# S E R V I C E N O T E

SUPERSEDES: NONE

## E3631A Triple Output DC Power Supply

**Serial Numbers:** KR60200800/KR73607012
KR53600101/KR73607319
KR53600300/KR73606793

### Modification reduces the VRMS ripple and noise on the output terminals

**To Be Performed By:** Agilent Personnel

**Parts Required:**

| P/N | Description | Quantity |
|---|---|---|
| 0160-4832 | CAP-FXD 0.01UF 10% 100V CER | 5 |
| OR | | |
| E3631-69001 | E3631A Replacement unit | 1 |

**Situation:**

E3631A does not pass the VRMS normal mode ripple and noise test as described in the performance verification procedure.

*Continued*

DATE: December 1997

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

**MODIFICATION RECOMMENDED**

| | | | | |
|---|---|---|---|---|
| ACTION CATEGORY: | ☐ IMMEDIATELY<br>■ ON SPECIFIED FAILURE<br>☐ AGREEABLE TIME | STANDARDS: LABOR 1.0 Hours | | |
| LOCATION CATEGORY: | ☐ CUSTOMER INSTALLABLE<br>☐ ON-SITE<br>■ SERVICE CENTER | SERVICE INVENTORY: | ■ RETURN<br>☐ SCRAP<br>☐ SEE TEXT | USED PARTS: ☐ RETURN ■ SCRAP ☐ SEE TEXT |
| AVAILABILITY: | PRODUCT'S SUPPORT LIFE | AGILENT RESPONSIBLE UNTIL: December 1999 | | |
| AUTHOR: YCP | ENTITY: Y300 | ADDITIONAL INFORMATION: | | |



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**Solution / Action:**

VRMS ripple and noise can be reduced by adding five capacitors to the power supply or replace unit with an exchange assembly (E3631-69001).

To add the capacitors, follow the instructions below:

- Add one capacitor in parallel with CR14 on the board (E3631-60004).
- Remove the E3631-60002 pc board and add four capacitors to the bottom side of the board.
- Between J7-3 and J7-1
- Between J7-3 and J7-4
- Between the RT1 pin which is connected to J7-3 and the RT2 pin which is connected to J7-5
- Between the RT7 pin which is connected to J7-2 and the same RT1 pin

To verify unit meets VRMS Ripple and Noise specifications, please follow the proper measurement techniques as described below or refer to the Manual Update (E3631-90014) for more details.

**Proper measurement techniques:**

Proper measurement techniques of VRMS Ripple & Noise require separate connections of the load resistor and RMS voltmeter to front panel terminals of the power supply. One way to do this is to connect load directly to wire holes of the binding post terminals. Then use a dual banana plug to BNC adapter and short BNC to BNC Cable ( 28cm in length) to connect to the RMS Voltmeter. To minimize the effects of common mode noise a common mode choke (camp-on ferrite or ferrite toroidal core) should be used on the short BNC cable to RMS voltmeter.

**Recommended Test Equipment:**

| | |
|---|---|
| RMS voltmeter: | 3400B |
| Resistive Loads: | 1.2ohm 100W, 25ohm 100W |
| Coaxial Cable: | 10502A |
| BNC female to banana plug adapter: | 1251-2277 |