Instructions

Tektronix

SPG3UP 01, SPG6UP 01, SPG6UP 02, and SPG6UP 03 Option Upgrades SPG600 & SPG300 Sync Pulse Generators

075-0845-00

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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Tektronix, Inc., P.O. Box 500, Beaverton, OR 97077

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* in the product service manual or the user manual.

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, disconnect the mains power by means of the power cord or, if provided, the power switch.

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.

Kit Description

This kit provides parts and instructions to upgrade your sync pulse generator to Option 01, Option 02, or Option 03.

These instructions apply for the following upgrades:

- SPG3UP 01 (Option 01): adds fine timing adjustment for analog outputs to the SPG300.
- SPG6UP 01 (Option 01): adds fine timing adjustment for analog outputs to the SPG600.
- SPG6UP 02 (Option 02): adds 4-channel analog video outputs to the SPG600.
- SPG6UP 03 (Option 03): adds 2-channel SD-SDI video outputs to the SPG600.

Minimum Tool and Equipment List

Required tools and equipment	Description
Screwdriver handle (magnetic)	Accepts Phillips-driver bits
#1 Phillips tip	Phillips-driver tip for #1 size screw heads
#2 Phillips tip	Phillips-driver tip for #2 size screw heads
Nut driver 5.5 mm	Standard tool

Kit Parts List

Circuit/figure number	Quantity	Part number	Description
SPG3UP 01 and SPG6UP 01 (Option 01)			
-----	1 ea	NS	DATA SHEET; OPTION KEY INFORMATION
-----	1 ea	334-1377-50	MARKER, IDENT
-----	1 ea	075-0845-XX	MANUAL, TECH, INSTRUCTIONS: SPG600 & SPG300 UPGRADE KIT
SPG6UP 02 (Option 02)			
-----	1 ea	671-5775-00	CIRCUIT BOARD ASSY: A30 ANALOG
-----	1 ea	174-4929-00	CABLE ASSEMBLY: W60
-----	2 ea	211-A245-00	SCREW, MACHINE: M3X6mm L
-----	2 ea	211-A218-00	SCREW, MACHINE: M2.6X6mm L
-----	2 ea	129-1605-00	SPACER, POST: 19.0mm L
-----	1 ea	334-1377-50	MARKER, IDENT
-----	1 ea	075-0845-XX	MANUAL, TECH, INSTRUCTIONS: SPG600 & SPG300 UPGRADE KIT
SPG6UP 03 (Option 03)			
-----	1 ea	671-5779-00	CIRCUIT BOARD ASSY: A40 SD-SDI
-----	1 ea	174-4929-00	CABLE ASSEMBLY: W60
-----	4 ea	211-A245-00	SCREW, MACHINE: M3X6mm L
-----	2 ea	211-A218-00	SCREW, MACHINE: M2.6X6mm L
-----	1 ea	407-5015-00	BRACKET, A40
-----	2 ea	129-1605-00	SPACER, POST: 19.0mm L
-----	1 ea	334-1377-50	MARKER, IDENT
-----	1 ea	075-0845-XX	MANUAL, TECH, INSTRUCTIONS: SPG600 & SPG300 UPGRADE KIT

NS — Not Saleable

Installation Instructions

These instructions are for personnel who are familiar with servicing the product. If you need further details for disassembling or reassembling the product, refer to the *SPG600 & SPG300 Sync Pulse Generators Service Manual* (Tektronix part number 071-1342-XX).

WARNING. *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.*

Activating the Fine Timing Adjustment Feature (SPG3UP 01 and SPG6UP 01)

Perform the following procedure to activate the fine timing adjustment feature for your SPG300 and SPG600:

1. Power on the instrument.
2. Press the **SYSTEM** button to display the System menu.
3. Press the up (▲) or down (▼) arrow button to select **SYSTEM PARAMETER**.
4. Press the left (◀) or right (▶) arrow button to select **Setup**.
5. Press the **ENTER** button.
6. Enter the option authorization key provided in the kit using the following steps:
   a. Press the **ENTER** button to enable the text entering mode. The underscore character (_) appears at the far left of the second line.
   b. Use the up (▲) or down (▼) arrow button to select a character.
   c. Use the right (▶) arrow button to move the underscore character and then use the up (▲) or down (▼) arrow button to select the character.
   d. Repeat step c until all of the alphanumeric code is entered.
   e. Press the **ENTER** button to end the text entering process.

