

33512B-02

# Modification Recommended Service Note

Supersedes:  
NONE

## 33512B Function Generator

Serial Numbers: MY000000000 to MY57400600 and SG000000000 to SG57400600

**The Problem** – Some customers have reported that, when line power is applied to the instrument but the instrument is NOT turned on (“Standby Mode”), some instruments will emit an audible high-pitched whistle or whine. To fix this, the existing power supply must be replaced with a newly designed power supply, as detailed in the solution below.

### Parts Required:

| P/N       | Description                                      | Qty. |
|-----------|--|------|
| 0950-6082 | Power Supply AC-DC switching 60W 1-Output 15V 4A | 1    |

### ADMINISTRATIVE INFORMATION

|               |   |                            |                                   |                                       |
|---------------|---|----------------------------|-----------------------------------|---------------------------------------|
| ACTION        | X ON SPECIFIED FAILURE  | STANDARDS                  |                                   |                                       |
| CATEGORY:     | <input type="checkbox"/> AGREEABLE TIME                             | LABOR:                     | 2 Hours                           |                                       |
| LOCATION      | <input type="checkbox"/> CUSTOMER INSTALLABLE                       | SERVICE:                   | <input type="checkbox"/> RETURN   | USED <input type="checkbox"/> RETURN  |
| CATEGORY:     | <input type="checkbox"/> ON-SITE (active On-site contract required) | INVENTORY:                 | <input type="checkbox"/> SCRAP    | PARTS: <input type="checkbox"/> SCRAP |
|               | X SERVICE CENTER  |                            | <input type="checkbox"/> SEE TEXT | <input type="checkbox"/> SEE TEXT     |
|               | <input type="checkbox"/> CHANNEL PARTNERS                           |                            |                                   |                                       |
| AVAILABILITY: | PRODUCT'S SUPPORT LIFE  | NO CHARGE AVAILABLE UNTIL: | October 31, 2018                  |                                       |
|               | X Calibration Required  | PRODUCT LINE:              | GM                                |                                       |
|               | <input type="checkbox"/> Calibration NOT Required                   | AUTHOR:                    | MDB                               |                                       |

### ADDITIONAL INFORMATION:

**Situation:**

To satisfy customers who complain about the audible high-pitched whistle or whine from their 33512B when in Standby mode, we will replace the power supply free of charge until the end of October, 2018. This is not a recall, and will only be done when a customer complains about the noise in Standby mode.

If the unit in question proves to be “No Trouble Found”, it will be returned to the customer as is.

**Solution/Action:**

The solution is to replace the old power supply with a new one. The old power supply was manufactured by XP Power. The new power supply is manufactured by MeanWell, and has Part Number 0950-6082.

**Old Noisy XP Power Supply (PN xxxx-xxxx)**



**New MeanWell Power Supply (PN 0950-6082)**

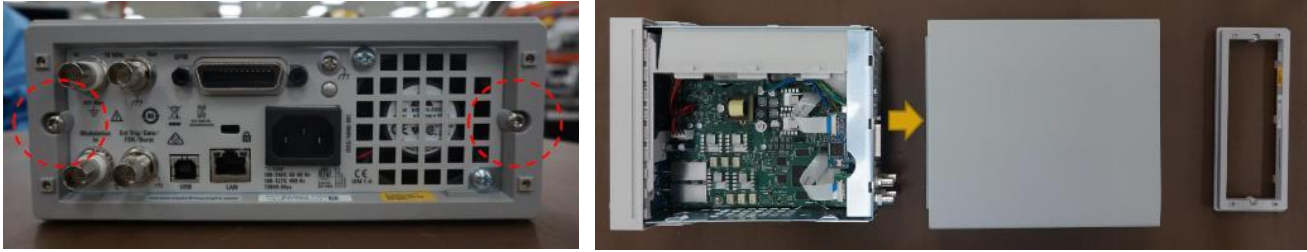


**Remove front panel assembly**

- 1) Rotate the handle upright and pull off the handle. Then pull off the instruments bumpers.



