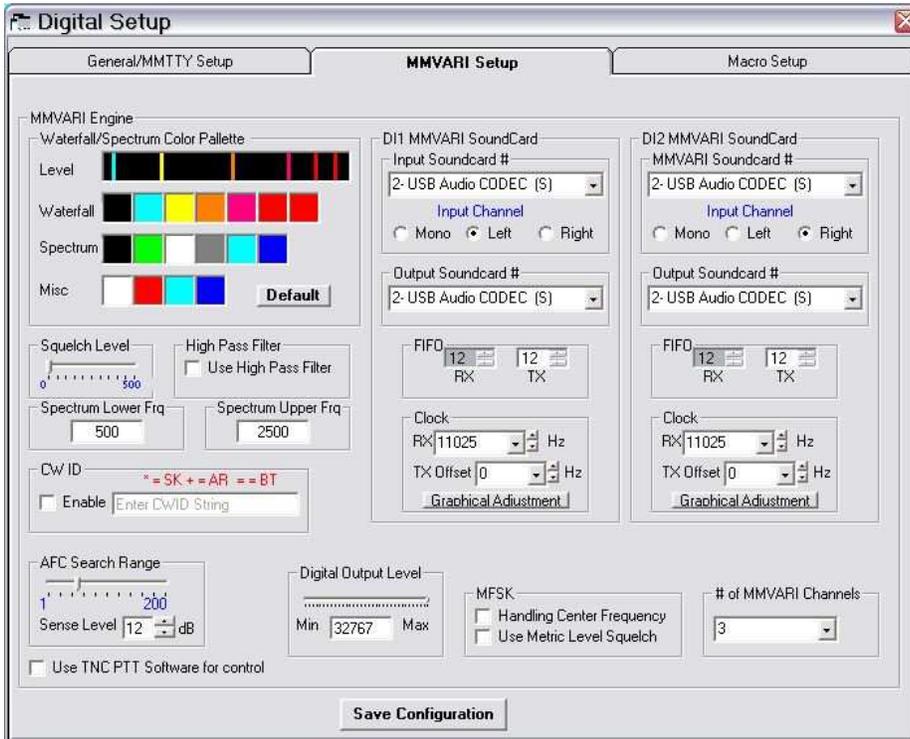
11. Select **MMVARI Setup.**

12. Set DI1 MMVARI Sound Card Input Soundcard # to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R and select the **Left** input.

13. Set DI1 MMVARI Sound Card Output Soundcard # to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R.

14. Set DI2 MMVARI Sound Card Input Soundcard # to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R and select the **RIGHT** input.

