

MODIFICATION RECOMMENDED

E4351B-04

S E R V I C E N O T E

Supersedes:
None

E4351B Solar Array Simulator

Serial Numbers: 0000A/0000 through MY42000381

Out of specification Peak to Peak Ripple & Noise at 20 kHz

To Be Performed By: Agilent-Qualified Personnel or Customer

Parts Required:

P/N	Description	Qty.
E4350-61034	Tested Tunnel Assembly	1
E4350-69051	Restored Tested Tunnel Assembly	1

NOTE: The entire tunnel assembly can be replaced using one of the part numbers described above. Or the Tunnel assembly can be modified as described below. Complete instructions for disassembly and re-assembly can be found in the Service Manual Addendum p/n 5962-8233 to the 665XA Service Manual p/n 5959-3376.

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	☐ IMMEDIATELY ☒ ON SPECIFIED FAILURE ☐ AGREEABLE TIME	STANDARDS: LABOR: 2.0 Hours	
LOCATION CATEGORY:	☒ CUSTOMER INSTALLABLE ☒ ON-SITE ☒ SERVICE CENTER	SERVICE INVENTORY: ☐ RETURN ☐ SCRAP ☒ SEE TEXT	USED PARTS: ☐ RETURN ☐ SCRAP ☒ SEE TEXT
AVAILABILITY: Always		PRODUCT'S SUPPORT LIFE: AGILENT RESPONSIBLE UNTIL: Always	
AUTHOR: cp PRODUCT LINE: SP			
ADDITIONAL INFORMATION:			

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Situation:

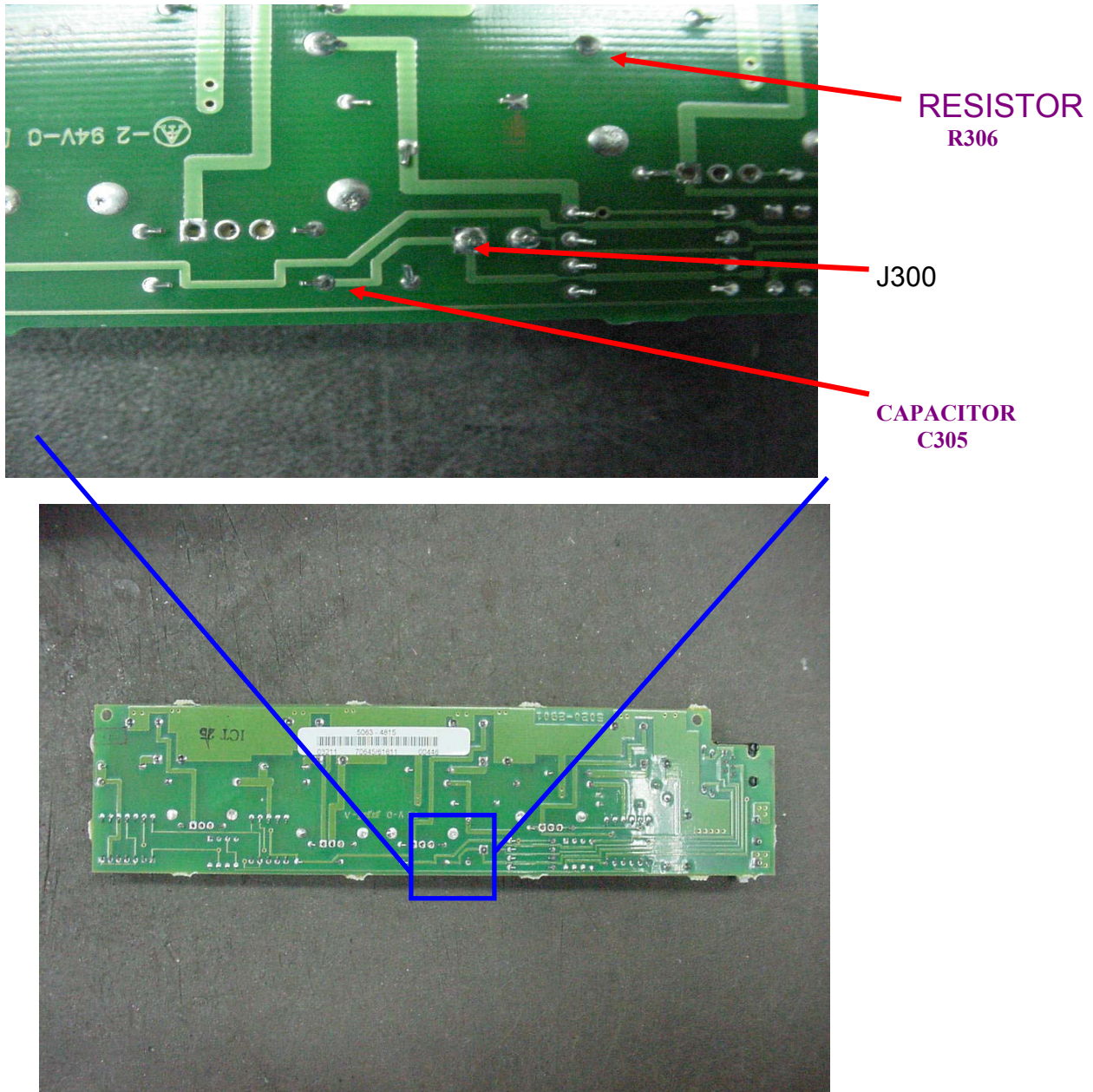
The E4350B & E4351B may not meet the published Output Peak to Peak Ripple & Noise specifications at 20kHz. This is due to a ground loop in the output tunnel assembly. It is recommended that the modifications described below be done to correct this problem if it is observed during normal operation

