Icom® IC-F410

Rev 1.0 13-August-2002

RADIO:

Icom IC-F410 with OPC-617 cable

REQUIREMENTS:

Nexion universal radio cable (supplied) and 9-pin male D connector (not supplied), wired as follows…

Nexion NX1500 Cable End				Icom IC-F410 Cable End			
HDDB9	Description	I/O	Cable Colour	DB9	Description	I/O	Cable Colour
Pin 1	Receive Audio	In	Black	Pin 3	Discriminator Audio	Out	Black
Pin 2	Transmit Audio	Out	Brown	Pin 4	Transmit Audio	In	Brown
Pin 6	Ground	-	Dark Green	Pin 9	Ground	-	Dark Green
Pin 8	Busy Connection	In	Violet	Pin 6	Radio Busy Indicator	Out	Violet
Pin 9	PTT	Out	White	Pin 5	PTT	In	White
Pin 10	Data Mute	Out	Grey	Feature Not Available			
Pin 12	Power	In	Lite Green	Pin 1	Power (Switched)	Out	Lite Green

IC-F410 TRANSCEIVER

Step 1 Program the IC-410 as required (i.e. Tx/Rx frequencies, etc)

Step 2 Confirm the IC-F410 is fully functional (i.e. test Tx/Rx and align if required)

Step 3 If **no** CTCSS is required, adjust microphone deviation for 5Khz (on a 25Khz channel) or if using CTCSS, 4.5Khz (on a 25Khz channel)

Step 4 Adjust sub audio deviation (if used) for 500Hz (on a 25Khz channel)

Step 5 Solder / bridge link D on the IC-F410 and leave all others as factory standard

Step 6 Using the CS-F300 software, program the IC-410 as required and check the following transceiver parameters are set:
Screen >> Expert >> RX EXO = ON
Screen >> Expert >> RX EXO Delay Timer = 0
Screen >> Expert >> EXPTT Delay Timer = 0

Step 7 On the OPC-617 cable, move the blue wire from Pin 2 (DIM) to Pin 1 (HV). Moving the blue wire can be accomplished (with a small flat-blade screwdriver) by carefully lifting the plastic tab holding the terminal in place and reinsert the terminal into position 1 of the plastic header

Step 8 Connect / fit the OPC-617 cable to the IC-F410 transceiver

NX1500 MODEM

Step 9 Connect the IC-F410 to the Nexion modem using the universal radio cable (wired as above), connect to a suitable power source and switch on.

Step 10 Connect the PC to the Nexion modem. This serial cable can be purchased from Nexion or assembled using the instructions in the Nexion Modem Installation Guide. Using any terminal program, set the appropriate Com Port to 19,200bps, 8 Data, 1 Stop and No Parity (default). Also ensure Hardware hand shaking is enabled. To check if connected properly, type ATI, which will return the version and serial number of the attached modem

Step 11 Using the terminal program, set the TX modulation level by typing ATS115=2 <ENTER>, then type AT&W <ENTER>.

Step 12 Program the modem as required, in particular Fleet, Group and Individual addresses. See Nexion Modem Installation Guide for further programming information.

GENERAL:

Step 13   To confirm the changes made to the modem have been saved, switch the modem's power off (wait 2 seconds) and back on. Using the terminal program, type AT&V, which will display all the S register settings. If any settings differ, repeat steps 9 through 12.

Step 14   Key the transmitter by using the AT&T3 <ENTER> command on the PC terminal program (Modem will transmit a 1.5Khz test tone).

Step 15   Modem TX – Monitor the transmit frequency on a communications test set and note the TX signal purity. With the S115 register set to 2, there should be approximately 3Khz deviation on a 25Khz spaced channel. If there is any transmitted audio signal distortion, increase the value of register S115 (i.e. this increases the level of attenuation) until the transmitted signal is 'clean' and minimal audio distortion is observed.

Step 16   Key the transmitter by using the AT&T2, AT&T4, etc command on the PC terminal program as this will key the transmitter with different test tones. Perform Step 15 again, making sure there is no signal distortion. Use AT&T to de-key the transmitter.

Step 17   Modem test – Using another modem to transmit data, use the AT%Q reading to determine level and quality as per the Nexion Modem Installation Guide.

Step 18   After all tests have been completed, reset the modem with an ATZ <ENTER> command.