

# *Operating PSK With Ham Radio Deluxe*

# Welcome!



# Operating PSK With Ham Radio Deluxe

- About the presenter:
  - Eric Fowler
  - WV3E, prior call KB3WVJ
  - Vice President NHARC 2013
  - Ham since December 2011
  - Extra since May 2012
  - PSK enthusiast since April 2012
  - Worked 40 confirmed DXCC entities on PSK in my spare time
- Professional
  - CenturyLink
    - Subject Matter Expert
    - Telephony & Data Center Power Systems
    - AC / DC / UPS / Standby Generation
- Personal
  - Married to Darlene, 21 years
  - No children, just kitties
  - Seven neices & nephews
  - Woodworking
  - Home repair
  - Tinkering



# *Operating PSK With Ham Radio Deluxe*

- What is PSK?
  - PSK is an acronym for Phase Shift Keying. Information is transmitted through patterns of polarity-reversals (180 degree phase shifts), hence the name.
  - Narrow-band, low-power, soundcard-generated radioteletype mode for keyboard chat.
  - Three data rates, 31, 63 and 125 baud. Bandwidth increases with rate.
  - PSK31 is the most commonly used, its data rate is close to the speed of the average typist.
  - PSK is resistant to interference but has no error control, so it's not suitable for transfer of data files.



# Operating PSK With Ham Radio Deluxe

- Hardware Prerequisites

- Radio

- For rig control, see the list of supported radios at:

- <http://forums.hrdsoftwarellc.com/archive/index.php/t-23332.html>

- QRP is okay, but typical operating power is up to 30 watts
        - PSK is continuous duty – be kind to your finals
        - PSK can be sent and received with boat anchors, but frequency stability is an issue and it complicates automated logging

- Antenna

- Pretty much anything goes, the more efficient the better



# Operating PSK With Ham Radio Deluxe

- Computer Hardware

- Recommended

- Desktop or laptop PC
    - Dual-core processor
    - 4 GB RAM memory
    - 50 GB free disk space
    - 1920x1080 color display
    - Windows 7

- Minimum

- Desktop or laptop PC
    - Pentium 5 processor
    - 1 GB RAM memory
    - 10 GB free disk space
    - 1024x768 color display
    - Windows XP SP3\*

\*Support ends 4/8/14



# Operating PSK With Ham Radio Deluxe

- Other Hardware
  - CAT, CI-V or serial cable for rig control
    - Consult your radio's User Manual for specifics
    - Steer clear of unbranded USB-serial adapters
      - Market flooded with Chinese counterfeit Prolific chips with poorly-written drivers
  - Sound card interface
    - Signalink USB <http://www.tigertronics.com> \*this presentation is based on this product\*
      - Requires an interface cable for your specific radio. See website for details.
    - Rigblaster <http://www.westmountainradio.com>
    - Home-brew cables using PC sound card
      - Beware of ground loops, they can cause distortion. An isolated interface is preferred.
- Not required for certain radio models with a built-in USB interface
  - Icom IC-7200, IC-7410, IC-7600, IC-9100
  - Kenwood TS-590, TS-990
  - Yaesu FTDX-3000



# Operating PSK With Ham Radio Deluxe

- Software

- Drivers for USB to serial or CI-V adapters or USB interface for certain radio models
- Ham Radio Deluxe <http://www.hrdsoftwarellc.com>
  - Version 6.0 \$99.95 yearly support subscription
  - Versions 5.24.38 and earlier **\$FREE**



# *Operating PSK With Ham Radio Deluxe*

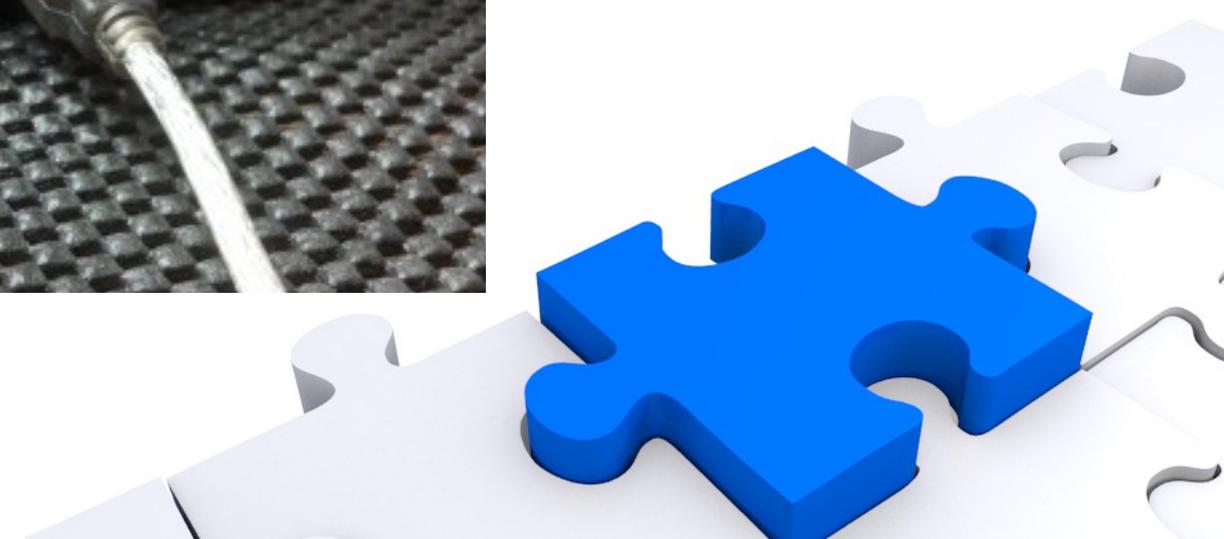
- **Setup**

- Install drivers for USB to serial or CI-V adapters or USB interface for certain radio models
  - Consult the User Manual for your specific equipment
- Drivers for the Signalink USB are included with Windows XP, Windows Vista and Windows 7, just plug and play
- Install Ham Radio Deluxe
  - This tutorial is based on version 5.24.36, version 6.0 is similar.