- The problem with the output noise on SAS is caused by an oscillation in the FET control cells. It has been determined that the oscillation is caused by a large “ground loop” formed by the Op-Amp bypass capacitors and the cabling to the FET cell tunnel boards. This loop is disturbed by the nearby magnetic field and causes the inductive loop to resonate at high frequency.

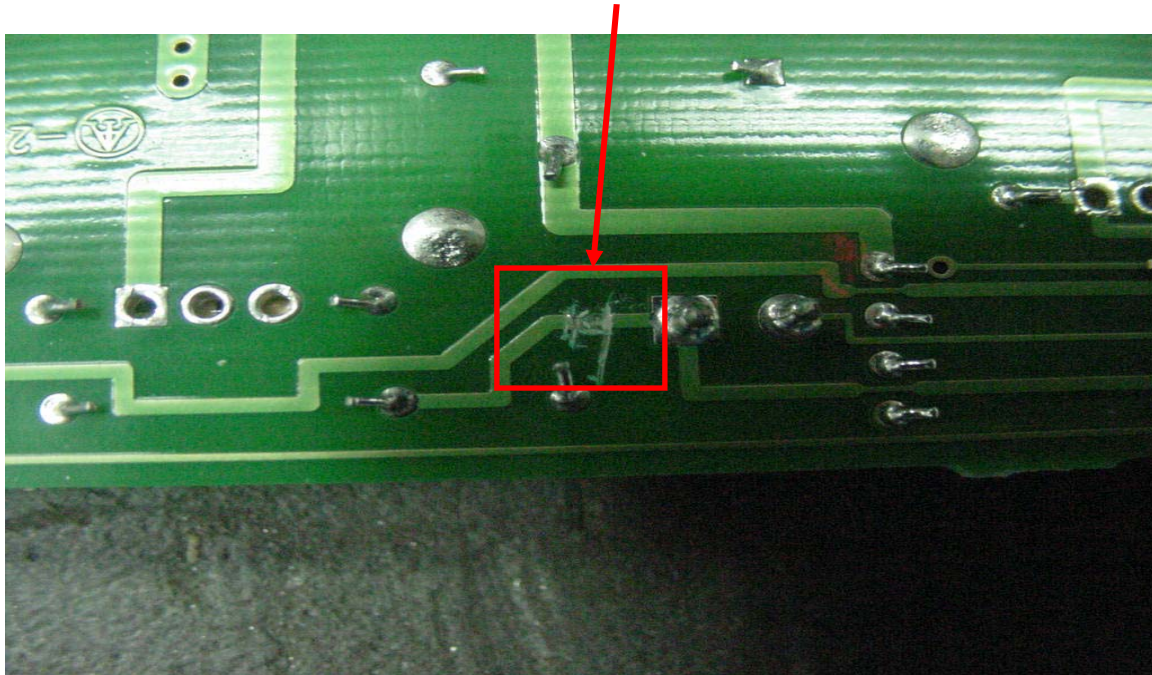
Solution/Action:

Rework On The Right Tunnel [Assembly P/N 5063-4815](#) for SAS [Model](#)

