

**DESCRIPTION:** This control board has been designed to interface with the EME85 DDS Kit. It allows all DDS functions in the current 2.xx software to be used including memories, repeater mode, & an optional 3x4 keypad for direct frequency entry. A Diode between connections SWA & E (Enable), allows the software to recognize that this version 2 control board is being used to allow the use of the Memory, Repeater, & Keypad functions along with other software options not available on the basic Control Board 1. The LCD will display the software version when powering up the DDS board. The Version number displayed, will depend on what control board is being used, along with what options are selected in the CAL Menu settings. The PC board layout has been designed so that it resembles the layout of a transceiver, with the board able to be cut shorter if the RIT, RPT, & Spare functions are not required. The Spare function may be used for band switching in software at a later time. All connections in & out of the board line up to suit the EME85 DDS Kit making it easy to connect the two Kits together along with a 16x2 LCD display. The Kit uses a low cost EC12E Rotary Encoder that requires a tuning Knob that suits a 6mm diameter shaft. A GND ( Ground ) to TX mode connection on the board is used for RX to TX switching.

### CONSTRUCTION:

1. The PCB supplied is a professionally made double sided plated through hole board. This makes construction much easier than trying to wire the circuit on Vero board.
2. Follow the PCB overlay diagram carefully, by checking the components and placing them onto the PCB. The 6 push button switches need to be fitted to the board with the flat side of the switch facing upwards as shown on the overlay diagram.
3. Check your construction carefully, that you have no shorts, poor solder joints, or that you have missed any connections.
4. The board requires a number of connections to the DDS board & LCD display. It is suggested that 2.54mm Plugs & sockets be used either on the DDS board, or on the control board to easily connect or disconnect the boards.

### TESTING:

1. You should now be at a stage that you are ready to test the Control board. With the board connected the DDS board & LCD display, apply power to the DDS board. Turn the contrast trimpot on the DDS board fully clockwise & adjust for best contrast
2. Next turn the power off & hold the CAL button in & reapply power to the board. Go through the Menu settings & program the settings as required. **Please make sure that the x1 or x6 Multiplier is set correctly as not to overheat the DDS chip. The x6 setting should never be set when using a crystal oscillator module on the DDS board greater than 30MHz. When using a 100MHz module, the Multiplier should be set to x1 as setting it to x6 will cause overheating of the DDS chip causing possible failure.**

**PROGRAMMING & NOTES:** Refer to the EME85 DDS Kit notes & dd-synth.asm software file for programming of the menu settings. (The latest Software version is 2.10 Nov 10 2002 )