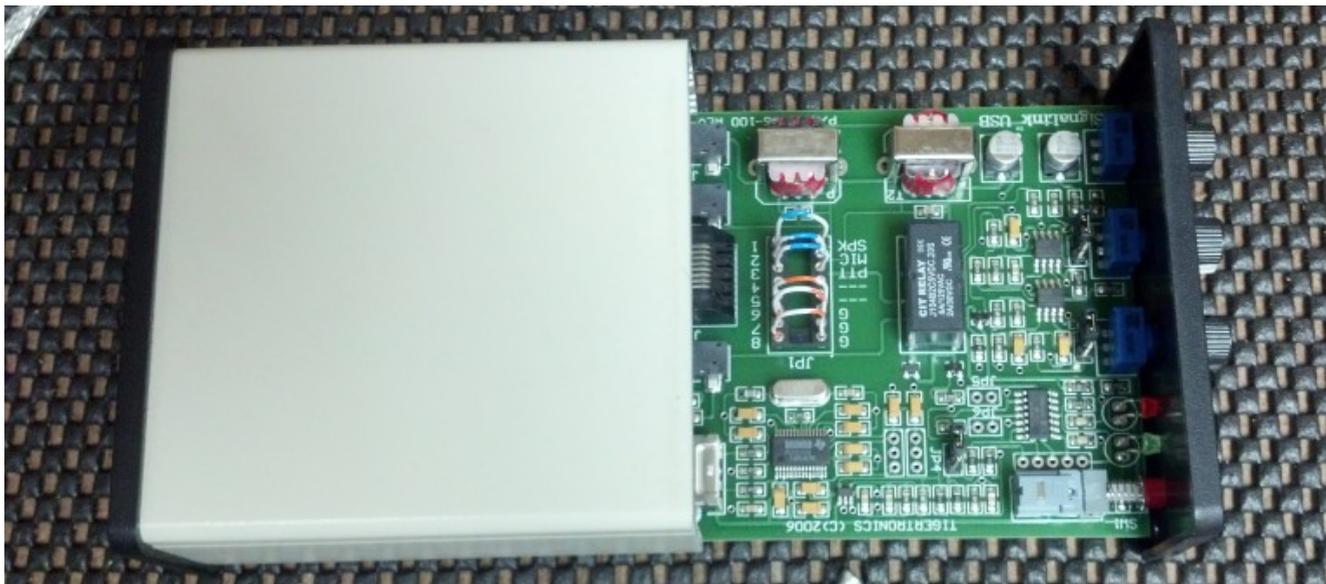
# Operating PSK With Ham Radio Deluxe

- Connecting the Rig Control Cable
  - CAT, CI-V or serial cable between the rig and the PC



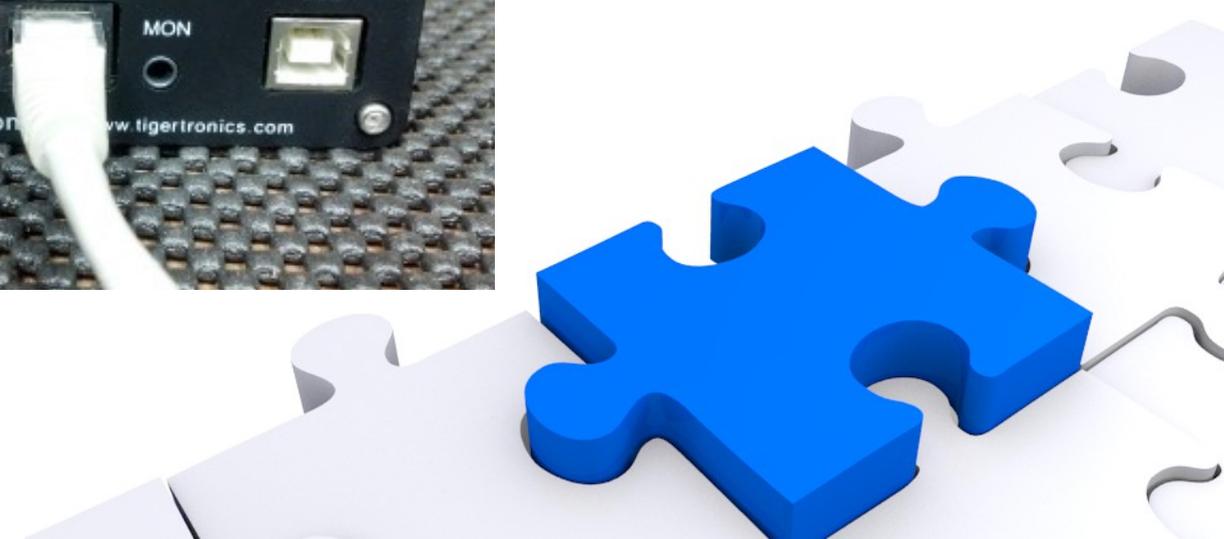
# Operating PSK With Ham Radio Deluxe

- Installing the Signalink Jumpers
  - Configures Signalink for rig-specific interface cable
  - See the manual or [http://tigertronics.com/sl\\_wire.htm](http://tigertronics.com/sl_wire.htm)



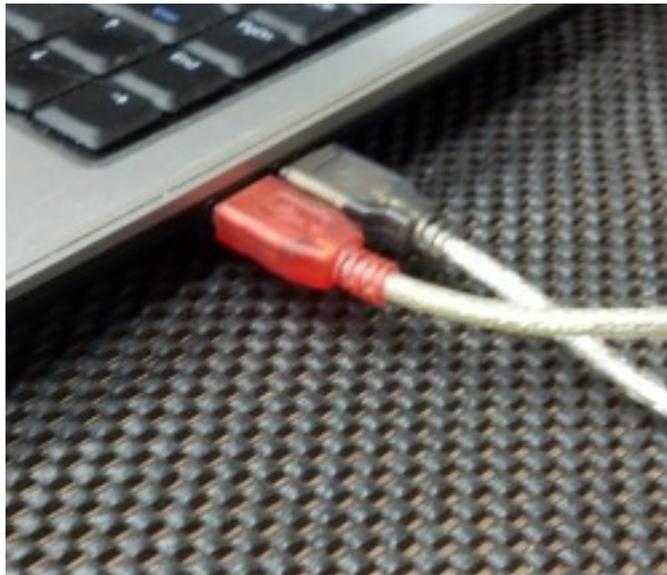
# Operating PSK With Ham Radio Deluxe

- Connecting the Signalink
  - Rig-specific cable between the radio and Signalink

