1980 PROGRAM ERRORS (CONT.)

--NTSC Vertical Interval Display bug
--PAL Vertical Interval location and display bug
--Fatal Error S-9 at 460 during monitoring

The correct parts are to be installed in 1980's that exhibit these problems. The affected boards are 672-1151-00, -01, or -02, (Opts. 4 & 5) which becomes 672-1151-03, or 672-0092-00 which becomes 672-0092-01 (Opt. 6).

A parts replacement kit is available to implement the change. Order 050-1926-00.

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1980 RTC/NVM BATTERY CURRENT

RE: 1980 Service Manuals, Vol. I and II, 070-2921-00, 070-4494-00

The Real Time Clock and Non-Volatile Memory circuits in the 1980 are designed to be kept electrically active during power-down situations by the use of battery back-up. Under normal circumstances, these batteries have adequate capacity to keep the circuits alive for several weeks. However, certain failure modes can cause higher than normal current drain, thereby shortening the "OFF" time available.

To verify that the current being drawn from the two batteries in question is not excessive, the following checks can be made using a DVM that is capable of reading mV (such as a DM501A):

- The voltage across R388 (schematic 5a) should be less than 5mV, as measured between TP388 and TP887.
- The voltage across R181 (schematic 5c) should be less than 65mV, as measured between TP180 and TP181.

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4006-1, 4051/52/52A DISPLAY BOARD MOD

Ref: 4006-1 Computer Display Service Manual P/N 070-1892-01

4051 Graphic Computer Service Manual P/N 070-2286-02

4052 and 4052A Graphic Computer System Parts and Schematics Service Manual P/N 070-2829-01

Corporate Mod #54922

The display board in the 4006-1, 4051/52/52A products is experiencing a high failure rate due to high AC line voltages causing the failure of R64, R339, and Q165. The failure of R64 can generate enough heat to scorch, or even burn, the board.

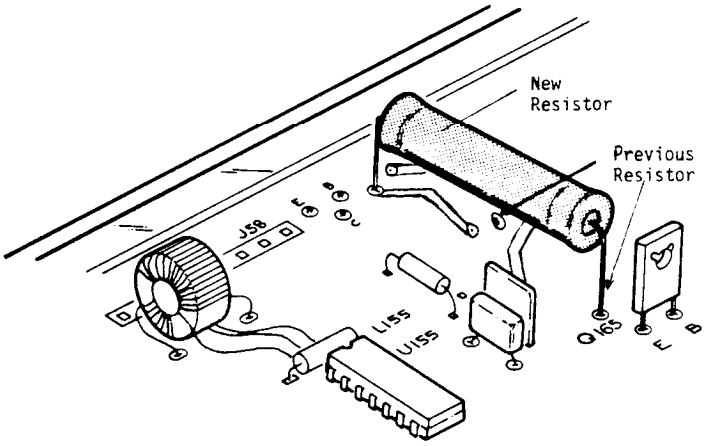

Figure 1

Corporate modification #54922 fixes this failure mode by changing the value, wattage and placement of R64, and changing the source voltage of the CE1/CE2 circuit from +320 volts to +185 volts. To accomplish this, R64 is physically repositioned. It now connects between the +185-volt source (R39) and the collector of Q165. Physically, it will be positioned as shown in Figure 1.

(ARTICLE CONTINUED ON THE NEXT PAGE)

4006-1, 4051/52/52A DISPLAY BOARD MOD (CONT.)

R64 changes from 68K 2W resistor, P/N 305-0683-00, to a 30K 8W resistor, P/N 308-0105-00. The Display board for the 4006-1 changes from a 672-0537-11 to a 672-0537-12 and the Display board for the 4051/52/52A changes from a 672-0546-11 to a 672-0546-12.

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4016/GMA125(A)/616 MAKING POOR HARD COPIES

Ref: GMA125 Instruction Manual,
070-2618-00
GMA125A Instruction Manual,
070-4895-00
4016 Service Manual,
070-2661-00
616 Instruction Manual,
061-2875-00

Many deflection amplifier boards in GMA125(A), 616, and 4016 products have been found with the wrong values for resistors R416 and R418. Rather than the 1.00K ohms specified in the schematic and parts list, the value of 287 ohms has been prevalent. Some boards have also had the same problem with R401 and R404. This may explain a number of problems encountered with hard copy units, as these resistors are in the ramp input circuits.

When investigating ramp-related hard copy problems and one of the products connected is a 25-inch display, check the values of R401, R404, R416 and R418 on the display's deflection board.

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4041 FIRMWARE CHANGES

There is now a new firmware version for the 4041. The new version 2.1 improves compatability with the 41XX graphics terminals, as well as improving internal memory management. Since these changes do not benefit all users, we have decided to continue availability of the version 2.0 firmware.

To provide the support for two versions more easily, the ROMs have been removed from the circuit boards. In addition, several new kits have been set up to provide V2.0 FOXX options, as well as firmware upgrade kits. Each ROM will also be individually orderable.
Due to the quantity of firmware on the CPU board, two 672 numbers have been set up for board exchange that already have the ROMs installed. The other boards will be supplied from board exchange without any firmware.

Please note that the 672 number is for board exchange use only, new CPU boards should be ordered using the 670 number.

The following list shows the part numbers available for the various kits and boards for both firmware versions.

(ARTICLE CONTINUED ON THE NEXT PAGE)