

**E4350B-03A**

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

Supersedes:  
E4350B-03

**E4350B SOLAR ARRAY SIMULATOR, 0-60 VDC, 0-8 A, 480W. GPIB.**

**Serial Numbers: MY00000000 through MY42001089**  
**SG00000000 through SG42001089**  
**US00000000 through US99999999**

**The Peak to Peak Ripple & Noise at 20 kHz, when operated as a Solar Array Simulator is Out of specification.**

**Repair Strategy is Return to AMC**

**Parts Required:**

P/N	Description	Qty.
Part Number	Description	Quantity
8150-3483	WIRE 22AWG BK 300V XLK-PVC 7X30 105C	1
8150-2408	WIRE 26AWG BK 42V KYNAR (PVF) 1X26 105C	1
0757-0410	RES-FXD 301 OHM +-1PCT 0.125W TC +-100 TF THT	1
0699-8987	RES-FXD 365K OHM +-1PCT 0.125W TC +-50 TF THT	1
0698-4731	RESISTOR 26.1K +-1% .25W TF TC=0+-100	1
5185-8884	9 IN TUBING-FLEXIBLE SPIRAL WRAP 0.375-IN-OD 0.052-IN-THK-WALL POLYETHYLENE	3
9170-1497	INDUCTOR-CORE-SHIELDING BEAD	4
1400-3203	CABLE TIE .062-1.25-DIA .14-WD NYL	6
1400-1281	CLIP-CABLE .4-.5-DIA 1-WD NYL	2

**ADMINISTRATIVE INFORMATION**

SERVICE NOTE CLASSIFICATION:			
<b>MODIFICATION RECOMMENDED</b>			
ACTION CATEGORY:	X ON SPECIFIED FAILURE <input type="checkbox"/> AGREEABLE TIME	STANDARDS	LABOR: 5.0 Hours
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE X SERVICE CENTER <input type="checkbox"/> CHANNEL PARTNER	SERVICE INVENTORY: <input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT	USED PARTS: <input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	NO CHARGE AVAILABLE UNTIL: Always	
AUTHOR:	CP	PRODUCT LINE: SP	
ADDITIONAL INFORMATION: Due to the complexity of this modification the repair strategy will be return to AMC (Asian Manufacturing Center). The Engineering team feels that it this upgrade is too complex for a customer and the Agilent Service Center to do. The figures described below are provided for reference ONLY; they show just how difficult the repair can be.			

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**Situation:**

The E4350B & E4351B may not meet the published Output Peak to Peak Ripple & Noise specifications at 20kHz when operated as a Solar Array Simulator. The preceding Service note did not provide an adequate solution in all applications.

The 20kHz oscillation will occur when the E4350/51B is operated as a Solar Array Simulator. A ground loop on the output tunnel assembly the ground loop will cause the output of the E4350/51B to oscillate.

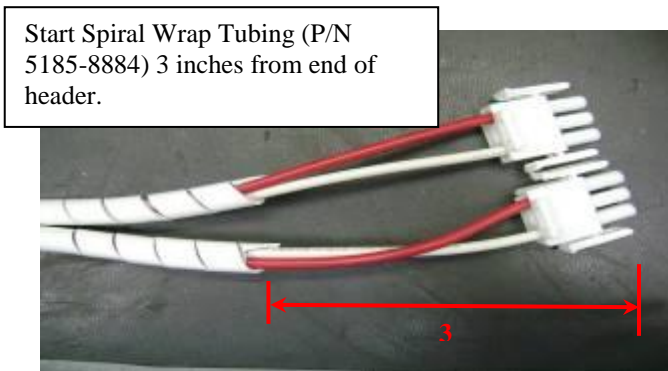
**Solution/Action:**

Due to the complexity of this modification the repair strategy will be return to AMC (Asian Manufacturing Center) Agilent's factory.



**Control Board**

Place 9 inches Spiral Wrap Tubing (P/N 5185-8884) around the cable as shown.