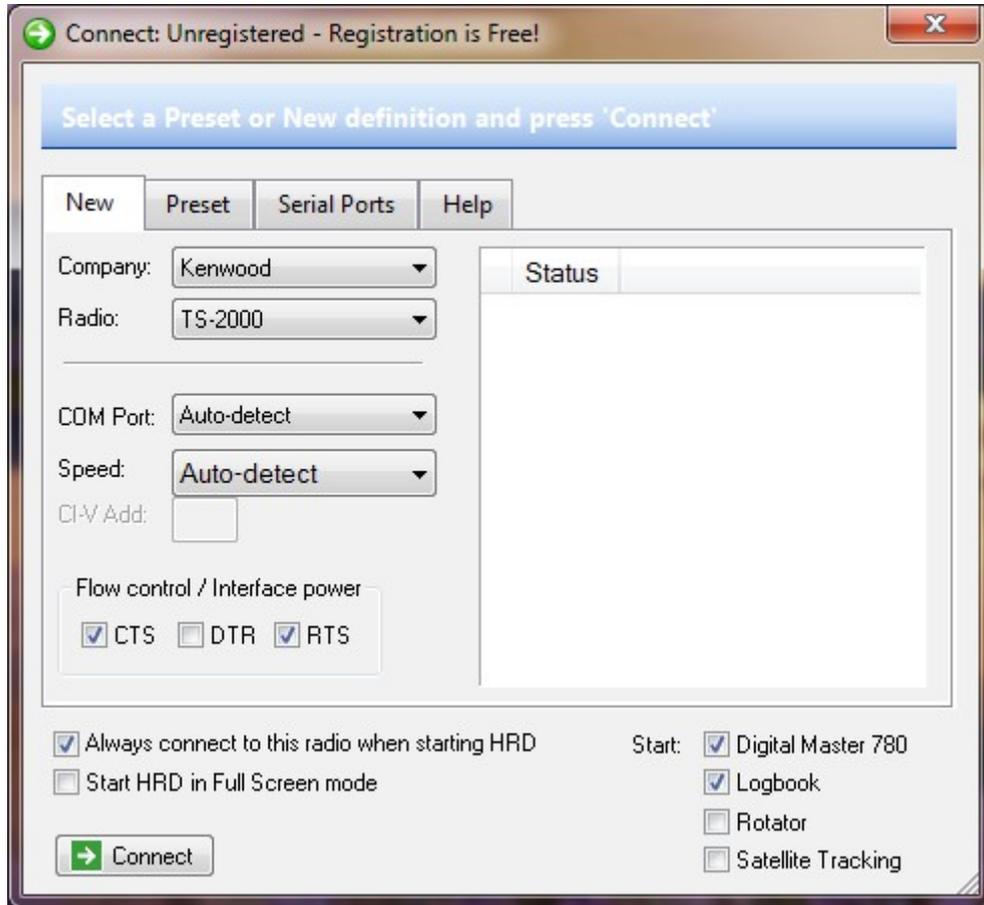


# Operating PSK With Ham Radio Deluxe

- Connecting the Signalink cont'd
  - USB cable between the Signalink and PC
    - Drivers are included with Windows and will install automatically



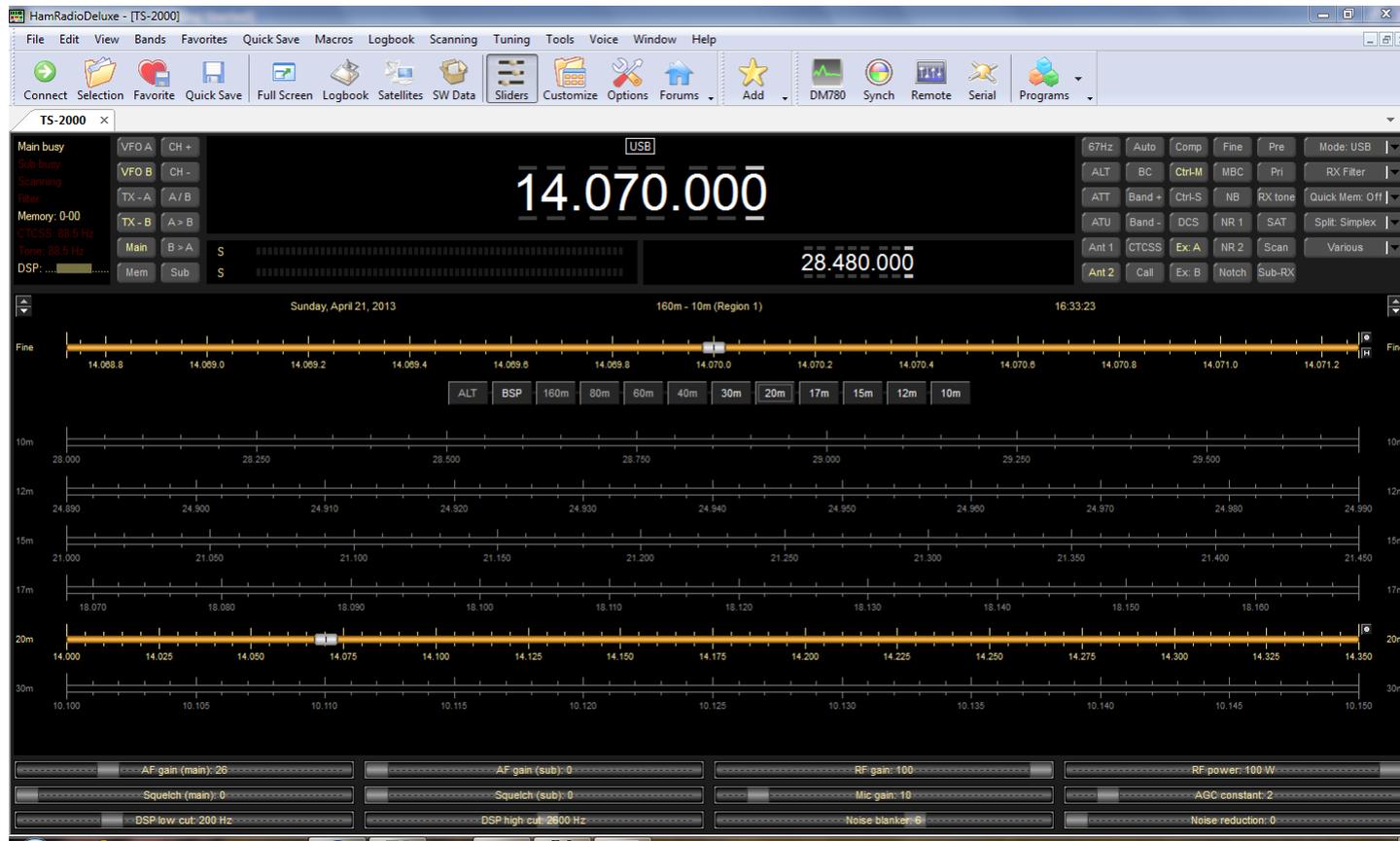
# Operating PSK With Ham Radio Deluxe



- Start Ham Radio Deluxe
  - The first time HRD is started the *Connect* window appears
  - Select your rig's make and model
  - Auto detect will scan all COM ports and standard baud rates
  - Set the checks at the bottom however you prefer. Logbook and Digital Master are both needed for digital modes
  - Click *Connect*. When HRD finds the rig it will connect automatically and open the rig control window