15. Set DI1 MMVARI Sound Card Output Soundcard # to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R.

16. Save the configuration.
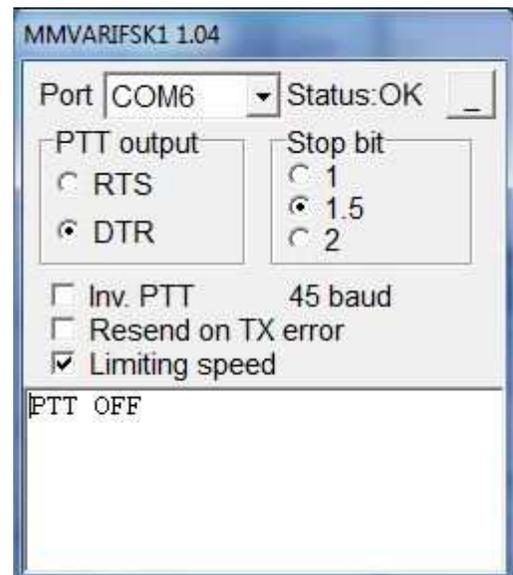
17. Select RTTY-L mode in MMVARI in DI-1

18. Select the MMVARIFSK1 window from the Windows Task Bar.

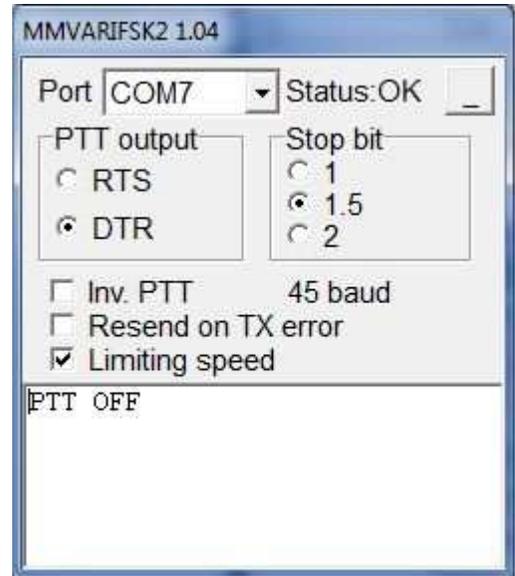19. Set Port to the port you chose for Radio 1 FSK in Router

20. Set PTT output to RTS

21. Check Limiting Speed

22. Return the MMVARIFSK1 window to the Task Bar.

23. Select DI-2 (Open the second DI if it is not already open)

24. Select **Interface | MMVARI** if MMVARI is not already the active interface

25. Select RTTY-L mode in MMVARI.

26. Select the MMVARIFSK2 window from the Windows Task Bar.

27. Set Port to the port you chose for Radio 2 FSK in Router.

28. Set PTT output to RTS

29. Check Limiting Speed

30. Return the MMVARIFSK2 window to the Task Bar.

MMVARIFSK2 1.04

Port COM7   ▼ Status:OK   _

PTT output   Stop bit
  ⊂ RTS   ⊂ 1
                   ⦿ 1.5
  ⦿ DTR   ⊂ 2

☐ Inv. PTT   45 baud
☐ Resend on TX error
☑ Limiting speed

PTT OFF

AFSK/PSK31 with MMVARI:

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

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.
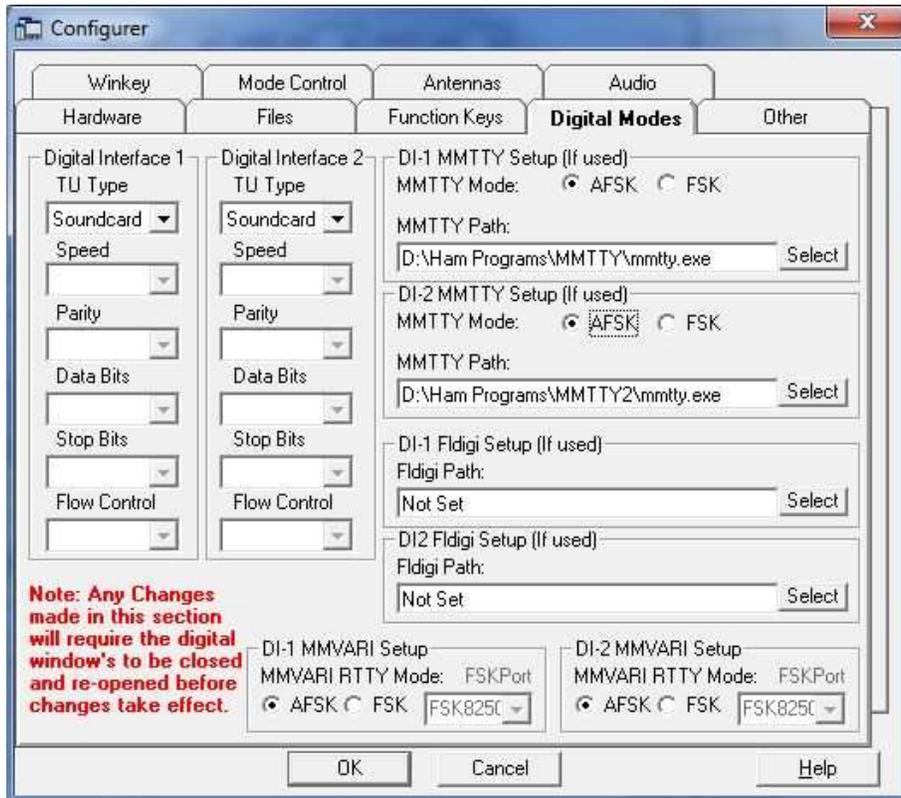

1. Select the **Digital Modes** tab in the N1MM Logger Configurer.

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. Set the appropriate RTTY and PSK modes for each radio.