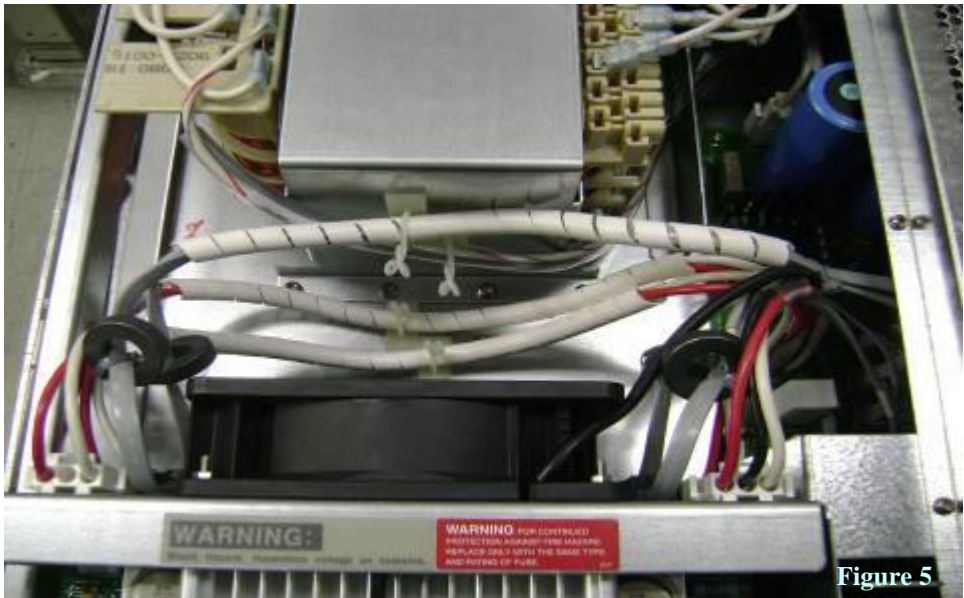
- 1) Place cores (P/N 9170-1497) on 2 short phone cables (06652-80010) and 2 long phone cables (06652-80011)



- 2) Secure the core to the 4 phone cables with a cable tie (P/N1400-3203)
- 3) Wrap a piece of 9 inch Spiral Wrap Tubing (P/N 5185-8884) around phone cables (P/N 06652-80011)



Place phone cable through core 3 inches from end of header and tie rap exactly as shown

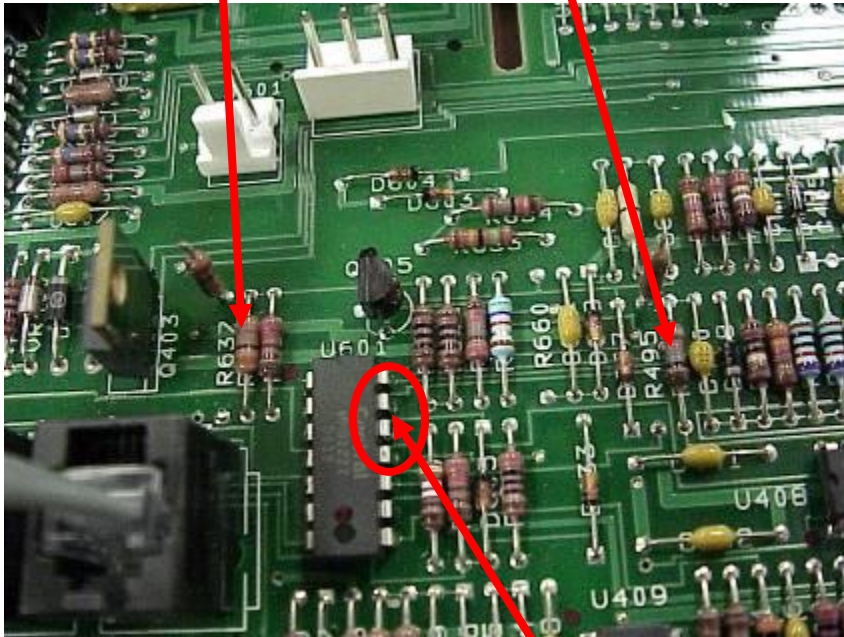


- 1) Secure the cable with cable clip (P/N1400-1281) as shown in figure 5.

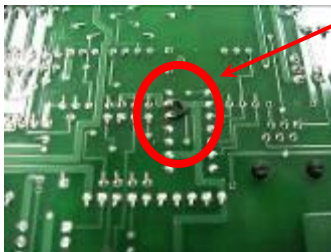


**The following changes are made to all SAS control PCA's**

- 1) Delete R637 PN 0757-0417, and R495 PN 0757-0434:



- 2) Add a jumper wire to connect U601 pins 12 & 13 together, on the bottom side of the PCB. Use a 26 AWG wire PN 8150-2408 19.75 mm long and strip 4 mm off each end.

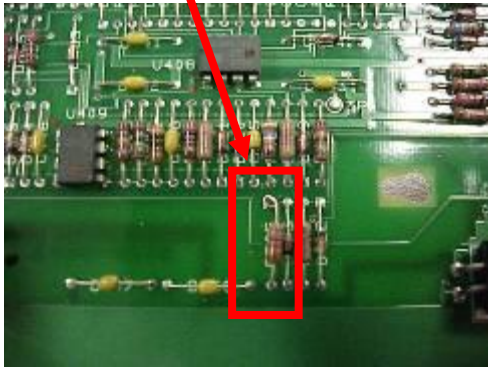


- 3) Change R471 from 100 ohms PN 0757-0401 to 301 ohms PN 0757-0410.
- 4) Add resistors R800 365K PN 0699-8987 and R801 value depends on model as shown below.

