# 1 LED Display

You are given a board with 4 multiplexed seven segment common anode LED display chips. The segments of the LED displays are driven in parallel by a BCD to 7 segment decoder (7447). The LEDs are illuminated one by one pulling the common anode of the selected display chip 'High'. while applying BCD data for the corresponding digit to the decoder chip. An on-board pnp transistor turns ON when its base is pulled 'Low', illuminating the corresponding display with the supplied data.

Please see the accompanying file for circuit diagram etc.

The interface to the board has 8 lines. 4 lines are used to send BCD data and the remaining 4 are used to select a particular 7 segment display. Exactly one of the bits out of the 4 select bits should be '0' at any time, the rest should be '1'.

## Lab Experiment

1. Connect the board to the Pt51 Kit and write a program which will display today's date on the LEDs in ddmm format. (Write each digit to BCD data, pull down the appropriate bit to turn the selected 7 segment display ON, do the same for next digit and so on.)

2. Modify the program to display two given 4 digit strings alternately for 5 seconds each. The strings should be initialised in the program to show the results. Use today's date (0508 or 0608) and year (2013) to illustrate the working of the program.

3. Read the data sheet for 7447 and show the patterns corresponding to BCD codes A through F.

4. Modify your program to scrool the discplay in order to show the string (05 08 2013) or (06 08 2013) as appropriate for your lab day. Letter should enter from the right and move from right to left. Notice that the blanks are shown as blank 7 segment displays.