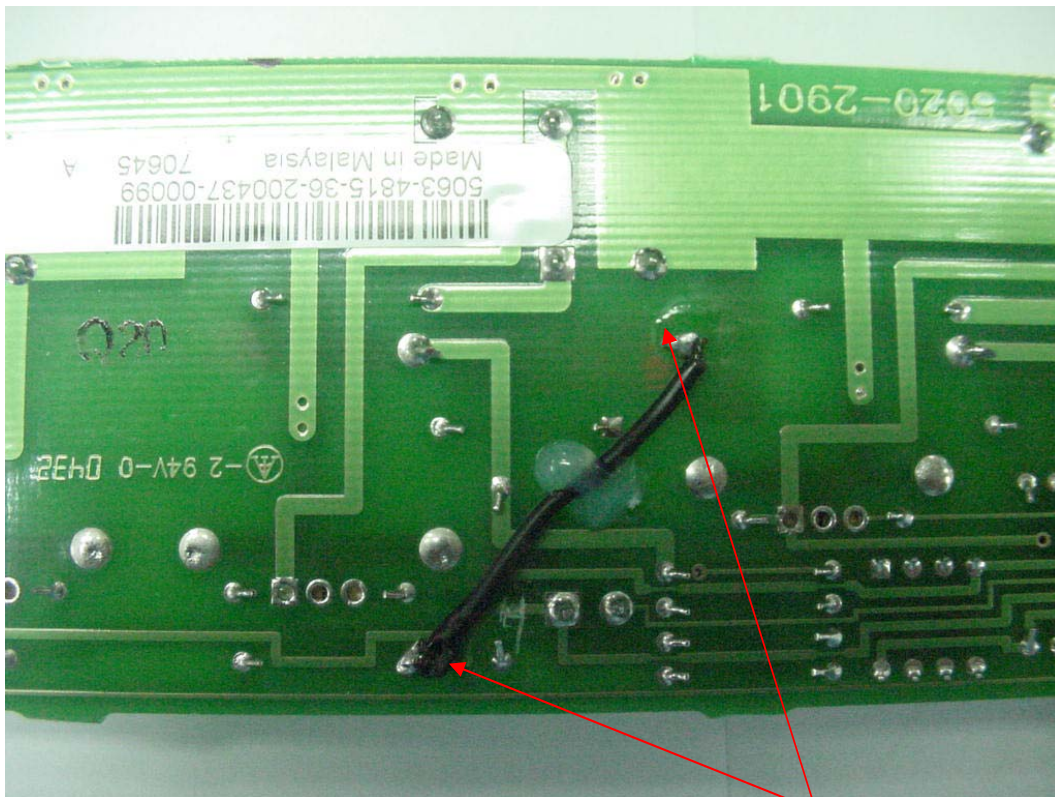
1. Figure below showing right tunnel PCA P/N 5063-4815 board ready for rework.



2. Cut trace between J300 and capacitor C305, on **Top and Bottom Right** side tunnel boards. **Length of trace removed should be a minimum of trace width, longer is ok.**



3. Figure below shows 22 AWG wire fully soldered to its place. **Add epoxy glue to hold the 22 AWG wire firmly in place. Make sure good solder forms at both end of 22 AWG wire.**



GOOD SOLDER JOINT

Electrostatic Discharge

CAUTION

The Modular Power System has components that can be damaged by ESD (electrostatic discharge). Failure to observe standard anti-static practices can result in serious degradation of performance even when complete failure does not occur.

When working on the Modular Power System, observe all anti-static work practices. This includes, but is not limited to:

- Working at a static-free station, such as a table covered with static-dissipative laminate or with a conductive table mat (Agilent P/N 9300-0797).
- Using a conductive wrist strap (Agilent P/N 9300-0969 or 9300-0970).
- Grounding all metal equipment at the station to a single, common ground.
- Connecting low-impedance test equipment to static sensitive components only when those components have power applied to them.
- Removing power from the Modular Power System before removing or installing printed circuit boards.

Service Tools and Equipment

The following tools are required to repair the Agilent 66000A MPS Mainframe:

- T15 and T25 TORX drivers.
- 10mm and 7mm HEX NUT drivers.
- #2 POZI driver.
- Slot-head screwdrivers - small and medium.
- DIP component removal tool.
- Soldering iron and solder.
- De-solder removal tool.
- Needle-nose pliers.
- Anti-static work mat and wrist strap.