

MODIFICATION RECOMMENDED

MSO9104A-02A

S E R V I C E N O T E

Supersedes:
MSO9104A-02

MSO9104A – 1GHz Digitizing Oscilloscope

Serial Numbers: ALL

Intermittent power failure on some 9000 series units.

Parts Required:

P/N	Description	Qty.
0699-8049	10.5Kohms 1/10W 1% SMD 0603	1
0161-0786	CAPACITOR-FIXED 0.22UF +-10PCT 16V CERAMIC X7R 0603 SMT	1

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	X ON SPECIFIED FAILURE ☐ AGREEABLE TIME	STANDARDS LABOR: 3.5 Hours	
LOCATION CATEGORY:	☐ CUSTOMER INSTALLABLE ☐ ON-SITE X SERVICE CENTER ☐ CHANNEL PARTNER	SERVICE INVENTORY: ☐ RETURN ☐ SCRAP ☐ SEE TEXT	USED PARTS: ☐ RETURN X SCRAP ☐ SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE		
NO CHARGE AVAILABLE UNTIL: End of product support life			
AUTHOR: MR		PRODUCT LINE: 1A	
ADDITIONAL INFORMATION:			

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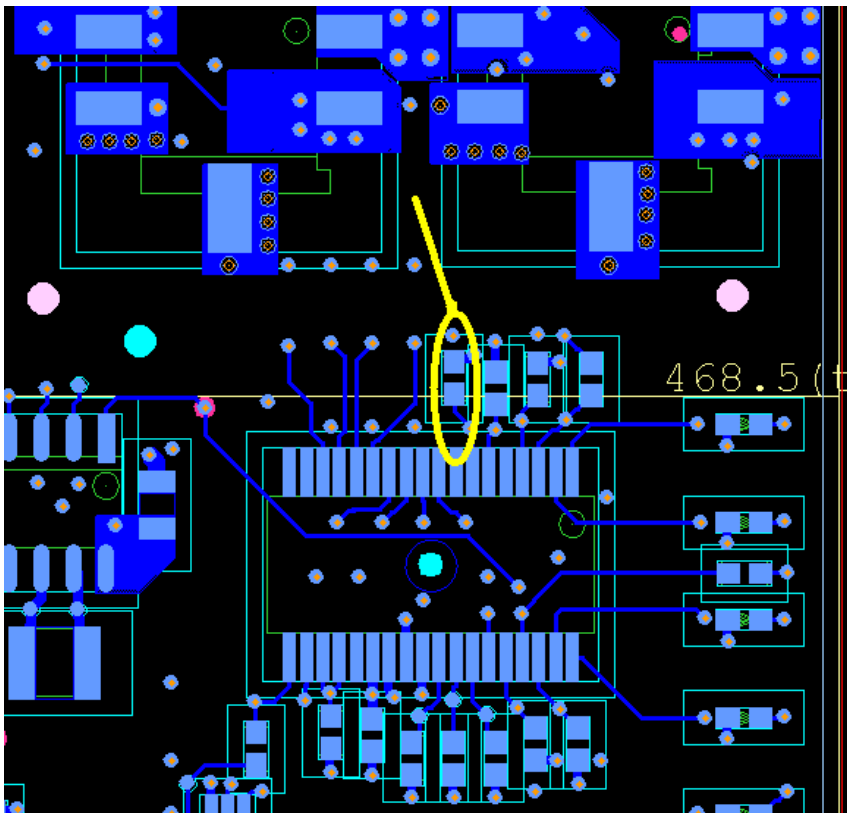
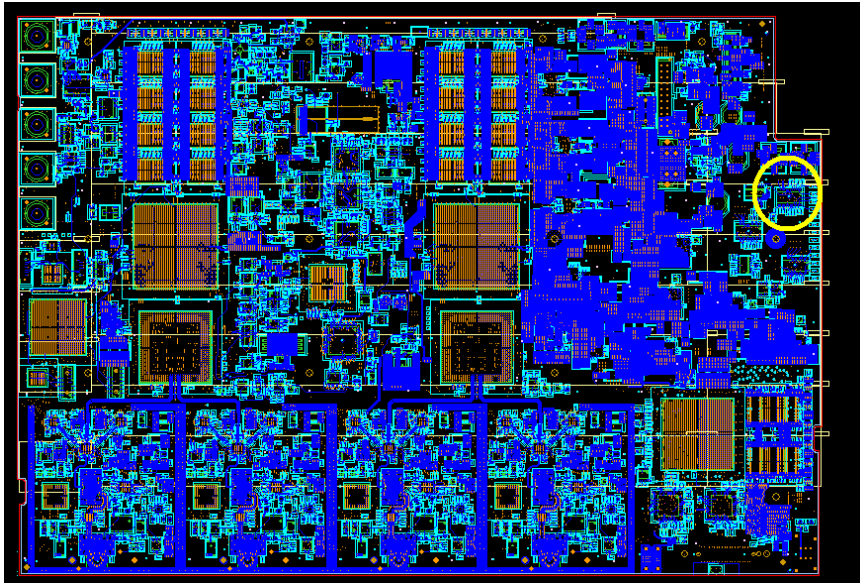