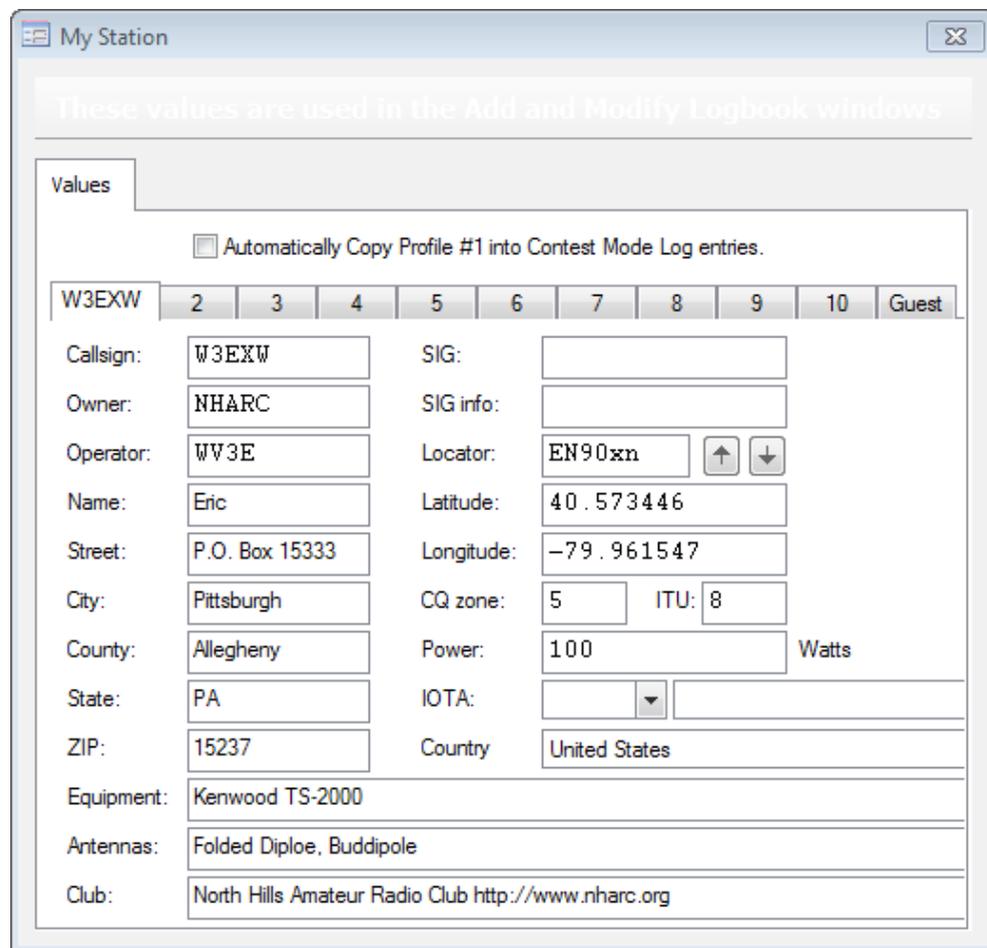
# Operating PSK With Ham Radio Deluxe



Upon successful connection the rig control window displays the VFO frequencies and available controls for your radio model



# Operating PSK With Ham Radio Deluxe



My Station

These values are used in the Add and Modify Logbook windows

Values

Automatically Copy Profile #1 into Contest Mode Log entries.

W3EXW 2 3 4 5 6 7 8 9 10 Guest

Callsign: W3EXW SIG:

Owner: NHARC SIG info:

Operator: WV3E Locator: EN90xn

Name: Eric Latitude: 40.573446

Street: P.O. Box 15333 Longitude: -79.961547

City: Pittsburgh CQ zone: 5 ITU: 8

County: Allegheny Power: 100 Watts

State: PA IOTA:

ZIP: 15237 Country: United States

Equipment: Kenwood TS-2000

Antennas: Folded Dipole, Buddipole

Club: North Hills Amateur Radio Club <http://www.nharc.org>

- Set up HRD Logbook
  - Open HRDLogbook
  - Select *Configure...My Station*
  - Configure as desired, at the minimum, enter your callsign
  - Explore the other options under the *Configure* menu

# Operating PSK With Ham Radio Deluxe

## Getting Started

1-2-3-4-GO

This help text is displayed because you do not have a callsign defined in your tags window

### (1) Tags (Callsign, Name, ...)

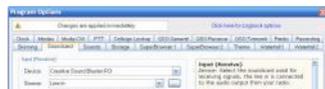


Click [here](#) to display the Tags window.

Enter values in the Tags window, these values are used in macros (shortcuts which save you entering the same text every time you have a QSO). The values are saved automatically.

Put **your own callsign** in the **About Me: Callsign** field.

