S E R V I C E N O T E

SUPERSEDES: None

E1401A VXI C-Size High-Power Mainframe

Serial Numbers: 3227A00101 / 3227A00267

Modification to prevent random system resets.

To Be Performed By: Agilent-Qualified Personnel

Parts Required:

Part No.	Qty.	Description
1400-0116	1	Plastic cable support
1400-0249	2	Plastic cable tie-wrap
9170-1428	1	Ferrite sleeve (1 inch long by 1/2 inch in diameter)

Continued

DATE: 08 February 1993

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

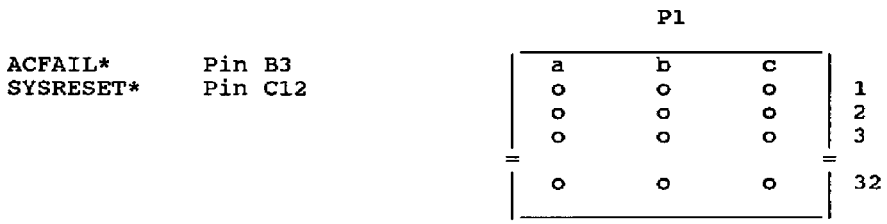
MODIFICATION RECOMMENDED

ACTION CATEGORY:	☐ IMMEDIATELY ■ ON SPECIFIED FAILURE ☐ AGREEABLE TIME	STANDARDS: Labor 1.0 Hour	
LOCATION CATEGORY:	☐ CUSTOMER INSTALLABLE ☐ ON-SITE ■ SERVICE CENTER	SERVICE INVENTORY: ☐ RETURN ☐ SCRAP ☐ SEE TEXT	USED PARTS: ☐ RETURN ☐ SCRAP ☐ SEE TEXT
AVAILABILITY: PRODUCT'S SUPPORT LIFE		AGILENT RESPONSIBLE UNTIL: 08 February 1995	
AUTHOR: KD	ENTITY: 0900	ADDITIONAL INFORMATION:	

Agilent Technologies

Situation:
Some E1401A mainframes have experienced random resets of modules installed in them. the symptoms are usually that embedded controllers or slot 0 command modules independently perform a reset operation, either by re-booting their operating systems or (if they are the slot 0 device) by attempting to run their resource manager. Message-based VXI devices installed in the mainframe may rerun their internal self-test. Sometimes, a second reset (or multiple resets) may occur before the previous reset has been completely acted upon by the VXI devices installed, causing apparent module or controller failures. After the system power is re-cycled, the problem may temporarily disappear and everything may appear to be working, only to fail again at a later time.

The cause of these random apparent failures may be noise on the system reset line (SYSRESET*) and/or the AC fail line (ACFAIL*) on the VXI backplane caused by inductive coupling in these signal lines from the fan power supply cable. These TTL lines are tied high (about +4 vdc), and are pulled low (< +1 vdc) when true. Noise spikes may drop the level low enough to cause reset to occur. The noise may be observed by monitoring these two signal lines on the 25-pin Sub-D connector on the rear panel of the E1401A (pin #10 is SYSRESET* and pin #23 is ACFAIL*). The signals can also be monitored on the front side of any one of the P1 (upper row) backplane 96-pin slot connectors:



Solution/Action:
If the problem symptoms are present as described above, proceed as follows:

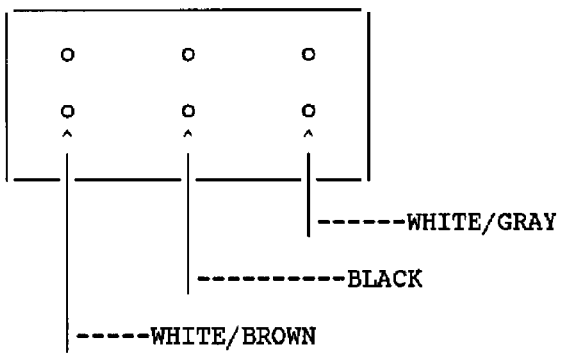
1. Remove the power cord from the E1401A mainframe power supply.
2. Using a T10 torx screwdriver, remove the seven screws on the rear panel that are securing the power supply to the mainframe chassis. (Note: Two of the screws are also securing the two plastic “feet” in the upper corners of the rear panel of the mainframe.)
3. Grasp the two large rings on the power supply and pull it from the frame.
4. Notice the white 13-pin connector on the interface PC-board that the power supply was plugged into. The three wires leaving the right end of the connector should go to the upper right-hand corner of the backplane to a 6-pin connector. If there is no ferrite sleeve installed around these three wires close to the 6-pin backplane connector, this service note has not been implemented. Continue at step 5.

If a ferrite sleeve is already installed, the factory fix (or this service note) has already been implemented. Make sure that the ten wires bundled together out of the same 13-pin connector are pressed as far down into the cavity away from the three signal wires as possible, then you can reinstall the power supply.

Note: If there is a possibility that the E1401A power supply itself may be causing system resets, or that one of the DC supply voltages are dropping out, the problem may be corrected by replacing the power supply with an exchange assembly, p/n E1401-69201.

5. Examine the cable assembly leaving the white 13-pin connector. The three wires going to the upper right 6-pin connector on the backplane should be routed by themselves to the right side of the mainframe, and then upward to the backplane connector. The other 10 wires should be tie-wrapped together and should be pressed down into the cavity below, as far away from the three signal wires as possible.

   At the end of the 3 wires with the 6-pin connector, record the wire colors going to the pins so they can be re-installed correctly (see below). Remove the three wires from the connector by using a sharp-pointed object to press in on the pin-release spring while applying tension to the wire. Slide a ferrite sleeve over the three wires and secure it to the wires about 3-4 inches away from the end of the wires using a tie-wrap at each end of the sleeve. Re-install the three pins in the connector:



6. Install a cable support in the hole on the side panel of the mainframe near the backplane connector and route the three-wire cable with the ferrite sleeve into the cable support to relieve stress on the connector, then re-install the connector.

   Note: Because of the way the pins are tied together on the backplane, either way the connector is installed will work, as long as the wire/pins are in the correct connector holes!

7. Re-install the power supply, seating it firmly in the interface connectors and re-installing the seven screws and two plastic feet.