RH256B Programming

Entering the Program mode:

1. Locate the jumper labeled J401 and connect both ends. The recommended method is with jumper wire with "quick clips" on both ends, but carefully soldering them together is also expectable. Warning: Do not solder this wire with the radio powered up and turned on. This will cause internal damage to the microprocessor and will not allow the radio to transmit. The only way to correct the problem is to replace the microprocessor.

2. Once the jumper is connected, turn the radio on. Press the Pro Pri (Program Priority) key and release it, then press the 10 key(and release it). The display should go blank when you are in the programming mode.

Entering Program Data

1. Simplex = Receive and transmit frequency are the same.

    A. Enter all six digits of the frequency
    B. Enter two zeros by using the number 10 key.
    C. Enter a two digit tone code from Table 1 below.
    * **Important: There must be exactly ten digits when programming a simplex channel.**
    D. Press the "ENT" or Enter key.
    E. Press the channel number being programmed. Only a single channel number should be enter for channels 1 through 10. Two digit numbers are required for channels 11 through 16.
    Example: 155160 00 12   press "ENT", then channel number (1)

2. Half Duplex = Receive frequency is not the same as Transmit

    A. Enter the six digit receive frequency
    B. Enter 8, then 0.
    C. Enter the two digit receive tone code from Table 1.
    D. Enter the two digit transmit tone code from Table 1.
    E. Enter the six digit transmit frequency.
    F. Press "ENT" or the Enter key.
    G. Enter the channel number.
    Example =   154800 80 12 12 155130   press "ENT", then the channel number(2).
    *Important: There must exactly 18 digits when programming a half duplex channels.

3. Entering Data for a receive only channel.

    A. Enter the six digits for the frequency.
    B. Enter 0, then 4.
    C. Enter a two digit tone code from Table 1 or two zeros.
    D. Press the Enter key.
    E. Enter the channel Number.
    Example: 162550 04 00   then "ENT", then a channel number(5).

4. Entering Data for a Simplex Frequency with Transmit tone(Encode) only.

    A. Enter the six digits of the frequency.
    B. Enter 8000.
    C. Enter the two digit tone code from Table 1.
    D. Enter the frequency again.
    E. Press the Enter key.
    F. Enter the channel number.
    Example: 155475 8000 12 155475   press "ENT", then the channel number(16).

To review programming:

    A. Press "Manual".
    B. Enter the channel number.
    * The radio will display the Data one digit at a time.

TABLE 1

Tone Code	Tone(Hz)		Tone Code	Tone(Hz)		Tone Code	Tone(Hz)
00	No tone		13	103.5		26	162.2
01	67		14	107.2		27	167.9
02	71.9		15	110.9		28	173.8
03	74.4		16	114.8		29	179.9
04	77		17	118.8		30	186.2
05	79.7		18	123		31	192.8
06	82.5		19	127.3		32	203.5
07	85.4		20	131.8		33	210.7
08	88.5		21	136.5		34	218.1
09	91.5		22	141.3		35	225.7
10	94.8		23	146.2		36	233.6
11	97.4		24	151.4		37	241.8
12	100		25	156.7			

Deleting an unused channel:

To delete a channel from memory. (Once the radio is in the user mode the deleted channel number can not be accessed from the keypad. All unused channels should be deleted from memory. They can be utilized at a later date, if required.) While in the program mode:

A. Press the delete key.
B. Press the ENT or enter key.
C. Press the channel number.

Radio Configuration Data:

If any of the following options needs to be changed, then a three digit number must be entered. If less than three numbers or incorrect digits are entered, the microprocessor will except the entry but will not function correctly. The entry should only made once and effects all of the programmed channels. These options can not programmed differently for each channel.

A. Scan Delay - The amount of time the radio will stay on a received channel, after the signal goes away, before resuming scan. (Pick only one number)
Code 0 = .7 seconds
Code 2 = 1.4 seconds
Code 4 = 2.0 seconds

B. Transmit Time-Out-Timer - The amount of time the radio will stay in the transmit mode. If the Push-To-Talk switch is still depressed after this time, the radio will stop transmitting and emit a busy signal or tone through the speaker.(Pick only one number)
Code 0 = disabled - no time limit.
Code 1 = 30 seconds
Code 2 = 60 seconds
Code 4 = 90 seconds

C. A Zero should always be used for this option, to enable the internal tone functions.

D. While in the programming mode, enter the three digits, press the ENT or Enter key, then the Scan key. Factory configuration is 000.

Important Notes: The radio was designed to operate in a frequency range of 150.000Mhz to 162.000Mhz. The guaranteed operating bandwidth for receive is only 3Mhz, and transmit is only 5Mhz. From the factory the radio was tuned from 154.500Mhz to 157.500Mhz(a 3Mhz bandwidth), for both receive and transmit. With careful realignment it is possible to get from 7Mhz and up to 10Mhz band spread with degradation from factory specifications. There is no guarantee that all RH256B, RH606B, WH2516B, and WH6016B radios will have the same bandwidth. During the coarse of the many years of manufacturing, there have been variations in the phase-lock-loop circuitry. It might be necessary to make changes to some of these components to achieve maximum bandwidth. If the radio does not operate on all channels that you reprogrammed the radio will probably require realignment.