

53181A-06

S E R V I C E N O T E

Supersedes:
None

53181A - 225 MHz Counter

Serial Numbers: MY47000000/MY99999999
SG47000000/SG99999999

Behavior of the 53181A input sensitivity differs from earlier units.

Parts Required:

| P/N | Description | Qty. |
|------------|--------------------|-------------|
| None | | |

ADMINISTRATIVE INFORMATION

| | |
|------------------------------|--------------------|
| SERVICE NOTE CLASSIFICATION: | |
| INFORMATION ONLY | |
| AUTHOR: rms | PRODUCT LINE: PLSP |
| ADDITIONAL INFORMATION: | |

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Situation:

The comparator used on the channel 1 input was discontinued by the manufacturer and Agilent redesigned the 531XXA counters to use a different comparator, resulting in a change in the input sensitivity.

The new comparator is more sensitive at lower frequencies. In some applications, the increased sensitivity may allow the counter to trigger on noise, especially when making low frequency measurements. If the additional sensitivity is not suited to your application, the following steps may be used to decrease the sensitivity so the counter does not trigger on signal or environmental noise.

Solution/Action:

To decrease the sensitivity of channel 1 so the counter does not trigger on signal or environmental noise:

1. **Reduce the Sensitivity setting to LO.** The default setting at reset and power-on is HI.

Remote Interface: SENS:EVENT1:HYST:REL 100 will set the sensitivity to LO.

Front Panel: To set the sensitivity to LO

- Press the Trigger/Sensitivity key on the front panel above the channel until the display shows SENSITIVITY:
- Press the right arrow (to the right of the display) until the display reads SENSITIVITY: LO
- Press the ENTER key (to the right of the display) to finalize the change.



2. **Set a discrete trigger level.** The default setting at reset and power-on is auto level.

Remote Interface: SENS:EVENT1:LEV <volt> will set the trigger level to <volt>

Front Panel:

- Press the Trigger/Sensitivity key on the front panel above the channel until the display shows AUTO TRG:
- Press the right arrow (to the right of the display) until the display reads AUTO TRG: OFF
- Press the Trigger/Sensitivity key to show the current trigger level. Use the arrow keys to adjust the value.
- Press the ENTER key (to the right of the display) to finalize the change.



3. **Enable the 100 kHz filter** when measuring signals less than 100 kHz.

Remote Interface: INP1:FILT ON will turn on the 100 kHz filter.

Front Panel: Press the 100kHz Filter key on the front panel below the channel so the indicator is on.



4. **For large signals, use the x10 attenuator** to reduce the signal and noise by 10.

Remote Interface: INP:ATT1 10

Front Panel: . Press the x10 Attenuate key on the front panel below the channel so the indicator is on.