**NOTES:** 1. Most faults can be traced to missed solder connections or the wiring to the DDS board being incorrect.

#### SEMICONDUCTORS

16 x IN4148      Diodes

#### SWITCHES

1 x EC12E      Rotary Encoder  
6 x Pushbutton      PCB Mount Momentary

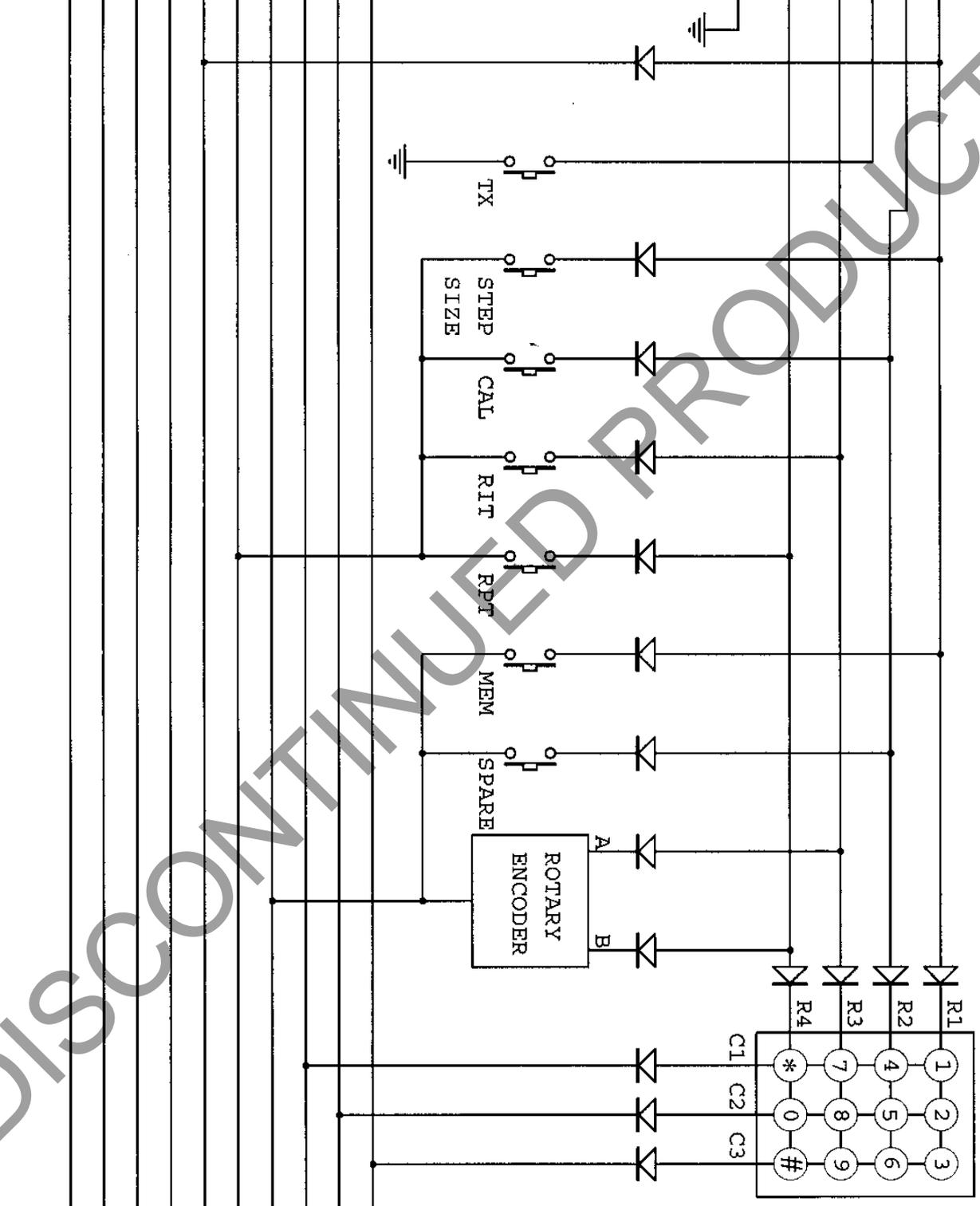
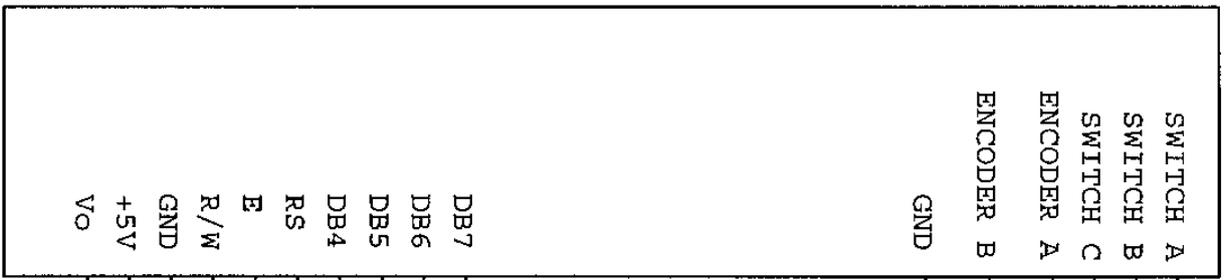
#### MISCELLANEOUS

1 x PC Board      EME129 Board  
1 x Instructions      EME129

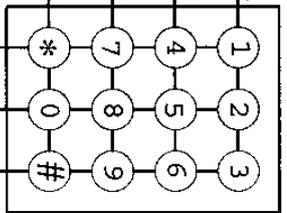
#### FOR PRODUCT SUPPORT

[www.minikits.com.au](http://www.minikits.com.au)

