LaserWriter Driver 3.3: Enhancements and fixes

LaserWriter Version 3.3 and LaserPrep Version 3.3 are on the disks for the Macintosh System Tools Version 1.0 and Utility Version 1.0 that ship with the Macintosh SE. Outlined below are some of the differences, enhancements and problem fixes, between these LaserWriter drivers and the older driver, 3.1, and earlier. Not listed are fixes to several obscure, minor, and cosmetic problems.

A. The driver resets (software power-cycle) the LaserWriter if it was initialized with an incompatible driver version.

B. There's a fix to a problem encountered in all applications, most notably in Microsoft Excel: bytes were randomly written in memory, causing some programs to crash when printing.

C. Bitmap printing has been completely changed to improve appearance and performance.

   1. There's an added routine, similar to smoothing, which pre-stretches bitmaps to the required dimensions before imaging; this allows bitmaps to print much faster.

   2. Clipping problems in bitmaps are gone.

   3. Random garbage in stretched bitmaps is gone.

   4. "Stitching" between bands of adjacent bitmaps has been greatly improved to eliminate hairline gaps.

D. Bitmap fonts have been changed for greater speed. Bitmap fonts above 36 points now download and print correctly and print faster in a higher quality.

E. There's a fix to a long-standing bug in the orientation of rotated QuickDraw patterns on various types of printers.

F. Fonts on PostScript printers are no longer pre-coordinated at printer initialization time but only as they are needed. This frees room for downloading other fonts and doesn't require spoolers to know anything about font coordination.

G. Because they required more than 30 seconds to generate data for the printer, some applications were aborted for insufficient activity on the

network. This timeout has been extended to 5 minutes.

H. If a PostScript error occurs, a print error is now generated by the driver
    to tell the application to stop printing. The error message stops the
    application from having to generate any more document data which the
    driver would ignore anyway.

I. Font substitution is now disabled in all cases where fractional pixel
    widths have been enabled. Disabling font substitution fixes a bug
    encountered by applications that use the fractional pixel width mode,
    such as WriteNow, Word 3.0, PageMaker 2.0, and MicroSoft Works.

    Previously, single-font paragraphs could appear printed with different
    lines in the non-substibuted form as well as the substituted font.

J. Font downloading now occurs whenever it might improve output or if the
    font might not be available on the printer. This solves the problem on
    some 3rd party spoolers which sometimes did not have the font available.

K. Some minor problems with dialog boxes were fixed along with some cosmetic
    changes made to dialog boxes and alert windows.

L. Bitmaps one pixel wide can be printed.

M. Zero width characters are now printed correctly. This fixes a bug where
    some characters in fonts such as Music and other symbols could not be
    printed.

N. Cover sheets now default to print in Helvetica instead of Courier.

O. Document names sometimes defaulted to the last document printed. Now, if a
    document name is not known, "unknown" appears in the dialog box.

P. There's a fix to a bug in printing circles and ovals where some of these
    objects, when rendered extremely narrow or flat, had gaps at the beginning
    and end joints.

Q. Sometimes the driver had difficulty printing when the amount of memory
    available in the Macintosh was low. This caused unrepeatable crashes with
    strange result codes. Though this problem cannot be detected or eliminated
    in all cases, the fix has made the situation significantly more robust and
    reliable.

       -- If enough memory is not available for printing, the driver will try
             to reduce its memory requirements enough to print. If it cannot,
             it will abort the printing altogether. It will print slowly
             or not at all, but at least it won't crash.

R. A problem in the QuickDraw comment to include PostScript in a handle has
    been fixed so that the QuickDraw comment now works correctly.

S. If the printer is reintializing, the driver will now wait until the
    printer is available.

T. Another alert for spoolers was added. If the remote printer is actually a
   spooler rather than a printer, initialization of the printer is not
   permitted.
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