

# Instructions



## **SDI Jitter Reduction Modification HDVG7 HDTV Digital Video Generator**

**075-A009-00**

### **Warning**

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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# Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* before performing any service procedures.

**Do Not Service Alone.** Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

**Disconnect Power.** To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power.

**Use Care When Servicing With Power On.** Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.



# Overview

This manual describes instructions to add a resistor(s) on the circuit board to ensure that the HDVG7 HDTV Digital Video Generator module meets jitter specification.

## Products

**HDVG7**  
**HDVG7 Option BK**

## Minimum Tool and Equipment List

Required tools and equipment	Part number
Screwdriver handle	---
#1 Phillips tip	---
Soldering iron (15 Watts)	---
Angle-tip tweezers	---
Desoldering pump or desoldering braid	---



# Installation Instructions

These instructions are for personnel who are familiar with servicing the product. Contact your nearest Tektronix, Inc., Service Center or Tektronix Factory Service for installation assistance.



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**CAUTION.** To prevent static discharge damage, service the product only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this kit.

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These installation instructions consist of two main processes:

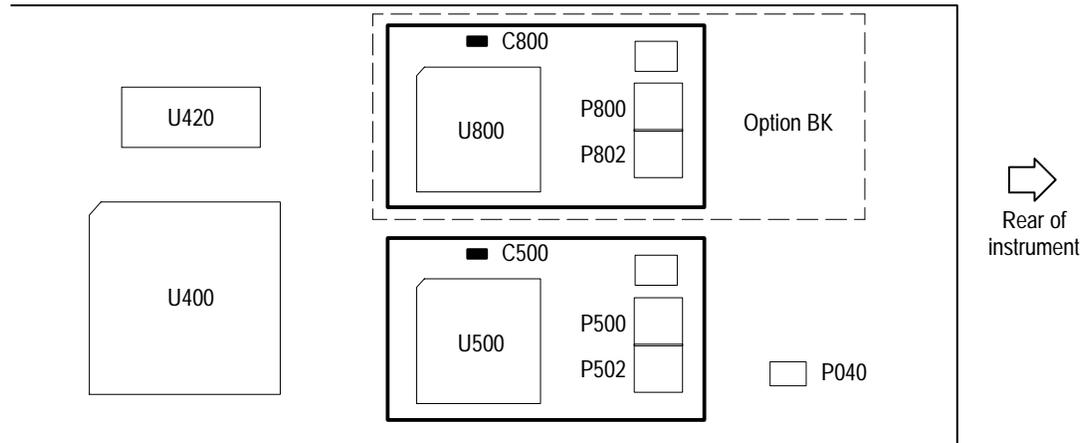
- Adding the resistor(s) on the HDVG7 circuit board
- Verifying Operation

## Adding the resistor(s) on the HDVG7 Circuit Board

Perform the following procedure to add the resistor(s) on the HDVG7 circuit board:

### Standard Instrument

1. Use *Appendix B: Module Installation* in the *TG700 TV Signal Generator Platform User Manual* to remove the HDVG7 Generator module from the mainframe.
2. Disconnect the cables at P500, P502, and P040 on the HDVG7 circuit board.
3. Use a screwdriver with a size #1 Phillips tip to remove the six screws securing the circuit board to the chassis.
4. Lift the circuit board up and away from chassis, and then place it on a static free surface.
5. Use the soldering iron to remove the shield case from the circuit board.
6. Locate C500 on the circuit board. See Figure 1.



**Figure 1: HDVG7 circuit board view**

7. Solder the 100 k $\Omega$  resistor (p/n 325-R053-00) in parallel with C500.
8. Solder the shield case to the circuit board.
9. Use a screwdriver with a size #1 Phillips tip to install the six screws securing the circuit board to the chassis.
10. Reconnect these cables.
  - a. The cable from the SIGNAL 1 connector at P500.
  - b. The cable from SIGNAL 2 connector at P502.
  - c. The cable from the fan at P040.
11. Apply the label marked “-01” to the circuit board part number label (671-B087-00). The label indicates that the modification has been installed.

**Option BK Instrument**

1. Use *Appendix B: Module Installation* in the *TG700 TV Signal Generator Platform User Manual* to remove the HDVG7 Generator module from the mainframe.
2. Disconnect the cables at P500, P502, P800, P802, and P040 on the HDVG7 circuit board.
3. Use a screwdriver with a size #1 Phillips tip to remove the six screws securing the circuit board to the chassis.
4. Lift the circuit board up and away from chassis, and then place it on a static free surface.
5. Use the soldering iron to remove the two shield cases from the circuit board.

6. Locate C500 and C800 on the circuit board. See Figure 1.
7. Solder the 100 k $\Omega$  resistors (p/n 325-R053-00) in parallel with C500 and C800.
8. Solder the two shield cases to the circuit board.
9. Use a screwdriver with a size #1 Phillips tip to install the six screws securing the circuit board to the chassis.
10. Reconnect these cables.
  - a. The cable from the SIGNAL 1 connector at P500.
  - b. The cable from SIGNAL 2 connector at P502.
  - c. The cable from BLACK 1 connector at P800.
  - d. The cable from BLACK 2 connector at P802.
  - e. The cable from the fan at P040.
11. Apply the label marked “-01” to the circuit board part number label (671-B096-00). The label indicates that the modification has been installed.

## Verifying Operation

After you have installed the resistor(s), perform the following functional check for the Generator module:

### Required equipment

The following equipment is required for the functional check:

- HDTV waveform monitor
- 75  $\Omega$  BNC cable

### Procedures

1. Use *Appendix B: Module Installation* in the *TG700 TV Signal Generator Platform User Manual* to install the Generator module into the mainframe.
2. Power on the TG700 TV Signal Generator Platform by connecting it to the power source. The initialization of all the installed modules is executed.
3. Check that no error messages appear on the LCD display.
4. Warm up the instrument for 20 minutes.

5. Press the front-panel **MODULE** button until the HDVG7 main menu shown below appears.



6. Press the **FORMAT** button and use the left (◀) or right (▶) arrow button to select a format, then press the **ENTER** button.
7. Press one of the front-panel test signal button (for example **COLOR BAR**) to output a signal.
8. Connect the **SIGNAL 1** connector to the HDTV waveform monitor using the 75 Ω BNC cable.
9. Set the waveform monitor to view the signal.
10. Check that the signal appears as expected. For example, if you selected a color bar signal in step 7, check that the color bar signal appears.
11. Disconnect the BNC cable from the **SIGNAL 1** connector, and then connect the BNC cable to the **SIGNAL 2** connector.
12. Check that the signal appears as expected.

**Option BK Only.**

13. Disconnect the BNC cable from the **SIGNAL 2** connector, and then connect the BNC cable to the **BLACK 1** connector.
14. Use the up (▲) or down (▼) arrow button to select **BLACK (OPTION)**, then press the **ENTER** button.
15. Use the left (◀) or right (▶) arrow button to select a format, then press the **ENTER** button.
16. Use the up (▲) or down (▼) arrow button to select **BLACK : (SIGNAL)**.
17. Use the left (◀) or right (▶) arrow button to select **Black**, then press the **ENTER** button.
18. Check that the signal appears as expected.
19. Disconnect the BNC cable from the **BLACK 1** connector, and then connect the BNC cable to the **BLACK 2** connector.
20. Check that the signal appears as expected.

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