Kenwood TH-D74 with Winlink / RMS Express Setup

GARS and Gwinnett ARES Kenwood TH-D74 Owners:

For some period of time I have been working with my Kenwood TH-D74 HT to get it playing with Winlink / RMS Express to take advantage of it's internal KISS TNC. With some blog guidance from a Swiss amateur radio operator (HB9ODI) I have the TH-D74 with Winlink sending RMS Express packet session messages.

So what did it take? If you have not yet figured out the secret sauce:
1. TH-D74 must have firmware version 1.06 or newer!
2. Bluetooth connection to the PC
3. Configure the TH-D74 following the below listed configuration instructions

Enjoy!

Mark / N7GRB

For reference and credit, HB9ODI's blog:

   https://hb9odi.com/2017/06/17/winlink-ueber-bluetooth-mit-dem-kenwood-th-d74/

Kenwood TH-D74 Settings

Numbers show are the keypad shortcut entries to reach the desired configuration setting once in the Menu mode.

Configuration >> Interface
- 980 USB Function **COM + AF / IF Output**
- 981 PC Output (GPS) **Bluetooth**
- 982 PC Output (APRS) **USB**
- 983 KISS **Bluetooth**
- 984 DV / DR **USB**

APRS >> Basic Settings >> TNC
- 505 Data Speed **1200 bps**
- 506 Data Band **A** or **B** (preferred) Band [MTB note: I successfully used A and B, just remember which is set]

GPS >> Basic Settings
- 400 Built in GPS **ON**
- 401 My Position **GPS**
- 402 position Ambig. **Off**
- 403 Operating mode **Normal**
- 404 battery saver **Auto** [MTB note: any setting OK]

- 405 PC Output **On**
- 406 sentence **All** activated [MTB note: I only had GPGGA and GPRMC enabled and see no issues]

Pairing

After the TH-D74 settings have been changed, the TH-D74 is paired with the PC. The pairing mode is activated in menu item **934**. Once activated, the TH-D74 will be visible to the PC for 60 seconds.

Once paired in the Windows Device Manager there now appears two new Bluetooth Com ports. In the example case these are ports COM3 and COM4. The lower numbered Com Port is usually the port which is to be used in the Winlink packet session.   [Note: The lower port may not always work whereas the higher port may, some experimentation required.]
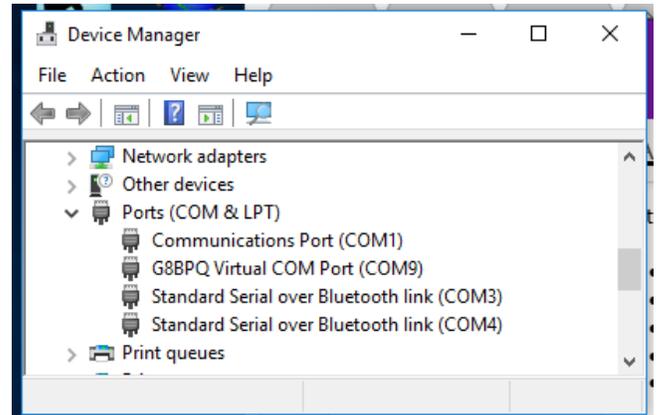
PC Host and TH-D74 Software

Kenwood Drivers

You will need to install the Kenwood virtual com port drivers if it is necessary to update the firmware or you are using Kenwood's Memory Control Program to program and/or backup your TH-D74 HT.

Kenwood USB drivers and firmware updates may be found on Kenwood's Support software download page:

> http://www.kenwood.com/i/products/info/amateur/software_download.html

Pay particular care to first download and install the Kenwood USB virtual drivers before attaching your TH-D74 to the Windows host.

TH-D74 Firmware

Ensure your TH-D74 firmware is up to date, at least version 1.06 level. If not at this minimal level Winlink will not successfully run. Carefully follow Kenwood's directions for firmware updates:

> http://www.kenwood.com/i/products/info/amateur/thd74_update_e.html

Words to the wise and a big **caution**:

> Before installing any TH-D74 firmware update, backup your TH-D74's settings and memory information (e.g., repeater lists, etc) to either your PC or to a micro SD card in the radio. The firmware update process ends with a complete factory level reset deleting any configuration / memory data [it does not affect the contents of a mounted microSD card]. Once the firmware update process is complete, restore your configuration and memory data from your backup.

Winlink

Now for the settings in Winlink. The below instructions assume you have Winlink installed, Winlink account information set and callsign settings for your station info setup.

1. Opening a **Packet Winlink** session
2. In the Packet Winlink session, select **Settings**, the Packet Winlink/P2P Setup screen will appear (see image)
3. In the TNC Connection section:
   - Packet TNC Type **KISS**
   - Packet TNC Model **NORMAL**
   - Serial Port: {The port obtained by the pairing}
   - Serial Port Baud 19200 (any baud using Bluetooth)
4. TNC Parameters section (similar to using SignaLink):
   - Choose 1200 Baud settings
   - IPoll off

Operation Notes

Starting Operation

When starting operation with the TH-D74 with Winlink, in this order follow these steps:
1. Bluetooth pair the TH-D74 with the host PC
2. Identify and remember the Windows Device Com ports associated with Bluetooth
3. Start Winlink, open the packet Winlink session Settings and set the Serial Port for Bluetooth (remember typically the lower numbered of the two Bluetooth ports)
4. On the TH-D74 set packet frequency (typically 145.950 Mhz) and Kiss 12 mode

TH-D74 KISS 12 TNC Mode Setting

1. Using the A/B button select the Band you earlier set for TNC operation
2. Short press the function key **(F)** and the press number key **5**, repeat until the display shows **KISS 12** (not APRS 12). [If KISS 96 appears on the display, this can be found in menu item **505** to be changed]

Note: Any session setting changes or restart of the WinLink packet session will cause the TH-D74 to fall out of Kiss 12 operating mode. Keep watch on the radio's Kiss 12 mode setting!