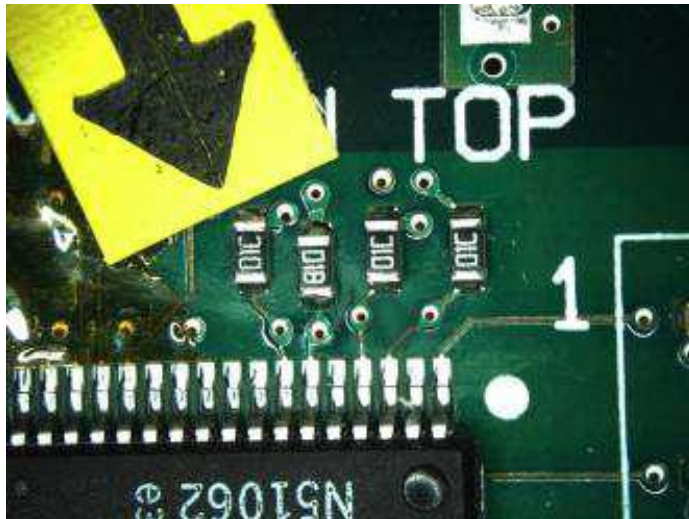
Situation:

A few of the 9000 series scopes randomly turn off. The fix is modifying the power distribution circuit on the acquisition board and dressing the wires that attach to the power supply. Make sure you use RoHS soldering station because the acquisition board components are RoHS compliant

Solution/Action:

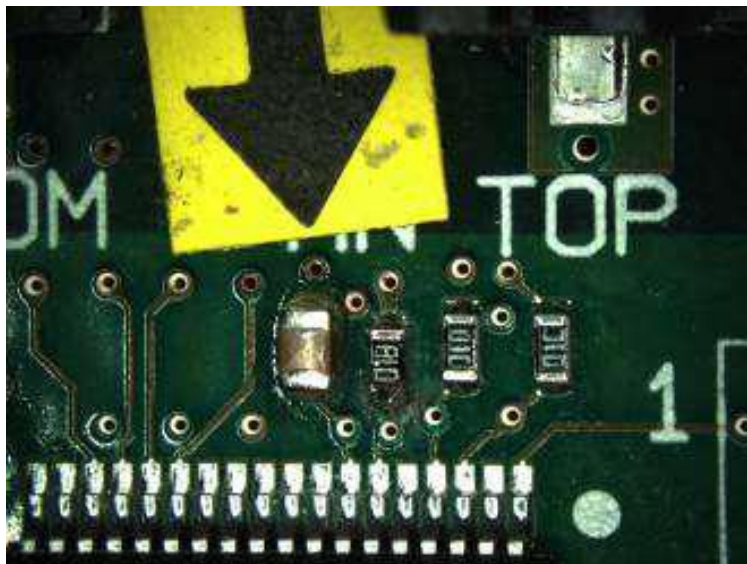
1. Use the disassembly instructions in the service manual to remove the acquisition board.
2. Refer to the below drawings to identify R2830. The area of interest is marked with a yellow circle





Before modification

3. Remove existing 10K resistor R2830.
4. Clean the solder pad and install the 10.5K SMD resistor on the pad.
5. Solder the 220nF SMD capacitor on top of the 10.5K resistor as shown in the below picture. Make sure the solder overflows down to the resistor pad entirely. A poorly soldered capacitor won't work as a capacitor.
6. Check the quality of your work by using a multimeter probe tip. Gently touch the lower pad of the capacitor several times. The probe tip introduces enough noise to turn the scope off if the capacitor is not soldered correctly. The capacitor forms a low pass filter to reduce noise. If the capacitor is soldered correctly, noise will not cause the scope to turn off.



After modification

7. Install the acquisition board back into the scope.
8. Refer to the below picture and dress the bulk power supply cables as shown.
9. Install clip on sheet metal as shown and dress the on/off cable through clip.



Bulk power supply cable and on/off cable routing

9. Reassemble the scope. Charge any parts and labor to factory warranty for this specific failure.