

IEEE 488

APPLICATION BULLETIN

PCL5 and HP-GL/2 COMPATIBLE LAN PRINTERS AND INSTRUMENTS For ICS's Model 4872 GPIB-to-LAN Printer Interfaces

INTRODUCTION

Most of the 4872's applications involve connecting the 4872 between an instrument, such as an analyzer or oscilloscope, and a printer so the user can directly print or plot the instrument's output without the use of a computer or a GPIB Bus Controller. Originally, the instrument was directly connected to a printer or plotter with a GPIB interface. Printing or plotting is done by simply pressing a button on the instrument's front panel. As these older printers and plotters wear out, GPIB versions are no longer available, so users have wanted to replace them with new, low-cost printers.

Originally this problem was solved by ICS's 4892 series of GPIB-to-Parallel Printer Interfaces. The 4892s connected the instrument's GPIB output to the printer's parallel port (Centronics interface). As printer and PC technology evolved, printer manufacturers dropped the parallel interface in favor of USB and now Ethernet connections.

ICS's Model 4872 GPIB-to-LAN Printer Interface is a newer interface that connects the older instruments' (analyzers, oscilloscopes, etc.) GPIB interface to a compatible printer with an Ethernet interface. Because the output from these older instruments is HP-GL/2 graphical data, the problem is reduced to finding HP-GL/2 compatible printers for the test instruments. This application note lists some of these older instruments and some compatible printers.

HP-GL/2 and PCL5

Hewlett-Packard (then Agilent, now Keysight) developed a graphics language for their test instruments to use when communicating with printers and plotters. This graphics language is known as HP-GL/2 and has become a de facto standard. HP-GL is included in many of today's more expensive stand-alone test instruments made by Agilent, Anritsu, etc.

HP-GL/2 COMPATIBLE TEST INSTRUMENTS

The following is a partial list of instruments that have been used with the 4892s and their HP-GL/2 capability. They should work also with the 4872. This list is updated as we get feedback from other 4872 users.

Advantest

R3767BH Analyzer

HPGL

Agilent (Hewlett-Packard)

HP875/A

HP1631D Logic Analyzer

HPGL

HP35066A Spectrum Analyzer

HPGL

HP3561A Spectrum Analyzer

HPGL

HP3563A Control System Analyzer

HPGL

HP3585B Spectrum Analyzer

HPGL

HP3753 Network Analyzer

HPGL

HP4195A Analyzer ⁽³⁾

HPGL

HP8357 Network Analyzer

HPGL

HP8510, C Network Analyzer ⁽²⁾

HPGL

HP8562E Spectrum Analyzer

HPGL

HP8563, E Spectrum Analyzer ⁽⁶⁾

HPGL

HP8565E Spectrum Analyzer

HPGL

HP8566B Spectrum Analyzer

HPGL

HP8567 Spectrum Analyzer

HPGL

HP8591A/E Spectrum Analyzer

HPGL

HP8593E Spectrum Analyzer

HPGL

HP8591A/E Spectrum Analyzers

HPGL

HP8719 Analyzer

HPGL

HP8720D Analyzer

HPGL

HP8751A Analyzer

HPGL

HP8753C, E Analyzers ⁽²⁾

HPGL

List continued on next page

USING NON-NATIVE PCL5 and PCL6 PRINTERS

Some printer manufacturers like Dell, Xerox, and others, provide PCL5 and HP-GL compatibility in their drivers. To use these printers, set the 4872 so that it sends the Analyzer or Instrument output to the PC. Use ICS's Data Logger to save the instrument output as a file in the PC. Then you can print the HP-GL file using the printer's driver.

If you use a 3rd party conversion program to convert the HP-GL file to a .jpg file, you can then print it on almost any printer.

SUMMARY

This application note has listed some printers with native support for HP-GL that can be successfully used with ICS's 4872 GPIB-to-LAN Printer Interface and test instruments that output HP-GL coded data. This application note has also described how to use the 4872 with printers that provide HP-GL capability in their drivers and how to convert the HP-GL file to a jpg file for printing on virtually any printer.

If you have printing problems, read the following notes, check the troubleshooting section of the 4872 manual or contact support@icselect.com.

NOTES

- (1) Set the MS2667C to Printer output, to HP2225 and drawing size to 1x 1.
- (2) Use the HP8753C with formfeed set On. Set the HP8753C's GPIB address to match the 4872's GPIB address.
- (3) Set 4872 to Listen-only
- (4) These BROTHER, EPSON and NEC printers are discontinued and listed for reference purposes only. However these printers may still be available from distributors on the Internet.
- (5) Highly recommended for new purchases. Its low cost, just over \$200 USD, good performance and crisp color make it an good buy.
- (6) The HP8563E appears to not set the ink colors correctly when used with a HP Color LaserJet CP2020. White prints black background and black prints a red grid and graph.