PDD Programming Application Notes

SED 1520 used in the 122 x 32 Graphic LCD Display

The Epson SED1520 is used on many Pacific Display Devices GDM 12232 family modules with 122 segments and 32 commons. Extrapolating the information needed to interface to these ICs on the standard module might be a bit difficult from the Epson documentation. Here is a brief that may speed your progress.

Duty Cycle:
Set the Duty to 1/32 (D=1).

Master / Slave Configuration:
The PDD GDM 12232 display family uses the commons from both ICs to form the 32 common rows. Both ICs are used in the active mode. One SED1520 will be hardware configured on the PCB as Master by connecting the M/S pin to Vdd. The other IC will be hardware configured as Slave by connecting the M/S pin to Vss. With the duty set to 1/32 the master will manage the multiplexing for all 32 commons. Addressing the rows on the SED1520 is done by paging. 1 page is 8 bits (or 1 word). The word is written entirely in the same segment (column), but down across 8 commons.

Display Writing Example:
Starting in the upper left of the display (CS1 (Left Side), Page 0 (First 8 commons), Segment 0), write a full word of data. The data will write to the first column on the display on rows 1 to 8. If one repeats this for all 61 segments, the first page will be full on the left side of the panel. The segment addresses should increment automatically after each write (up till 80), but since there are only 61 segments it will need to be set back to 0 if you are writing in sequence. Apply settings CS1, Page 1, Segment 0 and repeat writing 61 words. Then repeat writing 61 words for CS1 / Page 2 / Segment 0 and CS1 / Page 3 / Segment 0. At this point, the left hand side of the display should be complete. One can repeat the process substituting CS2 (Right Side).