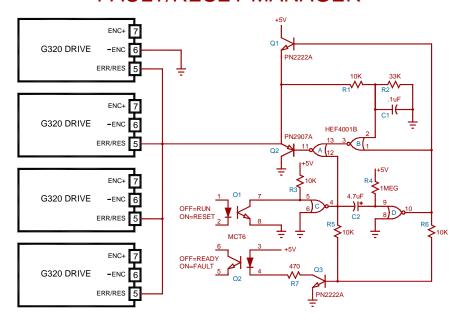# G320/G340
# FAULT/RESET MANAGER



PURPOSE:

1) The goal is to have all drives shut down automatically when any one drive "faults out".
2) Notify the PC the drives have shut down or are enabled.
3) Permit the PC to enable or shut down the drives.

HOW THE CIRCUIT WORKS:

When the drive is enabled the ERR/RES pin is +5V. When the drive is shutdown the voltage is 0V. When the ERR/RES pins of multiple drives are tied together, a single drive "faulting out" cannot pull the other drive's ERR/RES pins down low enough to shut them down. It needs assistance.

The voltage on the ERR/RES line is 2.25V for a single fault out of 4 drives. To shut down the other drives it has to be below 1.5V. The nor gate B senses the ERR/RES voltage and its output goes to a logical "1" when it drops below 3.25V. This causes the output of gate A to a logical "0", turning on Q2 and shorting the ERR/RES to ground. This immediately shuts off all drives.

This also turns on the opto O2 to let the PC know the drives are shut down.

The PC can also shut down or enable all drives thru opto O1. If the opto is "on", then gate A turns Q2 on, shorting ERR/Res to ground, and shuts down all the drives. When the opto is turned off, it starts a 6 second one-shot (R4,C2 and gate D) which turns on Q1, shorting ERR/RES to +5V. % seconds later the drives are enabled. When this happens, opto O2 turns off, indicating the drives are ready.