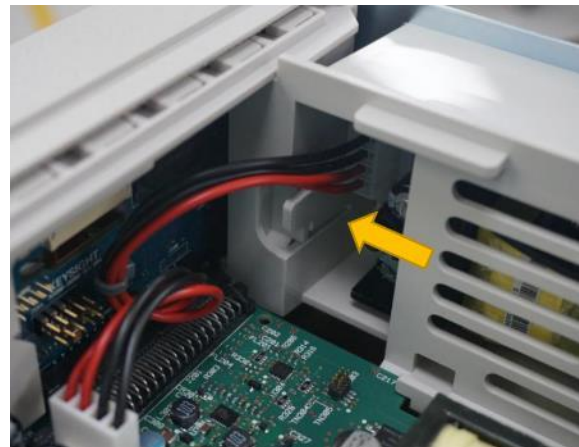
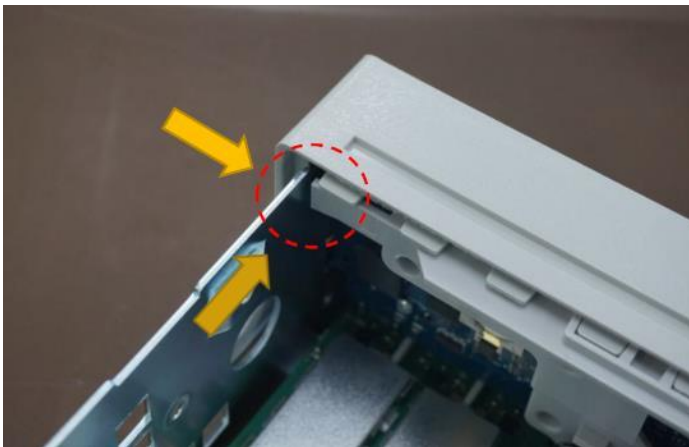
- 2) Loosen the two captive rear bezel screws, remove the bezel, and slide off the instrument cover.



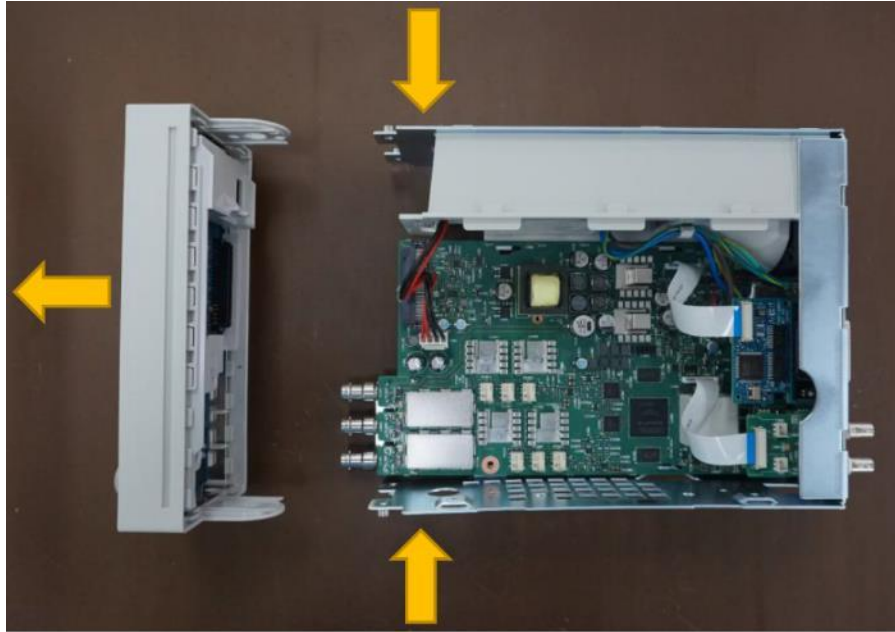
3) Remove the T15 screw holding the main board.



4) Press the latch on the left side of front panel, then press the latch on the right side of the front panel.