   Note: See the N1MM Logger Help files for the supported RTTY (AFSK) and PSK modes for your radios.

6. Set the method to determine the mode recorded in the log.

7. Save and Close the N1MM Configurer.
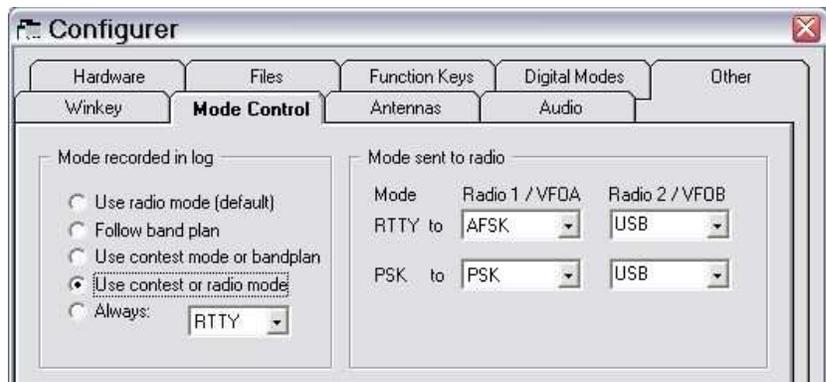
8. Activate the left Entry Window (Radio 1) and enter PSK.

9. Click **Setup | Settings.** Select MMVARI as the Preferred RTTY Interface and Preferred PSK Interface.
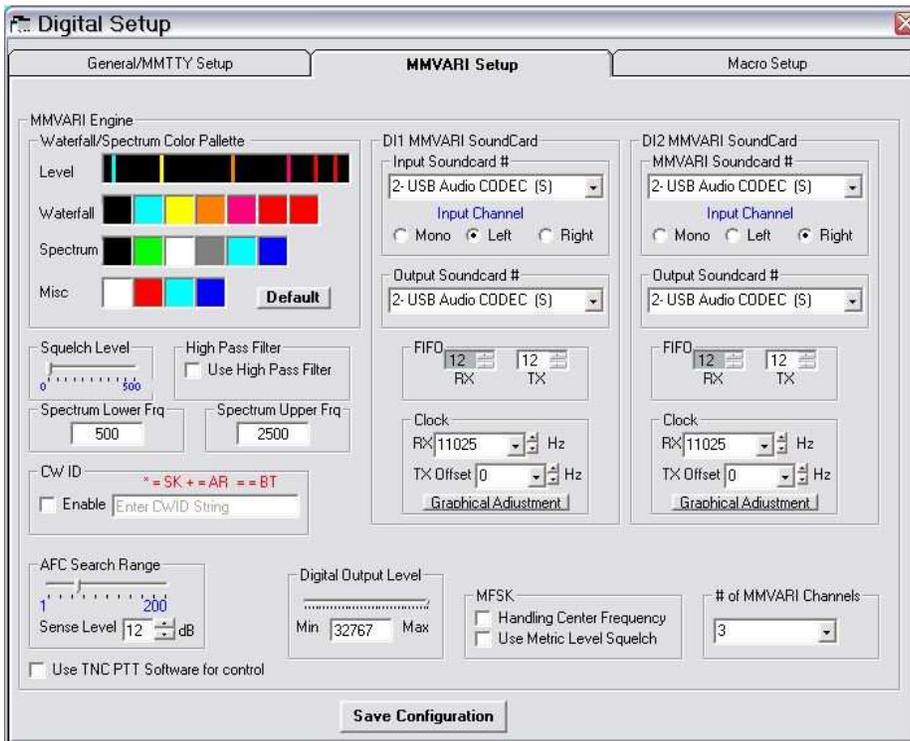
10. Select **MMVARI Setup.**

11. Set DI1 MMVARI Sound Card Input Soundcard # to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R and select the **Left** input.

12. Set DI1 MMVARI Sound Card Output Soundcard # to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R.

13. Set DI2 MMVARI Sound Card Input Soundcard # to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R and select the **RIGHT** input.

14. Set DI1 MMVARI Sound Card Output Soundcard # to USB Audio CODEC for MK2R+ or the sound card connected to the "SC1" jacks for MK2R.

15. Save the configuration.