Motorola HLN9123 Blank Logic Board Setup
Information

Prerequisites
1. Blank HLN9123 logic board
2. Motorola Maxtrac Programming Software version 5.2 or newer
3. Motorola RIB unit and mobile programming cable
4. Slower 286 or 386 PC with serial port and DOS 6.0 or higher operating system
5. RF test equipment RF service monitor for frequency and transmitter setup.
6. Well regulated 12 volt DC power supply(actual 13.8 VDC) capable of up to 15 amps of continuous duty operation
7. Motorola DC power cord for radio
8. RF coax cable to connect radio to test equipment
9. Cooling fan to blow across rear transmitter heat sink during transmitter calibration.
10. Experience working with Motorola software
11. Experience working with land mobile 2 way radios

Please follow the following steps for a complete setup. Failure to follow the following procedures as listed may cause problems and create a radio with limited capabilities.

Software setup of blank logic board

Start the Motorola Maxtrac software on your computer and go to the main menu. Then enter the following function key commands as listed.

F2 – Service
F6 – Board Replacement
F2 – Logic Board or RF Board

Blank Board initialization procedure

Product Line = Standard
Model Name = Maxtrac 300
Range = To match "Your RF board band of operation"
Model Number = "Your Choice" with 2, 6, or 16 channels with scanning, TPL and DPL capabilities. (DO NOT CHOOSE any of the 32 channel formats because this model logic does not have enough memory space. Just make sure transmitter watts model listed equal your actual RF chassis specs.)
Panel Number = 001
Serial Number = Matches your actual chassis serial number tag starting with the 428 prefix digits, then 3 letters followed by 4 digits to be valid.

F8 – Program Radio
F10 – Return to Main Service Menu
Board Calibration Procedure

F6 – Board Replacement
F2 – Logic Board
F2 – Enter Reference Crystal Data

Crystal Data = Numbers are found on the white tag on side of VCO Crystal located under VCO section shield on the RF board. Should be two 4 digit numbers.

Tuning Data = Other numbers found on small white tag somewhere in VCO area on the circuit board or on top of the RX IC with 7 digits. Just enter the first 3 digits for first category and the last 4 digits for second category.

Measured 9.6v = Enter actual DC voltage measured on the last pin of the logic board to RF board interface connector pins (Last pin towards heatsink end of radio as can be checked from either RF board or Logic Board sides.)

F8 – Program All Values Entered

F3 – Set TX Power

F6 – Toggle PTT on – Adjust relative value for correct TX output power
F6 – Toggle PTT off when complete
F8 – Program Value

F4 – Warp Reference Frequency

F6 – Toggle PTT On – Adjust relative value for zero frequency error of test frequency listed on screen.
F6 – Toggle PTT Off when complete.
F8 – Program Value

F4 – Set TX Power Calibration – Adjust each value for correct transmit ouput power on each test frequency listed on screen F6 Toggle PTT is transmitting.

F6 – Toggle PTT on and off for each of 16 value positions
F6 - Toggle PTT off when complete.
F8 – Program Value

F6 – Set TX Deviation Calibration – Adjust each value position for correct transmit maximum deviation of each test frequency listed on screen when F6 toggle PTT is transmitting.

F6 - Toggle PTT on and off for each of 16 value position.
F6 – Toggle PTT off when complete.
F8 – To program values.

F7 – Set Total Deviation w/ PL

F6 – Toggle PTT on. Adjust transmitter deviation for legal level for frequency listed on screen.
F6 – Toggle PTT off when complete
F8 – Program value.

F8 – Set Total Deviation w/ DPL

F6 – Toggle PTT on. Adjust transmitter deviation for legal level for frequency listed on screen.
F6 – Toggle PTT off when complete
F8 – Program value.

F2 – To continue

F10 – To exit
F10 – To Return to Main Service Menu
F10 – To Return to Main Programming menu
F3 – Get codeplug data
F2 – Read data from Radio codeplug
F10 – Return to Main Menu
F4 – Change Codeplug Data
F5 – Mode Configuration

Enter in Valid RX and TX frequencies for the 2 channels presently available. Then select the following:

F8 – Mode Utility: Select "Add More"
F8 – Execute F8 for as many number of channels required up to maximum allowed by blank initialization model number chosen.
F10 – Exit (Back to Mode Configuration Screen)

Now enter in the frequencies, PL, DPL codes and other information for each and every channel. Use the F3 and F4 function keys to progress forward or backwards through all of the available channels.

F10 – Exit (Back to Change/View Codeplug Menu)
F10 - Exit (back to Main Menu)
F3 – save Codeplug
F8 – Program data into Radio Codeplug
F2 – Continue = Complete radio programming.