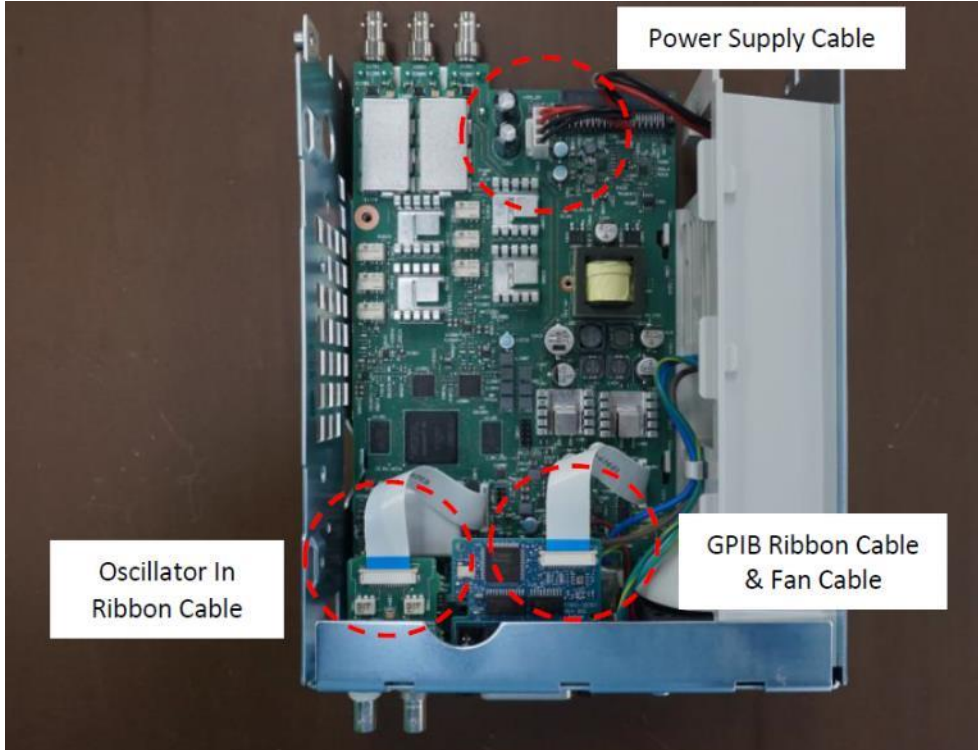


- 5) Push the sides of the metal chassis toward the center to disengage the studs on the sides of the front panel assembly. Then gently pull the front panel assembly straight back from the chassis. Note that the front panel assembly has an electrical connector to the main board. Be careful not to damage the connector.



## Remove the main board

- 1) Disconnect the power supply connector from the main board. Disconnect the **GPIB** and **Oscillator In** ribbon cables. Disconnect the **Fan Power Cable** from the main board.



- 2) Loosen and remove the nuts securing the **10 MHz In**, **10 MHz Out**, **Modulation In** and **Ext Trig** BNC connectors to the rear panel. Remove the hex screws and washers securing the **GPIB PCA**.





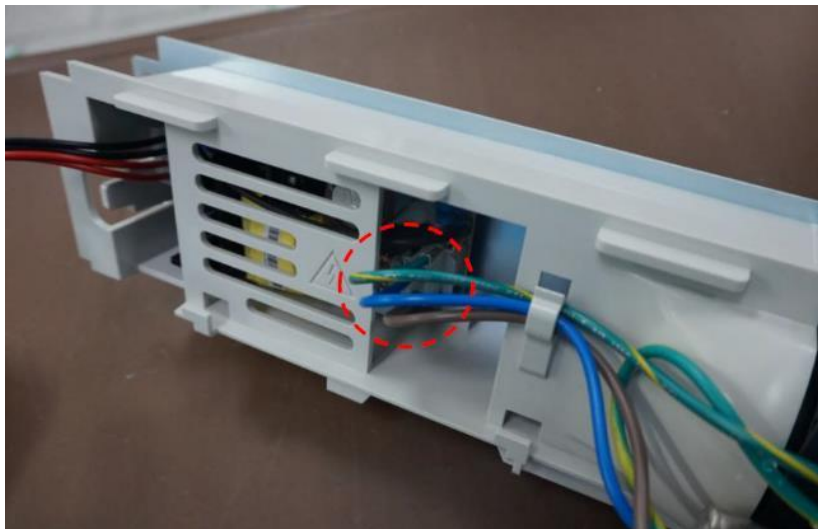
- 3) Remove the screw below the GPIB board which secures the main board to the chassis.