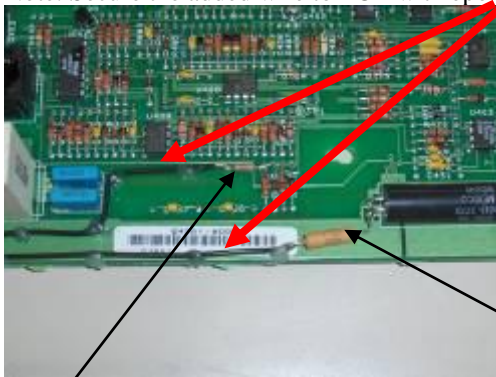
- 5) Bend one end of R800 PN 0699-8987 to a right angle on the other end add a black 22AWG wire PN 8150-3483. The wire should be 174mm long and both ends should be stripped 5mm. Attached the wire with a good mechanical connection.



- 6) Desolder R505 and put a loop so R800 can be inserted into the PCB.
  - a. OR Wrap the lead of R800 around the correct side of R505.

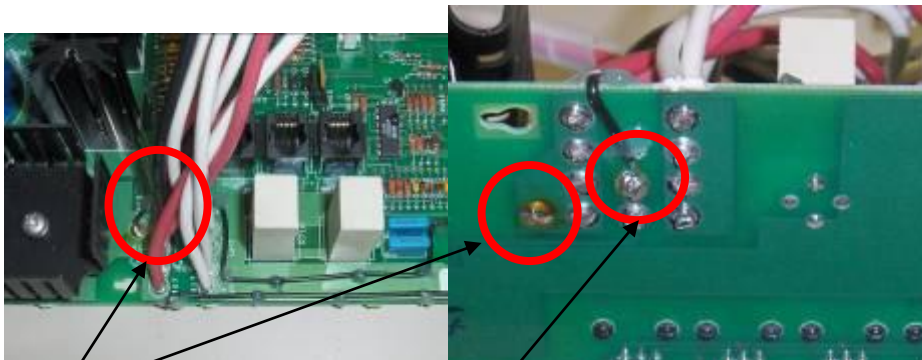


Note: Secure the added wire to PCB with epoxy or hot melt glue.



R801 p/n depends on model

R800



E403

E412 (Blk wire)

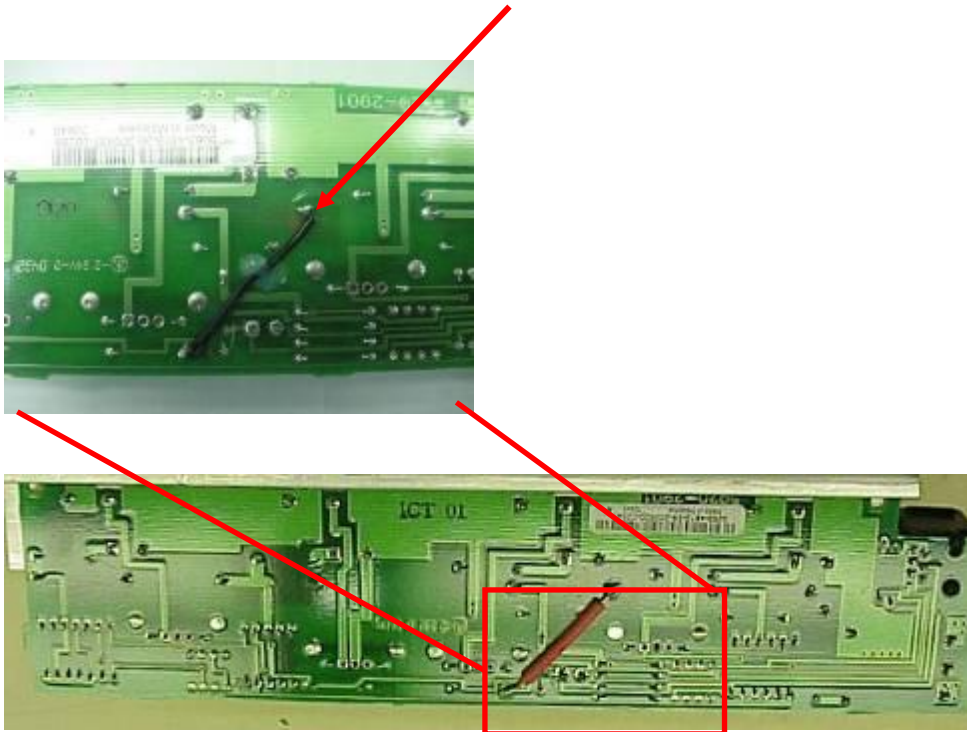
- 7) R801 is to be added with the value as indicated for each model in the below listing.
- 8) R801 will be added from + OUT Inboard to –Rail.

