

# 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 4892 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 an updated 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 now is finding compatible printers for the various test instruments. This application note lists some of these older instruments and some compatible printers.

#### HP-GL/2 and PCL5

Hewlett-Packard (now Agilent) 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 will be amended as we get updated results from 4872 users.

##### Advantest

R3767BH Analyzer

HPGL

##### Agilent (Hewlett-Packard)

HP875/A

HP1631D Logic Analyzer

HPGL

HP35066A Spectrum Analyzer

HPGL

HP3561A Spectrum Analyzer

HPGL

HP3753 Network Analyzer

HPGL

HP4195A Analyzer<sup>(3)</sup>

HPGL

HP8357 Network Analyzer

HPGL

HP8510, C Network Analyzer<sup>(2)</sup>

HPGL

HP8563, E Spectrum Analyzer

HPGL

HP8565E Spectrum Analyzer

HPGL

HP8566B Spectrum Analyzer

HPGL

HP8567 Spectrum Analyzer

HPGL

HP8591E Spectrum Analyzer

HPGL

HP8719 Analyzer

HPGL

HP8720D Analyzer

HPGL

HP8751A Analyzer

HPGL

HP8753C, E Analyzers<sup>(2)</sup>

HPGL

##### Anritsu

MS2663B Analyzer

MS2667C Spectrum Analyzer<sup>(1)</sup>

MT4701A Microwave Tester

##### Tektronix

TDF685 Oscilloscope<sup>(3)</sup>



**NEC Printers (4)**

NEC SuperScript 660  
 NEC SuperScript 660i  
 NEC SuperScript 660 Plus  
 NEC SuperScript 1450  
 NEC SuperScript 1450N  
 NEC SuperScript 1800  
 NEC SuperScript 1800N  
 NEC SuperScript 4200  
 NEC SuperScript 4200N  
 NEC SuperScript 4400  
 NEC SuperScript 4400N  
 NEC SuperScript 4600N  
 NEC SuperScript 4650  
 NEC SuperScript 4650N  
 NEC SuperScript 4650NX  
 NEC Silentwriter 1760  
 NEC Silentwriter 1765

**Graphics PCL Lvl**

HP-GL PCL5e  
 HP-GL PCL5e  
 HP-GL PCL5e  
 HP-GL PCL5e/6  
 HP-GL PCL5e/6  
 HP-GL PCL5e/6  
 HP-GL PCL5e/6  
 HP-GL PCL5e  
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 HP-GL PCL5e

**SUMMARY**

This application note has listed some printers that can be successfully used with ICS's 4872 GPIB-to-LAN Printer Interface and test instruments that output HP-GL coded data. 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 EPSON, IBM and NEC printers are discontinued and listed for reference purposes only. No replacement printers are listed on their websites.
- (5) Highly recommended for new purchases. Its low cost, just over \$200 USD, good performance and crisp color make it an good buy.

**SHARP**

MX2600N  
 MX3100N

HP-GL PCL5c/6  
 HP-GL PCL5c/6