TUNING IN TO HF PACKET

BENEFITS OF HF PACKET
☐ Error correction
☐ Multiple users can be on the same frequency at the same time
☐ Only need a TNC that is capable of operating HF Packet
☐ Doesn’t require special software

DOWNFALLS OF HF PACKET
☐ Slow -- Only 300 baud
☐ Not as easy to jump into as VHF/UHF Packet may be
☐ May not be as widely accepted in Emcomm applications, but still can be used

BENEFITS OF PACTOR
☐ Error correction
☐ Faster than HF packet
☐ May be more accepted in Emcomm applications, but still faces some setbacks.

DOWNFALLS OF PACTOR
☐ Only TWO stations (sending station and receiving station) can be on one frequency at a time
☐ A TNC supporting at least PACTOR I is required
☐ PACTOR II and III modems are very expensive (at least $1,000)
☐ May need special software depending upon the use.

GETTING STARTED

HARDWARE
☐ Hardware TNC capable of HF packet (Doesn’t have to be expensive ... under $100).
☐ 3.5 mm male-3.5 mm male audio cable (to feed audio from rig to TNC
☐ RS-232C DB-25 25-pin male-RS-232 DB-9 9-pin female cable (goes from the TNC to the computer)
☐ USB-serial cable (if your computer doesn’t have the DB-9 9-pin male connector
☐ Cable that connects the TNC to the rig to key and unkey the transmitter (build or buy)
☐ If you’d rather, you can use a sound card-based TNC such as AGWPE

CALIBRATE YOUR TNC AND TRANSCEIVER
☐ Set tone or bell number (not to exceed 2100/2300 -- the numbers will always be a difference of 200)
☐ Use either the ALC meter (more difficult) or power meter (much easier).
☐ DO NOT transmit more than 50% of your rig’s rated output power (50w for a 100w rig)
☐ Use the ‘mic gain’ and ‘trim pot’ on the back or inside the TNC for proper adjustments

HF SETTINGS
☐ Set HBAUD to 300 (most likely command is ‘HBAUD 300’)
☐ Set FRACK to 5 (most likely command is ‘FRACK 5’)
☐ Set DWAIT to 0 (most likely command is ‘DWAIT 0’)

Set PACLEN to 60 (most likely command is ‘PACLEN 60’)
Set MAXFRAME to 1 (most likely command is ‘MAXFRAME 1’)
Turn digipeating off (most likely command is ‘DIGIPEAT OFF’)

TUNING IN
- We’ll use Network 105 for our example -- 14.105 (20 meters)
- Set your transceiver to LSB -- everyone on ‘105 uses LSB
- Know the MARK and SPACE frequencies (standard tone pair is 1600/1800)
  - MARK frequency=14.103.4
  - 14.105-1.600=14.103.4
  - SPACE frequency=14.103.2
  - 14.105-1.800=14.103.2
- If your TNC (i.e. the KAM) uses the 1600/1800 tone pair, your DIAL frequency will be 14.105, LSB
- If your TNC uses DIFFERENT tone pairs (i.e. AEA PK-88), like 1075/1275, you’ll need to figure out the dial frequency
  - MARK tone in this pair is 1075
  - 14.103.4+1.075=14.104.475
  - SPACE tone in this pair is 1275
  - 14.103.2+1.275=14.104.475
  - 14.104.475 will be our DIAL frequency

OPERATING HF PACKET
- Connecting and disconnecting to a station on HF is the same as VHF
- If a station doesn’t answer, you may be thrown into their BBS, or you can leave a message

OTHER HF PACKET FREQUENCIES
- 3.598=LSB
- 7.086.50=USB
- 7.086.515=USB
- 10.149=LSB

DETERMINING MARK AND SPACE IN UPPER SIDEBAND.
- MARK Frequency (1600/1800 tone pair)
  - 7.086.50+1.600=7.088.10
- SPACE frequency (1600/1800 tone pair)
  - 7.086.50+1.800=7.088.30
- DIAL frequency with DIFFERENT tone pairs (i.e. 1075/1275)
  - 7.088.10-1.025=7.087.025
  - 7.088.30-1275=7.087.025
  - 7.087.025 is our DIAL frequency in USB

For more detailed information and instructions, go to www.hamcomputing.org and click on Blog. As of right now, it’s the most recent post titled “HF Packet Primer for Beginners ...”