

DDS Signal Generator Errata (v1.4)

Two errors have been discovered in version 1.4 of the manual

Page 3 Figures 5 and 6 at the bottom of the page
Figure 5 and Figure 6 are incorrect and their positions should be swapped to conform to the captions.

Page 15 3rd paragraph
Some potentiometers may function in a direction opposite to the specified DigiKey part. If so, it may be necessary to start with the pot fully clockwise instead of counterclockwise. A cautionary statement has been added to a following paragraph calling attention to this fact.

The files now available on the <http://www.qsl.net/n5ib> web page have been corrected, and the newest version is now version 1.5.

The file *DDS_Generator_Manual_Errata.PDF* has also been posted, and it contains a corrected copy of only the two pages involved, plus a new cover page showing version 1.5.

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05 Jan 2004

KG6CYN DDS Signal Generator/VFO

Assembly and Operating Instructions v1.5 01-06-2004



Designed by Trevor Jacobs, KG6CYN

Manual written by Jim Giammanco, N5IB

All photos by N5IB

Connectors and Sockets::

Install the following (See Figure 5)

- [] IC2 8-pin DIP IC socket, orient the notch in the end of the socket according to the outline on the circuit board
- [] IC1 40-pin DIP IC socket, orient the notch in the end of the socket according to the outline on the circuit board

The header connectors as specified in the parts list are all supplied as 36-pin sections. It will be necessary to cut off sections having the appropriate numbers of pins.

For the female connectors, one of the most reliable methods is to use a hobby knife, or hobby saw, and make cuts directly over a pin (one pin past the last one you need, please!) on both sides of the connector. Gently snap off the desired section, and dress the cut end with a file or emery board. Male connectors can easily be cut with a hobby knife in between pins.

Install the following (See Figure 5)

- [] JP2 16-pin single in-line **female** header connector, install on TOP of board
- [] JP5 2-pin single in-line **male** header connector, install on TOP of board, long pins UP
- [] JP3 4-pin single in-line **male** header connector, install on TOP of board, long pins UP
- [] JP1 11-pin single in-line **male** header connector, install on TOP of board, long pins UP
- [] JP6 6-pin single in-line **RIGHT-ANGLE male** header connector, install on TOP of board, with long pins oriented AWAY from board
- [] JP4 6-pin single in-line **female** header connector, install on **BOTTOM** of board (See Figure 6)

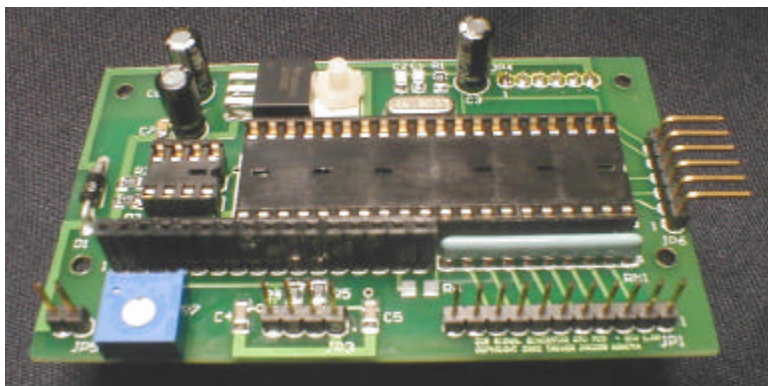


Figure 5. Top view of CPU board after sockets and connectors have been installed. (R6 still missing - an error)

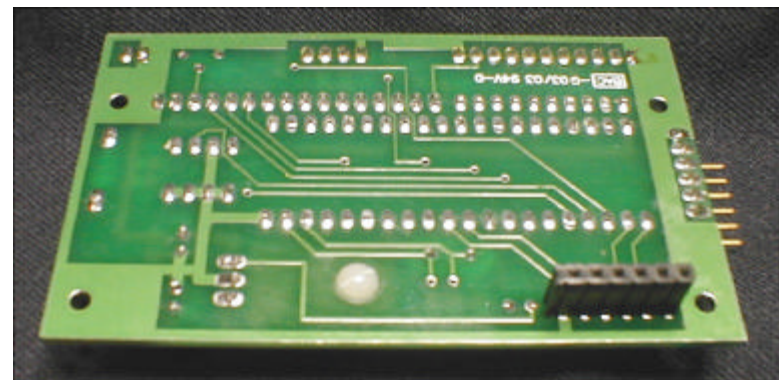


Figure 6. Bottom view of CPU board showing JP4 installed.

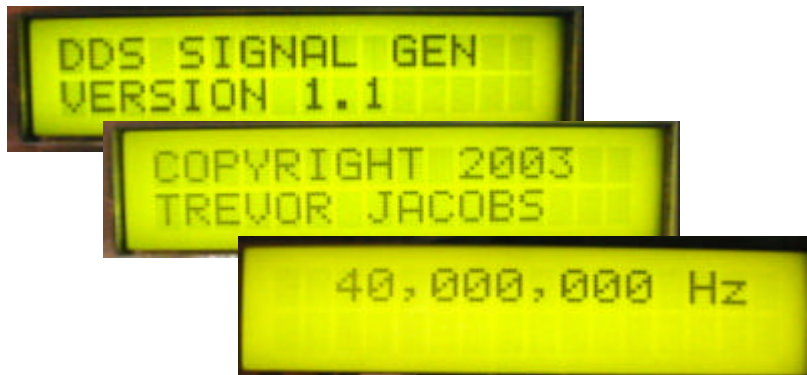
Initial Power-Up Tests

The signal generator will not function properly until the blank EEPROM has been programmed with a set of default values. The CPU will accomplish this task if the RxTx control line is held grounded during power up.

The steps marked with an asterisk (*) can be performed before the DDS board is attached to the CPU board.

* Turn the LCD display potentiometer (R7) fully counterclockwise to ensure the display will be visible at power-up.

* Apply power to the signal generator, using a power supply in the 9 to 12 volt range. The following sequence of displays should appear (though the frequency shown is random and depends on whatever may have already been in the EEPROM).

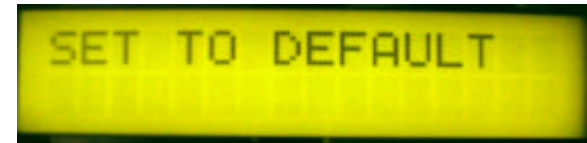


* If the displays above appear (could be a different frequency) then the CPU and display are functioning properly. *It is possible that your chosen R7 potentiometer might function backwards, such that full **clockwise** rotation is needed.* If no display is seen in the previous step, rotate R7 through its full range to find the setting for clearest character display.

* Turn off the power.

* Place a shorting jumper between JP1-3 (RxTx) and either JP1-1 or JP1-11 (GND). Alternatively, if the pushbutton switches are already installed, press and hold the RxTx control switch.

* Reapply power, while RxTx is held grounded, either by switch or jumper. The display should indicate that the CPU is about to program the default values.



* Release the RxTx pushbutton, or remove the shorting jumper on JP1-3 (RxTx). The display should prompt as shown below



* Tap the TS pushbutton, or **momentarily** short JP1-2 (TS) to either JP1-1 or JP1-11 (GND). The display should first indicate that the defaults are being written, and then revert to the newly written default power-up frequency (memory 0).