NOTE. *If you enter an invalid option key for your instrument, the error message *BAD OPTION KEY* appears in the display. Press the CANCEL button and then repeat step 6.*

7. **SPG300**: Remove the protective backing from the label marked "SPG3UP 01" and apply it to the bottom of the instrument, just beside the serial number label.

   SPG600: Remove the protective backing from the label marked "SPG6UP 01" and apply it to the right side of the instrument, just under the serial number label.

Installing the 4-Channel Analog Video Outputs Board (SPG6UP 02)

WARNING. *Disconnect the power cord from the line voltage source before installing this option. Failure to do so could cause serious injury or death.*

Perform the following procedure to install the 4-channel analog outputs board into your SPG600:

1. Disconnect all external cables and the power cord from the SPG600 rear panel.
2. Use a screw driver with a #2 Phillips tip to remove the sixteen screws securing the top cover to the chassis and remove the cover. See Figure 1.

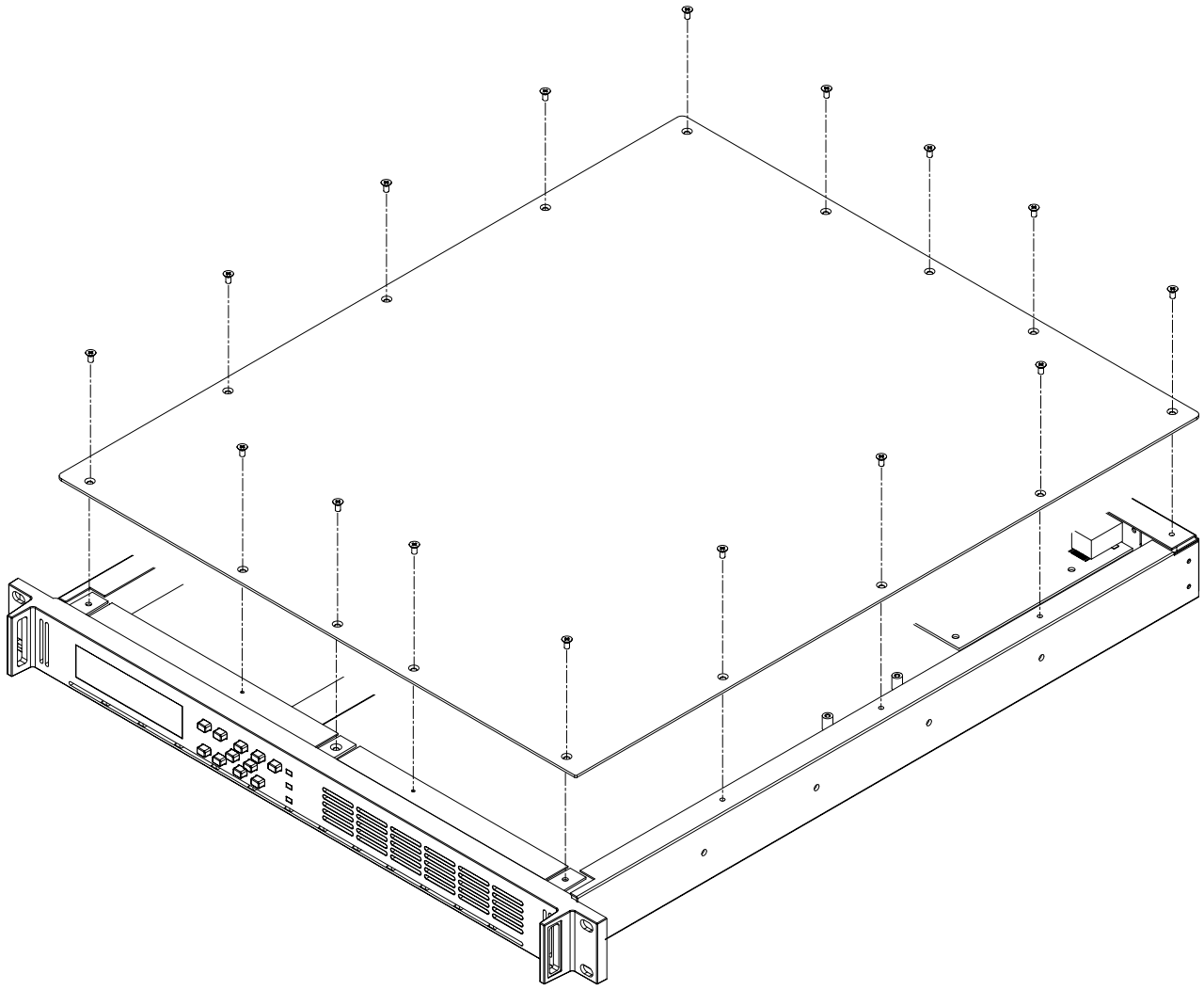

Figure 1: Top cover removal

3. Use a screwdriver with a #1 Phillips tip to remove the two screws (M2.6 X 6) securing the blank panel to the rear panel.