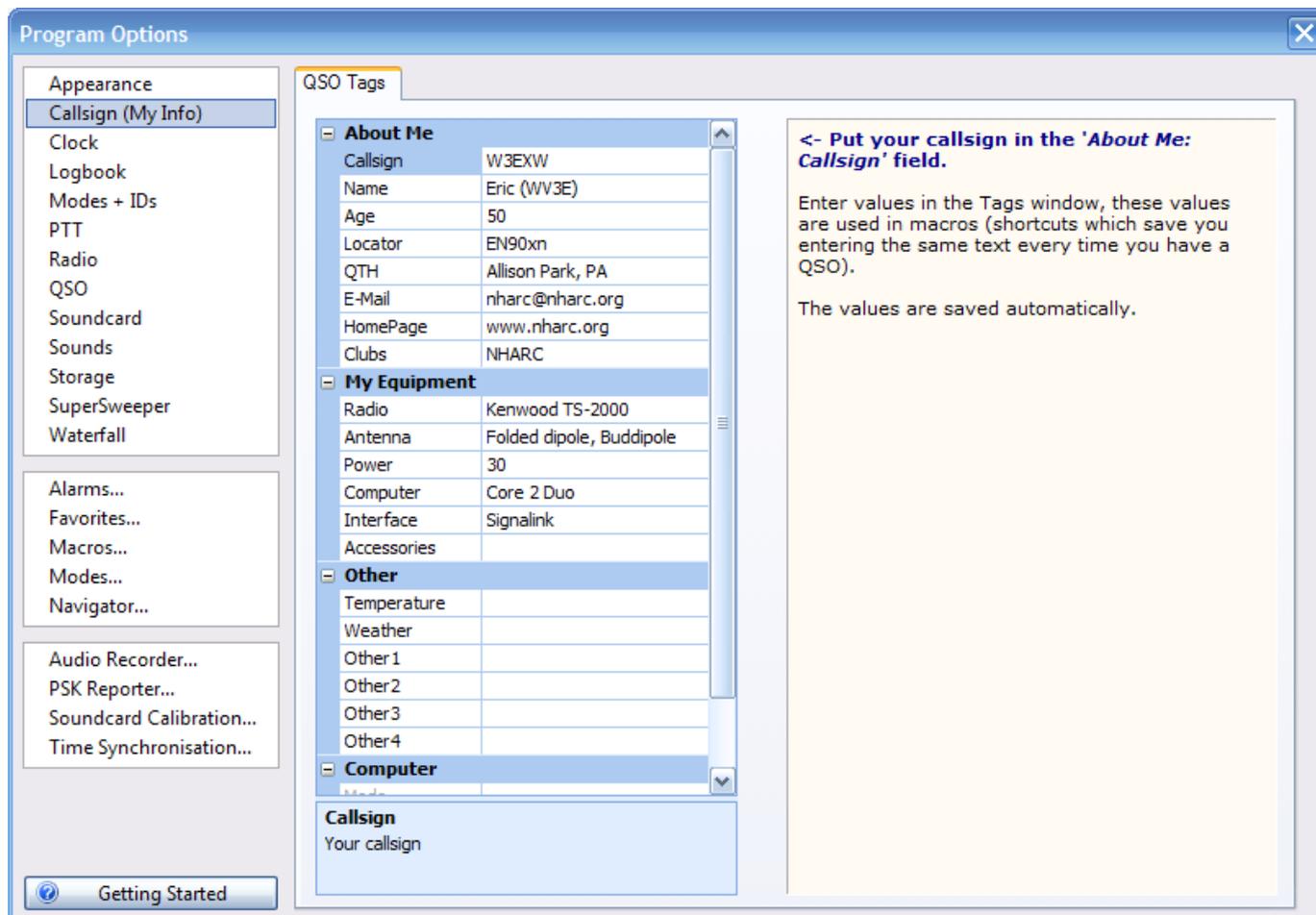
### (2) Soundcard



Click [here](#) to select your soundcard or press F8 to display the *Program Options* (or select *Program Options* from the *Tools* menu) and select the *Soundcard* page.

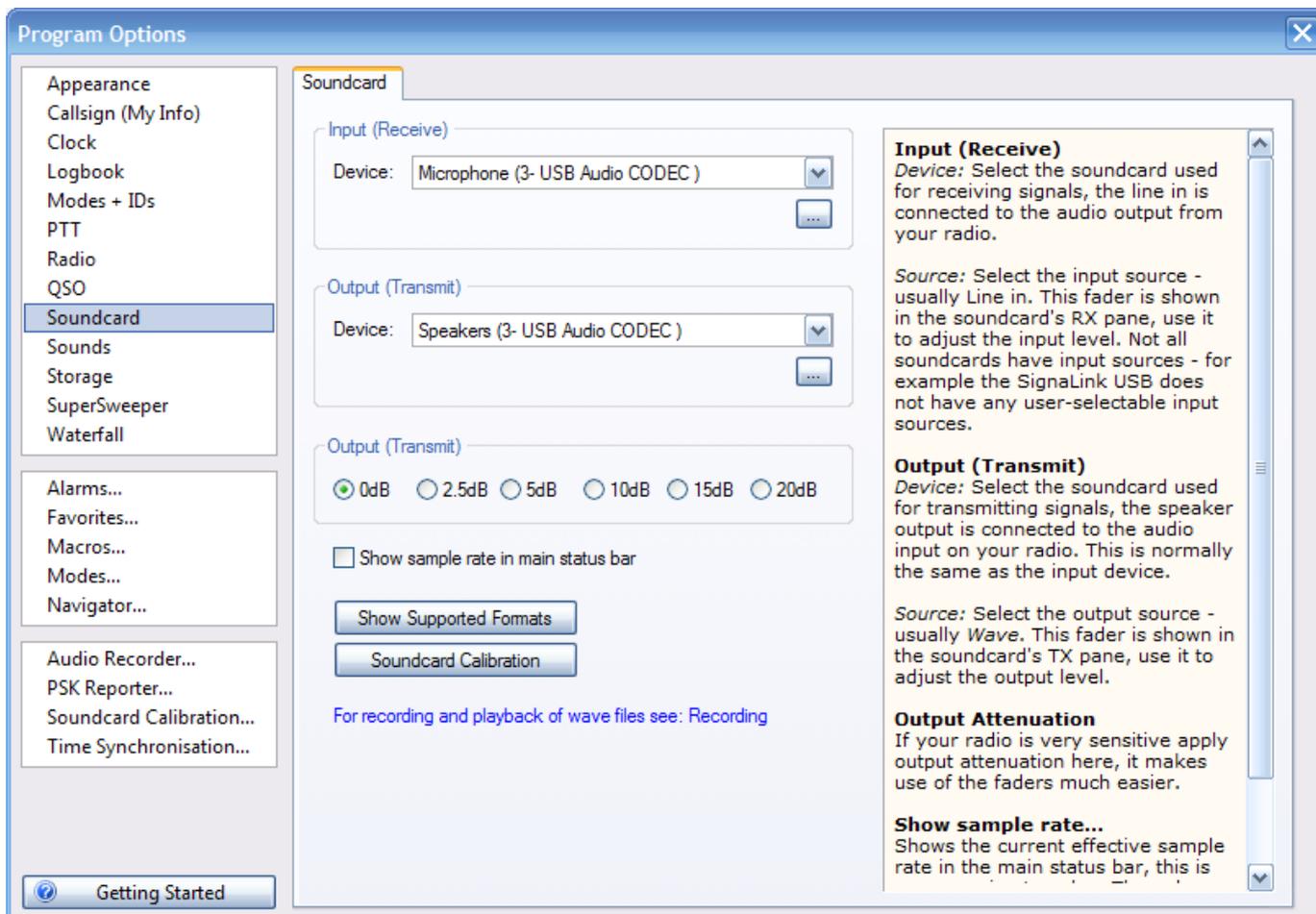
- Set up Digital Master 780
  - Open DM780. Upon first run, the Getting Started screen is displayed
  - This screen includes links to the minimum configuration options required to use DM780

