

## Beginner's Guide:

### Almost "All in one Place" Setup Instructions for Win 10 computer --> Winlink Express --> Digirig --> HT

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Please post comments/corrections to the Digirig forum.

## Digirig (DR)

Note: Computer powers Digirig

Good practice: Plug Digirig into computer before HT.

Check these in *Device Manager* after plugging DR into computer:

Com port driver:

- ▼  Ports (COM & LPT)
  -  Silicon Labs CP210x USB to UART Bridge (COM7)

Drivers available at: <https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers>

USB PNP Sound Device:

-  Sound, video and game controllers
  -  H1 Hands-Free AG Audio
  -  H1 Stereo
  -  iDea V201 Hands-Free AG Audio
  -  iDea V201 Stereo
  -  Intel® Smart Sound Technology for Digital Microphones
  -  Intel® Smart Sound Technology for USB Audio
  -  M99+ Hands-Free AG Audio
  -  M99+ Stereo
  -  Realtek(R) Audio
  -  USB PnP Sound Device

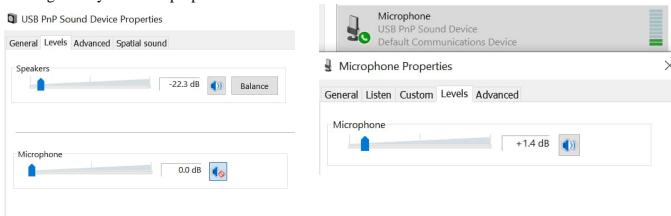
Check/modify Sound devices:

Search for "Sound" (its in Control Panel).

Check Playback and Recording devices:

- Should be named USB PnP Sound Device (or Digirig if you changed the names).
- PNP devices should not be "default" devices. OK for them to be "default communication devices."
- Set volume levels to < 20% (I use ~ 5% or dB equivalent), disable any custom features (AGC, Spatial Sound, etc.).

Settings on my Win 10 laptop:



More info on setting audio levels, etc:

<https://digirig.net/setting-audio-levels-for-digital-modes/>

## SoundModem

SoundModem by UZ7HO - Ver 1.14 - [AFSK AX.25 1200bd]

Settings View Clear monitor Calibration About

A: [AFSK AX.25 1200bd] [1700] [DCD threshold] [Hold pointers]

Settings

Sound Card

Output device [USB PNP Device (Diging) (USB P)]  
Input device [USB PNP Device (Diging) (USB P)]  
 Dual channel TX SampleRate [11025]  
 TX rotation TX cor. PPM [0]  
 Single channel output RX SampleRate [11025]  
 Color waterfall RX cor. PPM [0]  
 Stop waterfall on minimize Priority [Highest]  
 Minimized window on startup

Server setup

AGWPE Server Port [8000]  Enabled  
KISS Server Port [8100]  Enabled

PTT Port

Select PTT port [COM7]  Dual PTT  
Advanced PTT settings  Swap COM pins for PTT

OK

Cancel

Modem settings

Modem filters ch. A:

BPF Width [1400] [Show]  
TX/BPF Width [1600] [Show]  
LPF Width [650] [Show]  
BPF Taps [256]  
LPF Taps [128]  
 Default settings  
PreEmphasis filter [None]  All  
 KISS Optimization  
 non-AX.25 filter

Modem type ch. A:

Mode [AFSK AX.25 1200bd]  
TX Delay [500] msec  
TX Tail [50] msec  
Add RX [0] pairs  
Add RX shift [30] Hz  
Bits Recovery [NONE]  
RX.25 Mode [RX ONLY]

Ok

Cancel

Modem filters ch. B:

BPF Width [1400] [Show]  
TX/BPF Width [1600] [Show]  
LPF Width [650] [Show]  
BPF Taps [256]  
LPF Taps [128]  
 Default settings  
PreEmphasis filter [None]  All  
 KISS Optimization  
 non-AX.25 filter

Modem type ch. B:

Mode [AFSK AX.25 1200bd]  
TX Delay [250] msec  
TX Tail [50] msec  
Add RX [0] pairs  
Add RX shift [30] Hz  
Bits Recovery [NONE]  
RX.25 Mode [RX ONLY]

Match the COM port to the Silicon Labs port shown in Device Manager.

## HT Settings -- Tuning HT receive to Soundmodem

- Units I use: TYT or Retevis HT (both very similar to Baofeng UV5R). Also Anytone UV878

- Volume: Very low.

Setting volume is very sensitive.

Shooting for waterfall in Soundmodem to look like image at right.

(If you don't see the waterfall you are not connected properly).

(Red line is RFI from HT being too close to DigiRig and laptop).

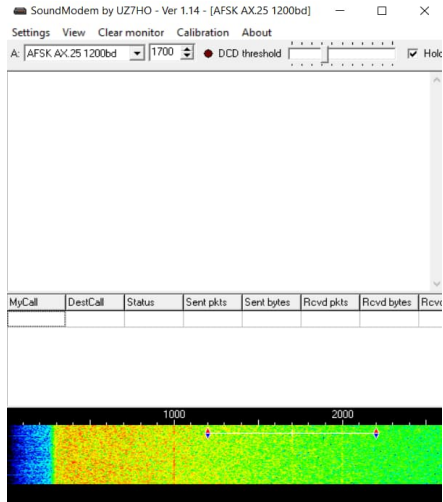
- Vox: Off

- Squelch: 0

HamRadioCrashCourse says to use Squelch = 1 on Baofengs.

- Power: Low for close-up testing. High for > ~ 1/8 mile.

- Bandwidth: Wide (25Khz)



## Winlink Express

Packet Winlink/P2P Setup

TNC Connection

Packet TNC Type: KISS

Packet TNC Model: ACKMODE Serial Port: TCP

TCP Host/Port: 127.0.0.1 8100

Packet sound modem: C:\Users\twebs\Documents\1\_MyDocs\0-First Reactors\C Browse

Automatically launch packet sound modem

TNC Parameters

1200 Baud  9600 Baud

TX Delay (Milliseconds): 400 300

Maximum Packet Length: 128 255

Maximum Frames: 4 7

Frack: 2 2

Persistence: 160 224

Slot time: 30 20

Maximum Retries: 5 5

Disable Xint Level Adjust  Transmit Level: 100 100

Enable IPoll:

Automatic Calling

Autoconnect time: Disabled

Automatically call when there are pending outgoing messages

Put location of Soundmodem .exe here.

Since taking this screenshot I've updated to TX delay of 500 Msec.