

S E R V I C E N O T E

SUPERSEDES: E1420B-02

E1420B VXI Universal Counter

Firmware Revision B.03.00 and B.03.40 Supersedes Firmware Revision B.02.00 and B.02.40

Serial Numbers:

0000A00000 / 3142A00420
 3142A00429 / 3142A00432
 3142A00435
 3142A00451 / 3142A00455

To Be Performed By: Agilent-Qualified Personnel

Duplicate Service Notes: None

Parts Required:

Part No.

	Firmware Rev B.03.00 Standard E1420B	Firmware Rev B.03.40 Option 040 E1420B
A1U12	E1420-80023	E1420-80025
A1U13	E1420-80024	E1420-80026

Continued

DATE: 24 June 1993

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:		
MODIFICATION AVAILABLE		
ACTION CATEGORY:	AGREEABLE TIME	<input checked="" type="checkbox"/> PERFORMANCE ENHANCEMENT <input type="checkbox"/> SERVICE/RELIABILITY ENHANCEMENT
LOCATION CATEGORY:	<input checked="" type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input type="checkbox"/> SERVICE CENTER	AVAILABLE UNTIL: January 1994
AUTHOR: MDM	ENTITY: 0200	ADDITIONAL INFORMATION: Ref. E1420B-01 E1420B-02 had incorrect page 2.

Situation:

The serial numbers listed above were shipped with firmware revision B.02.00 and B.02.40. Firmware revision B.03.00 and B.03.40, which was released in January 1993, corrects five firmware anomalies found in their earlier revision of firmware. The five anomalies are:

1. CONF:TINT? --> For single-shot time interval measurements, this command INIT sequence would return a result of 760 usec, regardless of the input signal.
2. SENS:FUNC "TOT" will not function the same as SENS:FUNC:TOT.
3. An unintentional GATE_OUT signal is intermittently sent out on the TTLTRG0 line while the counter's measurement gate is open.
4. Consider the following command sequence:


```
ARM:START:SOURCE TTLT0
OUTPUT:TTLT0:STATE OFF
ARM:START:SOURCE?
ENTER @E1420B -----> E1420B returns TTLT7 when is should return TTLT0.

ARM:START:SOURCE TTLT1
OUTPUT:TTLT1:STATE OFF
ARM:START:SOURCE ?
ENTER @E1420B -----> E1420B returns TTLT6 when is should return TTLT1.

ARM:START:SOURCE TTLT2
OUTPUT:TTLT2:STATE OFF
ARM:START:SOURCE ?
ENTER @E1420B -----> E1420B returns TTLT5 when is should return TTLT2.

ARM:START:SOURCE TTLT3
OUTPUT:TTLT3:STATE OFF
ARM:START:SOURCE ?
ENTER @E1420B -----> E1420B returns TTLT4 when is should return TTLT3.
```
5. The *TST? will intermittently and unreliably fail. Refer to service note E1420B-01 for complete details on this anomaly.

Solution/Action:

The above five anomalies, which can be found in firmware revisions B.02.00 and B.02.40, have been corrected in firmware revisions B.03.00 and B.03.40. If these five anomalies are causing problems for any E1420B user, then the firmware should be replaced with the above part numbers. Any qualified personnel can perform this modification provided standard ESD anti-static measures are taken.

Modification Procedures:

1. Remove all front-panel BNC connector mounting nuts.
2. Remove the counter's right-side module by unscrewing the six flat screws that secure it to the A1 Motherboard.
3. Locate the two socketed EPROMs, A1U12 and A1U13.
4. Replace them with the new A1U12 and A1U13.
5. Secure the counter's right-side module to the E1420B with the six flat screws.
6. Secure the front-panel BNC connector mounting nuts.
7. Procedure is complete.
8. Test the E1420B by running a full performance test as documented in the User's Manual or Service Manual.