# Operating PSK With Ham Radio Deluxe



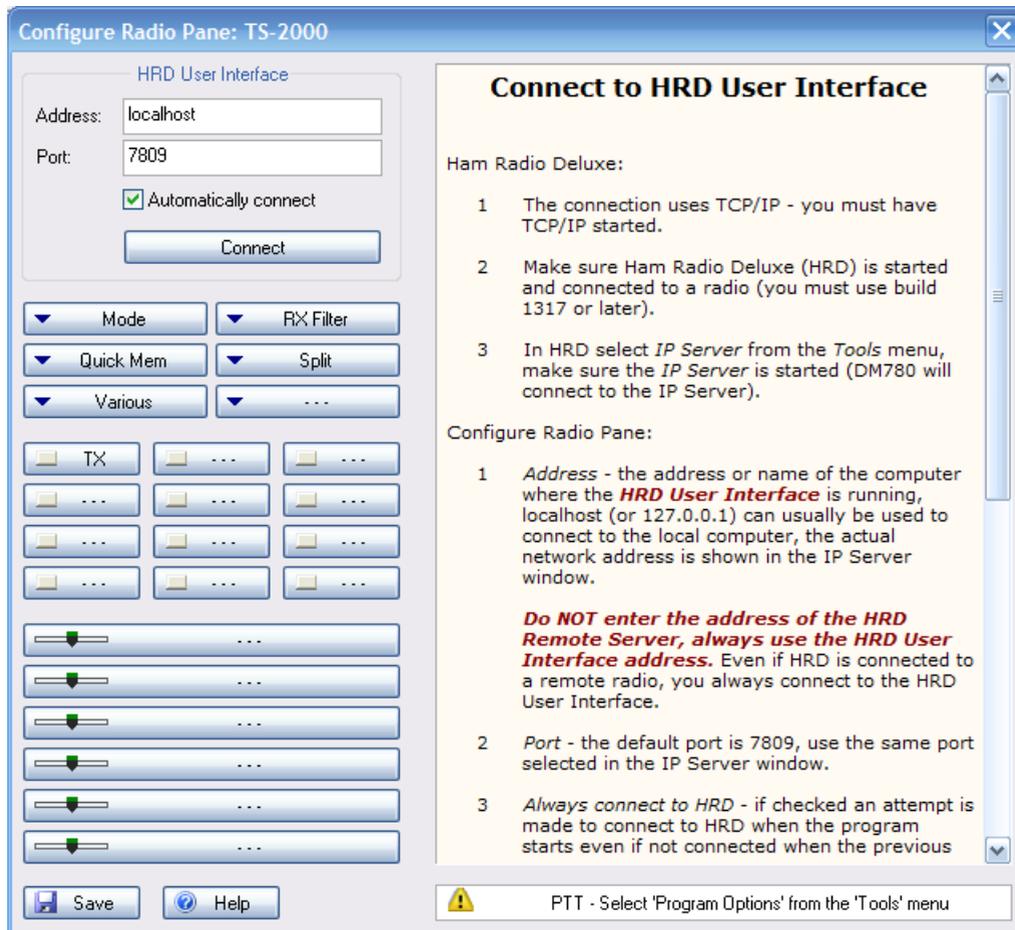
- Getting started with DM780
  - Configure Tags
    - Callsign, name, age, Maidenhead, QTH, email, home page, club affiliation
    - Radio, antenna, transmit power, computer, interface, accessories
    - Wx, etc

# Operating PSK With Ham Radio Deluxe



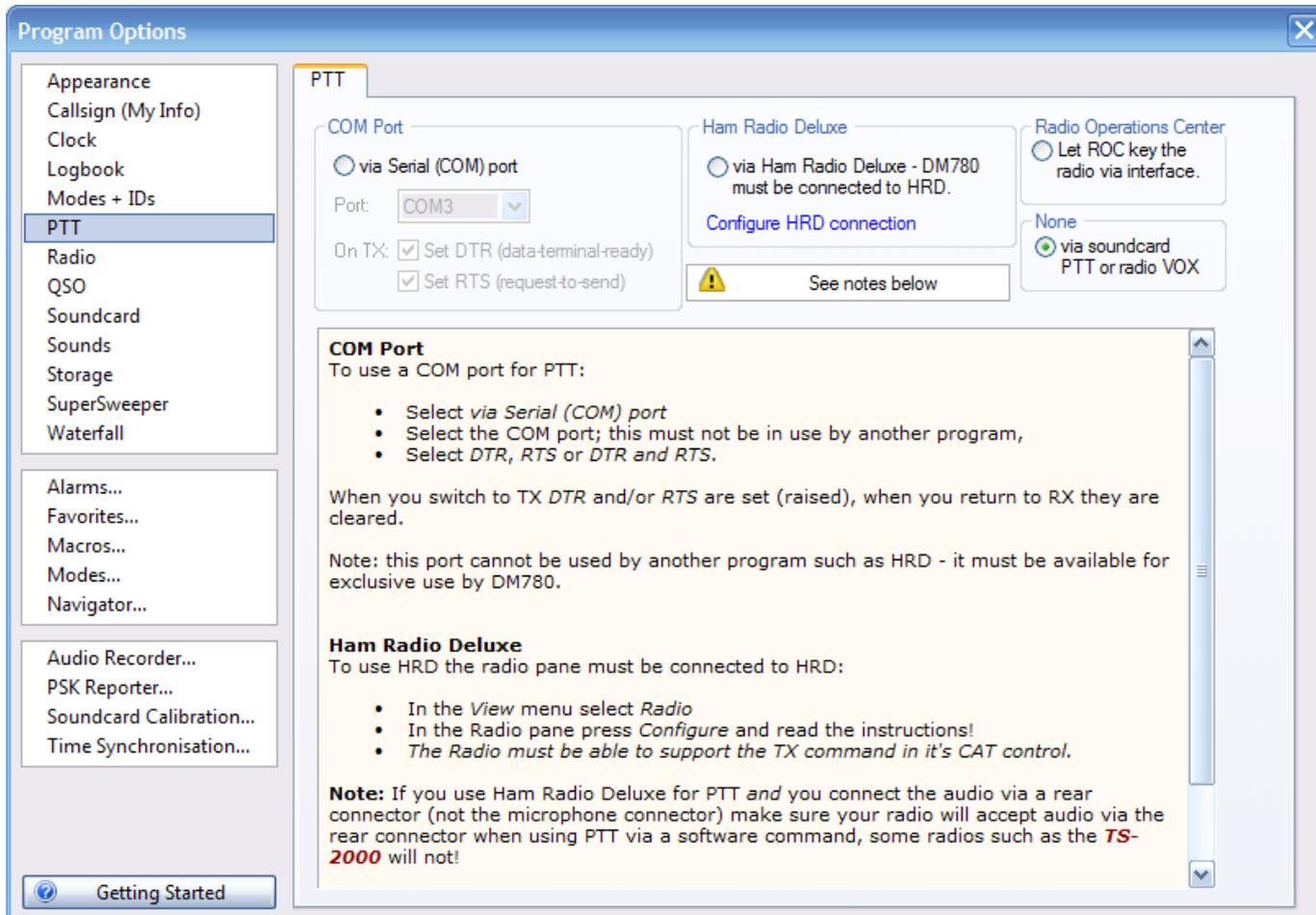
- Getting started with DM780
  - Configure Soundcard
    - Set input device to Microphone (USB Audio Codec) for Signalink
    - Set output device to Speakers (USB Audio Codec) for Signalink