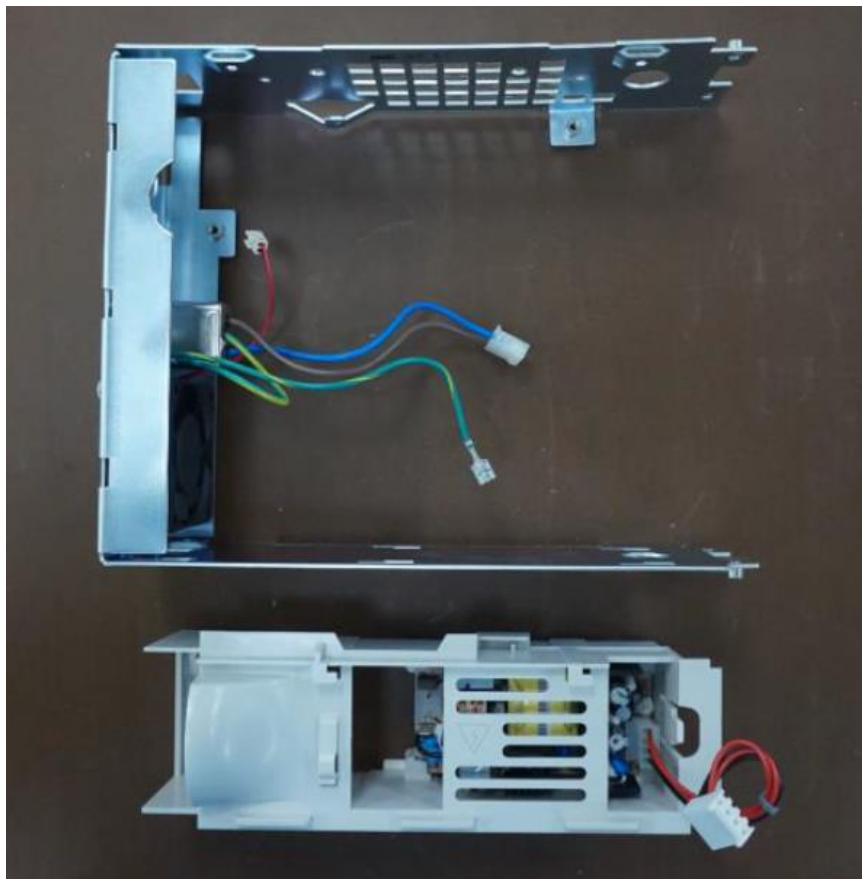
- 4) Slide the main board toward the front of the instrument to disengage the tabs on the power supply cover. Lift the main board out.

#### Remove the old power supply

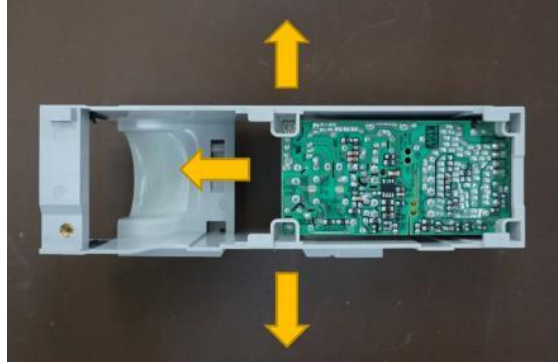
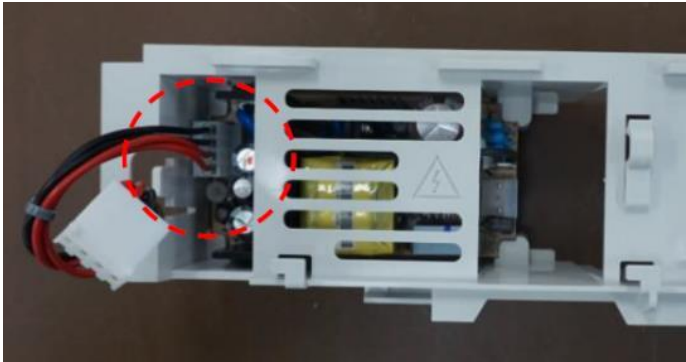
- 1) Disconnect the input power to the power supply board (blue and brown wires). Disconnect the green ground wire connector on the power supply board.