DDS BOARD

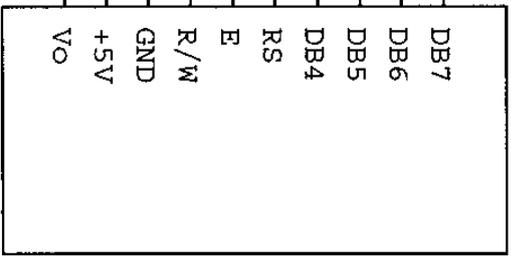


OPTIONAL  
KEYPAD



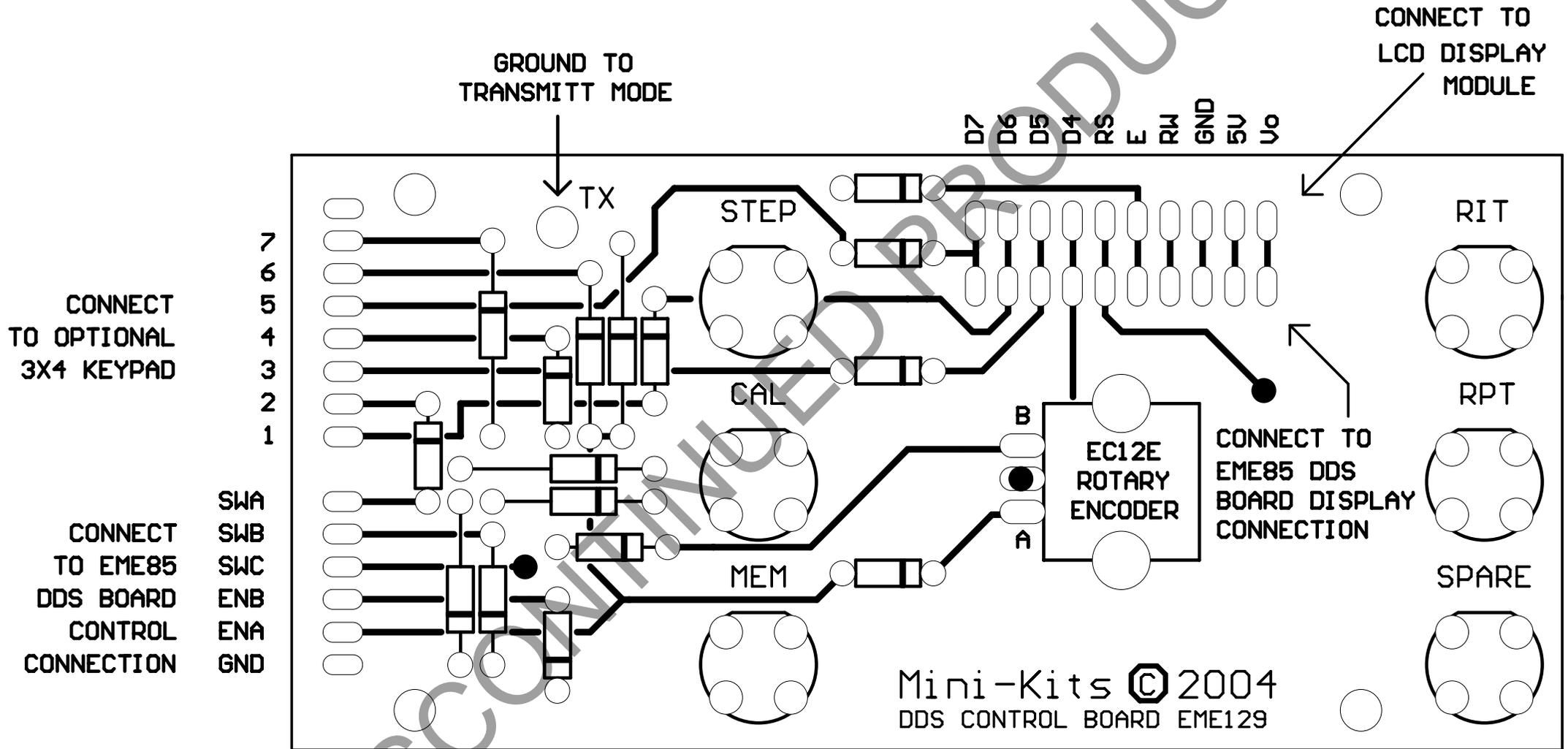
ALL DIODES  
1N914, 1N4148  
OR SIMILAR

16 x 2 LCD



# TOP PC BOARD OVERLAY EME129

## MINI-KITS COPYRIGHT 2004



ALL DIODES ARE 1N4148  
ALL SWITCHES ARE MOUNTED  
WITH FLAT SIDE UPWARDS

● THESE CONNECTIONS  
NEED TO BE SOLDERED ON  
BOTH SIDES OF THE BOARD