**Note** the value of R801 changes depending on the option. See values below for details:

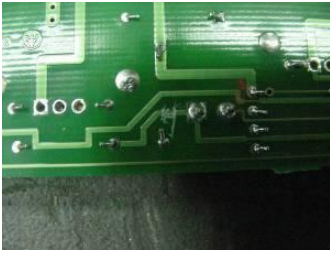
- a. E4350B J01 PCB PN E4350-60031 R801 34.8K ohm P/N 0698-3420
- b. E4350B J01 PCB PN E4350-60027 R801 22K ohm P/N 0764-0045
- c. E4350B J03 PCB PN E4350-60033 R801 34.8K ohm P/N 0698-3420
- d. E4350B J06 PCB PN E4350-60030 R801 26.1K ohm P/N 0698-4731
- e. E4350B J02 PCB PN E4350-60030 R801 22.1K ohm P/N 0764-0045

**Rework on the Right Tunnel Assemble P/N 5063-4815 for SAS Models**  
**Rework is to be performed on both REV A2 & B1 PCB P/N 5020-2901**

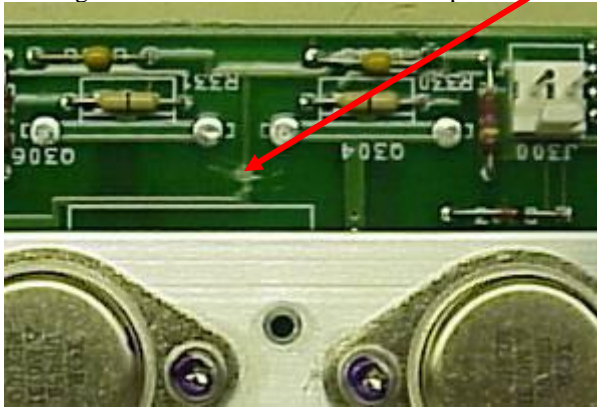
1. Figure below shows right tunnel assemble P/N 5063-4815 PCA ready for rework, for a REV A2 PCB P/N 5020-2901.
2. Remove ground wire from Capacitor C305 to minus side of source resistor R306.



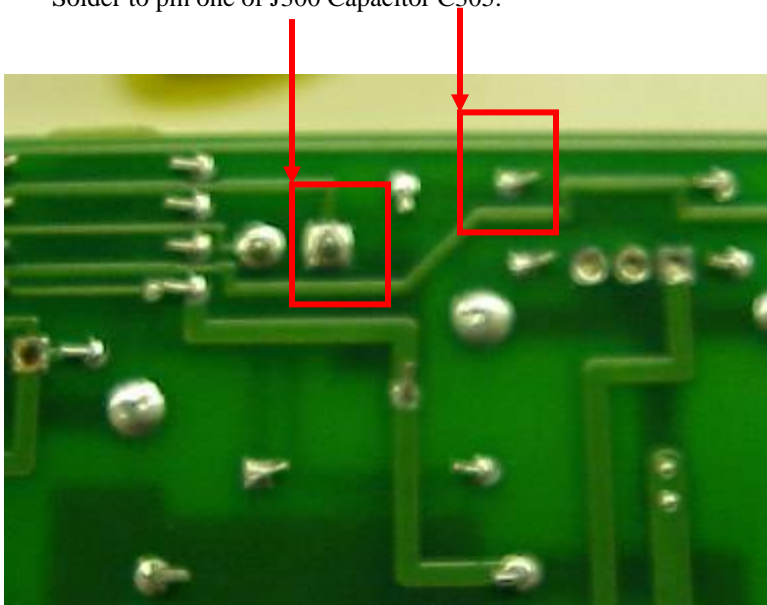
3. Add ground wire 22 AWG by wrapping and soldering wire from minus side of Capacitor C305 to pin one of J300.



6. Cut ground tract from minus side of Capacitor C305 to minus side of source resistor R306.



8. Add ground wire 22 AWG by wrapping and soldering wire from minus side of Solder to pin one of J300 Capacitor C305.



9. PCA with wire added modification for right tunnel assembly PN 5063-4815 for PCB 5020-2901 REV B completed.