# Operating PSK With Ham Radio Deluxe



- Getting started with DM780
  - Configure Radio Interface
    - Use the default Address and Port for HRD on your PC
    - Check the Automatically Connect box
    - Click *Connect* to test the connection
      - HRD must be running and connected to a radio or in demo mode
    - Click *Save*

# Operating PSK With Ham Radio Deluxe



- Getting started with DM780
  - Configure PTT
    - Signalink USB provides soundcard PTT, use the *None* option
    - Other options are available for different hardware

# *Operating PSK With Ham Radio Deluxe*

- Working with macros
  - Macros are scripts for common tasks such as calling CQ, making a signal report, and bidding farewell
  - Macros use stored variables and commands to automate common tasks
  - Macros can be used in conjunction with the keyboard for ragchewing
  - Macro text can be edited 'on the fly' before it is transmitted
  - Macros simplify routine contacts
  - Macros are useful for contesting

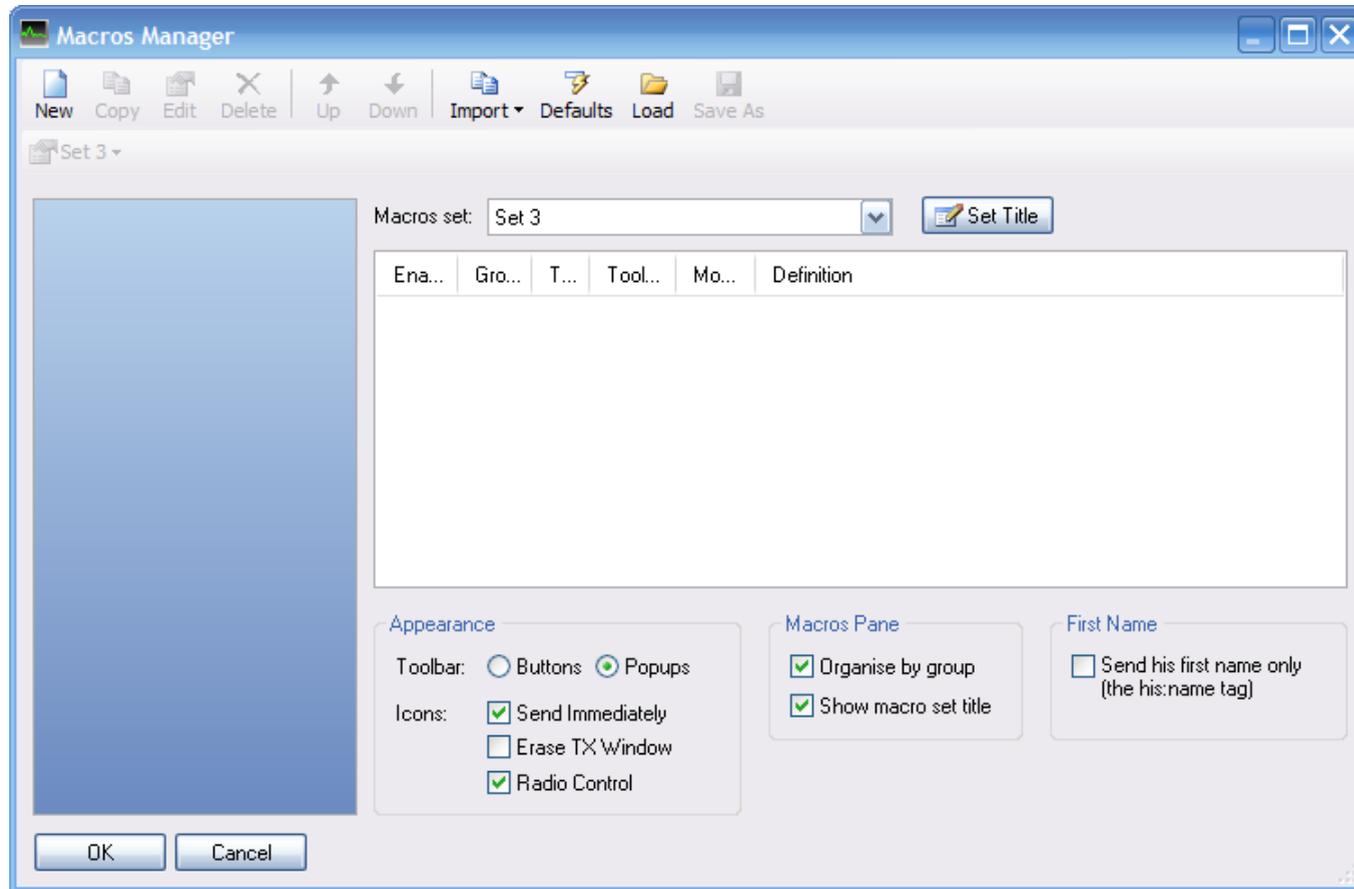


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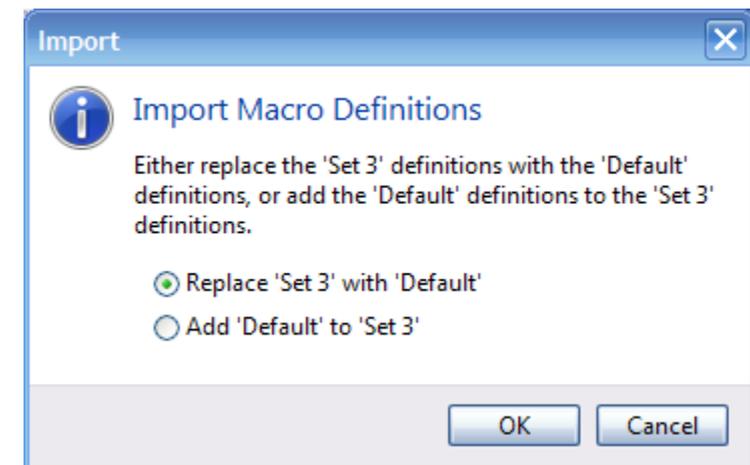
- Personalizing the macros
  - The default macro set cannot be edited
  - Copy the defaults to one of the other available sets, then rename and edit the set to suit your taste
  - Up to eight different sets of custom macros can be made for different operating scenarios