4. Use a screwdriver with a #2 Phillips tip to reinstall the blank panel so that the two BNC connector holes for SDI 3 and SDI 4 are covered with the panel. If Option 03 is already installed, skip this step.

5. Use a 5.5 mm size nut driver to install the two spacer posts to the chassis. See Figure 2.

6. Connect the one end of the flat cable provided in the kit at J610 on the A10 Main board. See Figure 2.

7. Use a screwdriver with a #1 Phillips tip to install the two screws (M2.6 X 6) securing the analog video outputs board to the rear panel. See Figure 2.

8. Use a screwdriver with a #2 Phillips tip to install the two screws (M3 X 6) securing the analog video outputs board to the spacer posts. See Figure 2.

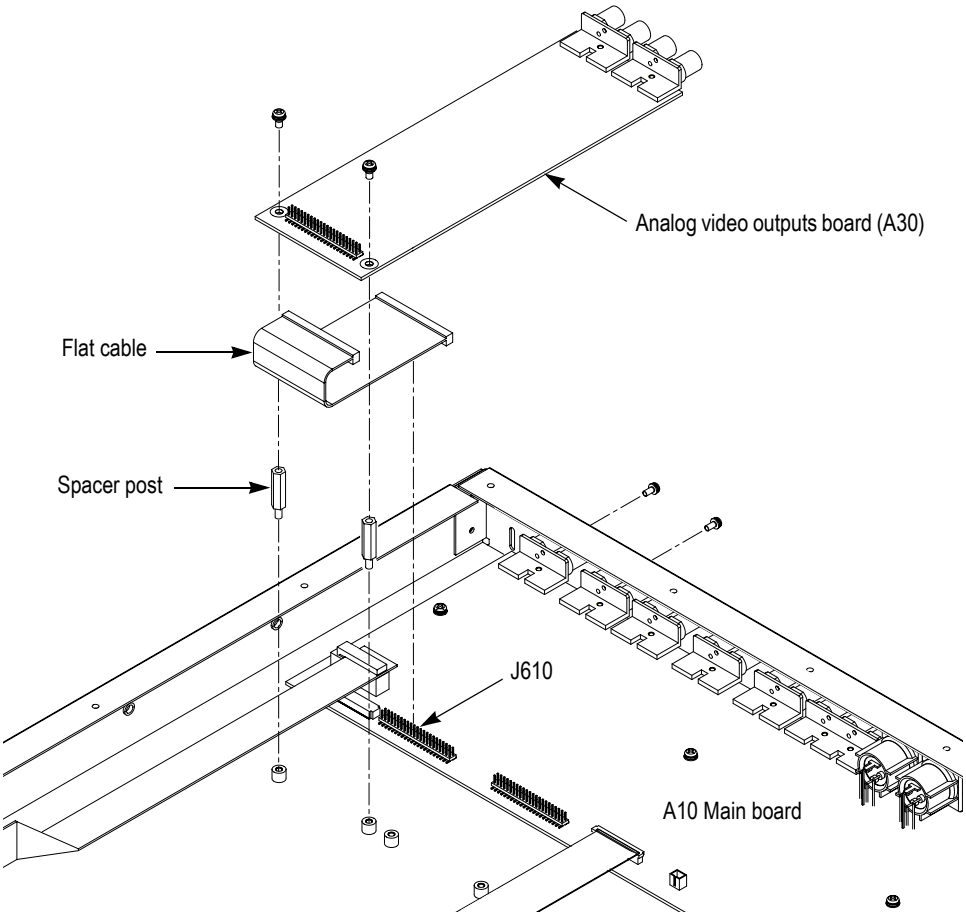

Figure 2: Installing the analog video outputs board

9. Connect the other end of the flat cable to J1 on the analog video output board.

10. Use a screw driver with a #2 Phillips tip to reinstall the top cover to the chassis.

11. Remove the protective backing from the label marked “SPG6UP 02” and apply it to the right side of the instrument, just under the serial number label.

