Introduction

Ham Radio Deluxe supports 3rd-party programs such as logbooks via a virtual serial port.

An example of a virtual serial port is available from Phil Covington N8VB, this will be available from the Ham Radio Deluxe downloads page http://hrd.ham-radio.ch/downloads.html when it has finished beta testing.

N8VB's solution creates two virtual COM ports (there is no hardware associated with them), effectively they are connected back-to-back. This works with Windows 2000, XP and higher. Windows 95/98/SE/ME and NT 4.0 are not supported.

In the description that follows two ports are created, COM11 (used by Ham Radio Deluxe) and COM 12 (used by a 3rd-party program).

Ham Radio Deluxe opens and listens on one port for incoming requests (COM11). The 3rd-party program opens the other port (COM12) in exactly the same way it would connect to a radio using a hardware serial port.

The connection parameters used by the 3rd party program to connect with COM12 are:

- Speed = any (9600 by default but this really doesn't matter),
- Stop bits = 2,
- Parity = none.

The protocol supported is Kenwood, the command set current supported is:

- **FA** Get / set VFO-A.
- **FB** Get / set VFO-B.
- **MD** Get / set mode.
- **IF** Read status, currently *frequency*, *TX status*, and *mode* are supported,
- **SM** Read the S-Meter.

To use this option Ham Radio Deluxe must be connected to a radio, otherwsie the standard Kenwood error response `?;` will be returned. The radio does not have to support the Kenwood protocol as Ham Radio Deluxe makes the necessary conversions.

Testing

To test the connection use HyperTerminal (supplied with Windows) and connect to COM 12 (the virtual serial pot not being used by Ham Radio Deluxe). Enter `FA;` and you will see a value such as `FA00050100000;` returned (50.1 Mhz).

Command Detail

FA Reads and sets the VFO A frequency in Hz

```
Set    FA<11 digit frequency>;
Read   FA;
Answer FA<11 digit frequency>;
```

FB Reads and sets the VFO B frequency in Hz

```
Set    FB<11 digit frequency>;
Read   FB;
Answer FB<11 digit frequency>;
```

IF Retrieves the transceiver status

```
Read   IF;
```

Answer IFP1P2P3P4p5P6P7P8P9P10P11P12P13P14P15;

Where:
    P1 = 11 digits, frequency in Hz
    P2 = 5 digits, not used
    P3 = 5 digits, not used
    P4 = 1 digit, not used
    P5 = 1 digit, not used
    P6 = 1 digit, not used
    P7 = 2 digits, not used
    P8 = 1 digit, 0: RX, 1: TX
    P9 = 1 digit, see MD above
    P10 = 1 digit, not used
    P11 = 1 digit, not used
    P12 = 1 digit, not used
    P13 = 1 digit, not used
    P14 = 2 digits, not used
    P15 = 1 digit, not used

MD Recalls or reads the operating mode status
Set   MD<mode>;
Read   MD;
Answer MD<mode>;

Where mode is one of:
    0: None
    1: LSB
    2: USB
    3: CW
    4: FM
    5: AM
    6: FSK
    7: CWR (CW Reverse)
    8: Tune
    9: FSR (FSK Reverse)

SM Retrieves the S-Meter value
Read   SM;
Answer IF<4 digit value>;

Where the returned value range is from 0000 to 0030. Each unit is 1/2 an S-unit. S5 is 0010, S9 is 0018.