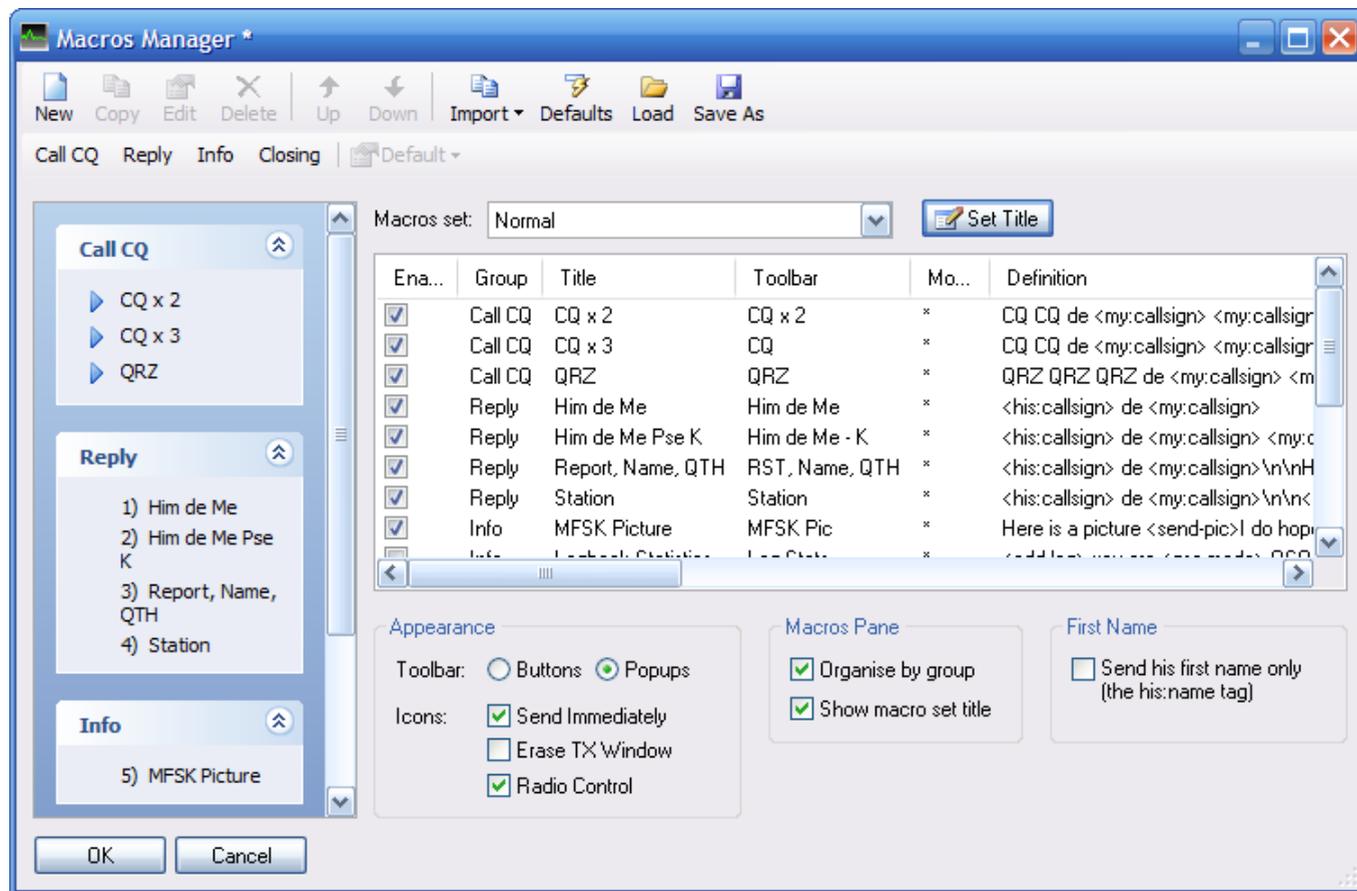
# Operating PSK With Ham Radio Deluxe



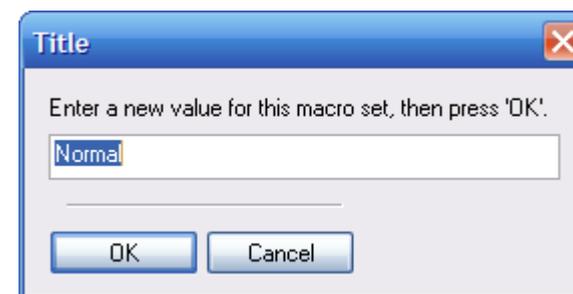
- Editing Macro Set 3
  - Set 3 is initially empty
  - Click *Import*
  - Select *Replace 'Set 3' with 'Default'*



# Operating PSK With Ham Radio Deluxe



- Editing Macro Set 3 cont'd
  - Set 3 is now populated with the defaults
  - Click *Set Title*, then enter a new name
  - Edit and Enable macros as desired



# *Operating PSK With Ham Radio Deluxe*

- Working contacts with macros
  - Calling CQ
    - Ctrl+1 = call twice
    - Ctrl+2 = call three times
    - Ctrl+3 = QRZ?
  - Answering a call
    - Ctrl+4 = Him de Me (useful for ragchewing)
    - Ctrl+5 = Him de Me Pse K



# Operating PSK With Ham Radio Deluxe

- Working contacts with macros cont'd
  - Reports
    - Ctrl+6 = signal report, name, QTH, location
    - Ctrl+7 = station information
  - Info
    - Ctrl+8 = weather
  - Closing
    - Ctrl+9 = BTU (useful for ragchewing)
    - Ctrl+0 = 73 (sign with the station and add the contact to the log)



# *Operating PSK With Ham Radio Deluxe*

Demo time, let's make some contacts!



# *Operating PSK With Ham Radio Deluxe*

## Questions and Answers



# *Operating PSK With Ham Radio Deluxe*

Thank You!

