Maxon® SD-125

Rev 1.0 18-July-2002

RADIO:

Maxon SD-125

REQUIREMENTS:

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

Nexion NX1500 Cable End				Maxon SD-125 Cable End			
HDDB9	Description	I/O	Cable Colour	DB9	Description	I/O	Cable Colour
Pin 1	Receive Audio	In	Black	Pin 2	Discriminator Audio	Out	Black
Pin 2	Transmit Audio	Out	Brown	Pin 1	Transmit Audio	In	Brown
Pin 6	Ground	-	Dark Green	Pin 4	Ground	-	Dark Green
Pin 8	Busy Connection	In	Violet	Pin 6	Radio Busy Indicator	Out	Violet
Pin 9	PTT	Out	White	Pin 3	PTT	In	White
Pin 10	Data Mute	Out	Grey	Feature Not Used/Available			
Pin 12	Power	In	Lite Green	Pin 5	12V DC Power	Out	Lite Green

SD-125 TRANSCEIVER

Step 1   Program the SD-125 as required, i.e. Tx/Rx frequencies, etc.
Step 2   Confirm the SD-125 is fully functional (i.e. test Tx/Rx and align if required).

NX1500 MODEM

Step 3   Connect the SD-125 to the Nexion modem using the universal radio cable (wired as above) and connect to a 12V DC power supply.

Step 4   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 on the terminal program to 19,200bps, 8 Data, 1 Stop and No Parity. Also ensure Hardware hand shaking is enabled. To check if connected properly, type ATI, which will return the serial number and version of the attached modem.

Step 5   Using the terminal program, set the TX modulation level, type ATS115=5 <ENTER>, then type AT&W <ENTER>.

Step 6   Using the terminal program, set the RX audio receive level, type ATS114=1 <ENTER>, then type AT&W <ENTER>.

Step 7   Using a terminal program, program the modem as required, in particular Fleet, Group and Individual addresses. See Nexion Modem Installation Guide for further programming information.

GENERAL:

Step 8   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 5 through 7.

Step 9   Using a terminal program, key the transmitter by using the AT&T3 command on the PC terminal program (Modem will transmit a 1.5Khz test tone).

Step 10   Modem TX – Monitor on a communications test set. With the S115 register set to 5, there should be approximately 3Khz deviation on a 25Khz channel. Also, note the TX signal purity. If there is signal distortion, either adjust the SD-125 deviation control or increase the value of register S115 (this increases the level of attenuation) until the transmitted signal is clean and provides minimal distortion.

Step 11   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 10 again; making sure the signal distortion is within the SD-125 specifications. Use the AT&T command to de-key the transmitter.

Step 12   Modem RX – Using another modem to transmit data (test using 4,800bps data speed – S register 108=1), use the AT%Q reading to determine level and quality as per the Nexion Modem Installation Guide.

Step 13   After all tests have been completed, reset the modem with an ATZ <ENTER> command.