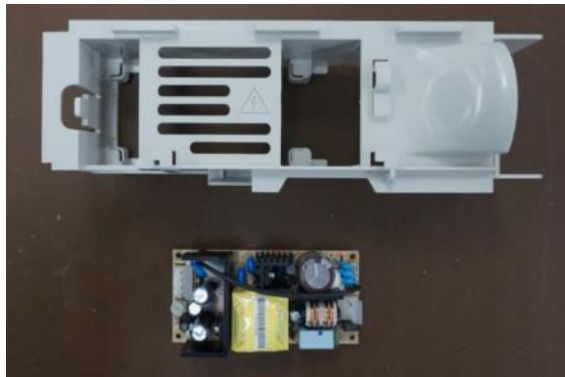
- 2) Remove the screw securing the power supply cover to the chassis. Then slide the power supply assembly toward the front of the instrument and remove it.



- 3) Remove the power supply cable from the power supply unit. Then pull the walls of the power supply cover to release the power supply.



- 4) Remove the power supply from the power supply cover.



### New Power Supply Assembly

Take the New Power Supply (0950-6082) and slide it into the Power Supply Cover. Make sure the orientation of the power supply is correct as shown on Figure 1.

**NOTE: The illustrations below show the OLD XP power supply assembly. Be sure you are installing the NEW MeanWell power supply. Reference the photos at the beginning of this Service Note to be sure you have the correct supply.**





Figure 1

Push the power supply into the cover as indicated by the red arrow until it reaches the end of the power supply cover, as shown in Figure 2b. Make sure the two edges of the power supply PCA are completely inserted into the slots on the power supply cover as shown in Figure 2c. Figure 2a shows the Power supply PCA edge is not properly inserted in the slots on the power supply cover.



Figure 2a



Figure 2c

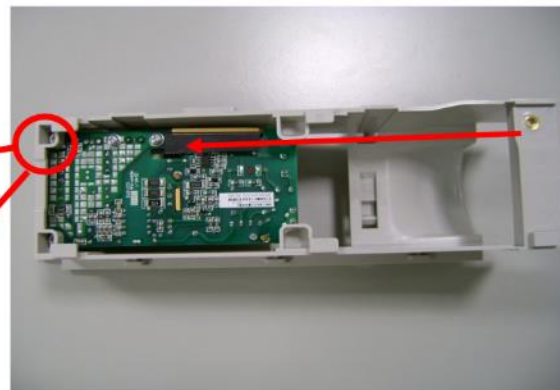


Figure 2b

Pull one side of the cover outward while pulling the Power Supply PCA upward, so that the power supply PCA slides into the slot on the Power supply cover as shown on Figure 3a. Do the same for the other edge of the power supply. The Power supply cover with the power supply properly installed is shown in Figure 3b.



Figure 3a



Figure 3b

Install the Power Supply cable (53200-61619) and the Chassis Ground Cable (53200-61610) into the power supply connectors as shown in Figure 4.



Figure 4

Re-assemble the 33500 Function Generator by reversing the order of disassembly.

**The repair is now complete. Calibration is Required.**

**Revision History:**

| Date            | Service Note Revision | Author | Reason for Change |
|-----------------|-----------------------|--------|-------------------|
| 09 October 2017 | 01                    | MDB    | As Published      |
|                 |                       |        |                   |
|                 |                       |        |                   |
|                 |                       |        |                   |