

S E R V I C E N O T E

SUPERSEDES: None

**E4210B Broadband Series Tester
E4210B VXI Mainframe****Serial Numbers:** 0000A00000 / 9999Z99999**E1401B Power On in-rush current of 40 Amp and GFI's Trip****Situation:**

The E1401B card cage has a in-rush current specification of 40 A at power-on. This large in-rush current can easily trip breakers. Additionally, the E1401B will trip a GFI (Ground Fault Interruptor) when plugged into a GFI outlet.

Solution:

The reason is that the line filter (a Y-capacitor required for regulatory emissions compliance) is an unbalanced load and the inrush currents cause more than 5mA of current to flow in safety ground during start up of supply, depending on line frequency and voltage. The maximum current is about 6 mA at 400 Hz and high line. Note that typical GFI's operate on currents of 5 mA with a ± 1 mA tolerance.

In general, GFI's are intended for use with consumer 2-wire equipment. Use with higher power, 3-wire equipment may not be appropriate. We do not plan to modify the design of the E1401B to make it compatible with GFI's. Instead, if the line filter unbalance is causing the breaker to trip, we recommend that you connect the ground lug on the E1401B separately to earth ground.

DATE: March 1999

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

INFORMATION ONLY

AUTHOR:

DH

ENTITY:

Y900

ADDITIONAL INFORMATION:

