

Wells-Gardner U-5000/U-2000 Vertical Sweep Upgrade Kit
Kit # S05F0000-000F

This Kit includes the following parts:

<u>Part Number</u>	<u>Description</u>	<u>Board Location</u>
038A7593-000	Terminal Strip & Resistor Assembly	Bottom pan
(or) 038A7592-000	Terminal Strip & Resistor Assembly	Bottom pan
312X1205-206	Screw, 6-32 x 3/8" long, PHP	Terminal strip
020X1877-003	Nut, KEPS, 6-32	Terminal strip
069X2756-100	Label, resolution select	Bottom pan
086X0326-001	IC, Vertical Deflection, TDA1771	U601
066X0090-001	Diode, RU2 or 1N4937	D302
043X0486-002	Resistor, 1.2 ohm, 2 watt, 5%	R303
069X2759-100	Installation Instructions	
066X0071-001	Diode, 1N4004	D603
045X0560-504	Capacitor, 100 uf @ 50 volt, radial	C613

WARNING: DISCONNECT THE AC POWER TO THE MONITOR, DISCHARGE THE CRT, AND REMOVE THE CHASSIS BEFORE DOING THE FOLLOWING WORK!

TERMINAL STRIP INSTALLATION (U-5000 model only)

1. Remove bare wire jumper "W108" from the main board. It is located along side C601 (in front of U601).
2. Insert the orange and brown leads of the terminal strip into the holes from which "W108" jumper was removed. The brown lead goes into the hole closest to the edge of the board. The orange lead goes into the hole farthest from the edge of the board. Solder these leads to the bottom of the board and cut off any excess. This assembly is not used on the model U-2000.

VERTICAL DEFLECTION IC U601 REPLACEMENT

3. Unscrew the fastening screw while holding the KEPS nut on the back of the heat sink.
4. Unsolder U601 from the bottom of the board. Remove and discard this IC.
5. Take the replacement IC from this kit and insert it's leads into the same holes in the board from which the original U601 was removed. Be sure to orient the IC such that it's markings are visible. **DO NOT SOLDER THE LEADS YET.**
6. Apply silicone heat sink grease compound on the heat sink and behind the IC. Position the IC such that it's mounting hole is aligned with the mounting hole of the heat sink. Insert the mounting screw through the hole while holding the KEPS nut on the back side of the heat sink. Tighten the screw. Solder the leads of U601 to the bottom of the board.

DIODE D302 REPLACEMENT

7. Locate diode D302. It is behind resistor R823 which is close to the center of the rear edge of the main board. **NOTE WHICH END OF D302 HAS THE BAND (CATHODE).** Replace D302 by unsoldering it's leads from the board. Install the replacement diode in the same location such that the end with the cathode band is

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oriented the same as the original diode was (I.E. end with the cathode band closest to the rear edge of the board). Solder the leads of the replacement diode to the bottom of the board and cutoff any lead excess.

RESISTOR R303 REPLACEMENT

8. Locate resistor R303 behind diode D302. The replacement for R303 may have a different physical appearance than the original one. Unsolder the original R303, insert it's replacement, and solder. Cut off any lead excess.

DIODE D603 REPLACEMENT

9. Locate diode D603 behind IC U601. You will replace the existing diode with the 1N4004 diode provided in this kit. NOTE WHICH END OF D603 HAS THE BAND (CATHODE). Replace D603 by unsoldering it's leads from the board. Install the replacement diode in the same location such that the end with the cathode band is oriented the same as the original diode was. Solder the leads of the replacement diode to the bottom of the board and cut off any lead excess.

CAPACITOR C613 REPLACEMENT

10. Locate electrolytic capacitor C613 next to diode D603. Replace this capacitor with the 100 uf @ 50 volt capacitor provided in this kit. Be sure to observe the capacitor polarity markings on the board and on the capacitor. **WARNING:** Inserting this capacitor with polarity backwards will cause it to explode immediately upon power up!

TERMINAL STRIP FASTENING (U-5000 model only)

11. Using the provided screw and KEPS nut, mount the terminal strip to the bottom pan on the side where the vertical output device U601 is located. Use the mounting hole in the side of the bottom pan which is closest to the front of the monitor. Be sure to orient the terminal strip such that the end with the brown wire is toward the front of the monitor (CRT end) and the end with the orange and white wires is toward the rear. Also note that the mounting tab of the terminal strip should be on the inside of the bottom pan while the part with the resistor(s) is on the exterior of the bottom pan.

12. Connect the 2-position plug (at the end of the white wire of the terminal strip) to TP205 located directly in front of vertical deflection IC U601. Connect it such that TP205 mates with the proper connector position for the respective horizontal frequency operation:

WITH TP205 CONNECTED to the white wire for 15 Khz (CGA or standard) operation.

WITHOUT TP205 CONNECTED to the white wire for 25 Khz (EGA or medium) operation.

13. Affix the resolution/frequency select label to the side of the bottom pan directly in front of TP205.

Be sure to double check all your work for proper part installation and orientation as well as soldering. You are finished with the update and may now reinstall the chassis and try out the monitor.