Installing the 2-Channel SD-SDI Video Outputs Board (SPG6UP 03)

WARNING. *Disconnect the power cord from the line voltage source before installing this option. Failure to do so could cause serious injury or death.*

Perform the following procedure to install the 2-channel SD-SDI video outputs board into your SPG600:

1. Disconnect all external cables and the power cord from the SPG600 rear panel.
2. Use a screwdriver with a #2 Phillips tip to remove the sixteen screws securing the top cover to the chassis and remove the cover. See Figure 1 on page 5.
3. Use a screwdriver with a #1 Phillips tip to remove the two screws (M2.6 X 6) securing the blank panel to the rear panel.
4. Use a screwdriver with a #2 Phillips tip to reinstall the blank panel so that the four BNC connector holes for CH5 to CH 8 are covered with the panel. If Option 02 is already installed, skip this step.
5. Use a 5.5 mm size nut driver to install the two spacer posts to the chassis. See Figure 3.
6. Connect the one end of the flat cable provided in the kit at J600 on the A10 Main board. See Figure 3.
7. Use a screwdriver with a #1 Phillips tip to install the two screws (M2.6 X 6) securing the SD-SDI video outputs board to the rear panel. See Figure 3.
8. Use a screwdriver with a #2 Phillips tip to install the two screws (M3 X 6) securing the SD-SDI video outputs board to the spacer posts. See Figure 3.

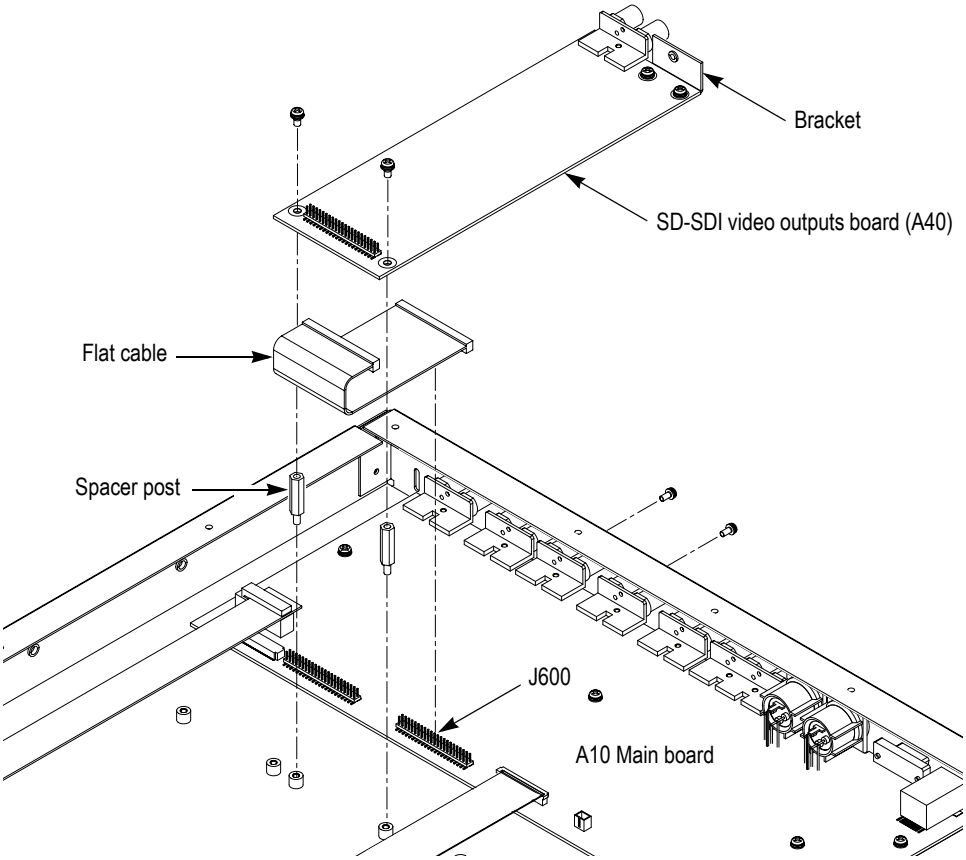

Figure 3: Installing the SD-SDI video outputs board

9. Connect the other end of the flat cable to J1 on the SD-SDI video outputs board.

10. Use a screw driver with a #2 Phillips tip to reinstall the top cover to the chassis.

11. Remove the protective backing from the label marked "SPG6UP 03" and apply it to the right side of the instrument, just under the serial number label.

Verifying Instrument Performance

After you have installed the outputs board in this kit, do the performance verification procedure for the SPG600 as described in the *SPG600 & SPG300 Sync Pulse Generators Service Manual* (Tektronix part number 071-1342-XX).

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