

# GPIB LAN INTERFACE

# 4872

## GPIB-to-LAN Printer Interface

### DESCRIPTION

The 4872 is a GPIB-to-LAN Printer Interface that transparently transfers data from the GPIB bus to any device with an Ethernet Interface. The 4872 lets older Analyzers or instruments with a GPIB output find life again with a modern printer that can plot and print the analyzer data. While optimized for driving printers, the 4872 can also be used as a GPIB interface for devices with Ethernet interfaces.

### Printing from an Instrument

Many analyzers, oscilloscopes and other complex instruments were designed to drive a GPIB printer or plotter without the need for a GPIB Bus controller. In many cases their original GPIB printers and plotters are wearing out or are no longer serviceable. The 4872 easily interfaces these instruments' GPIB output to a modern laser or inkjet printer. The 4872-printer combination makes an inexpensive plotter replacement that gives older expensive and still functional analyzers a new life.

### Printer Requirements

To reproduce graphical data and plots from the instrument, the selected printer must have PCL5 or later firmware with HPGL/2 capability to print the instrument's HPGL/2 graphic output. Fortunately there are many low-cost printers available that meet this requirement. Refer to ICS's Application Bulletin AB48-45 for a partial list of PCL/HPGL compatible and recommended printers. Use the 4872's built-in test page to verify an existing printer's HPGL capability.



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### Printer Connection

The 4872 can operate with a printer in a back-to-back connection or on a network. At power turn-on time, the 4872 will search for and automatically link to the first printer it finds. The user can also specify the printer's IP address so it will use a specific printer on a network. The link condition and printer's status is used to update the printer status bits in the 4872's Status Register.

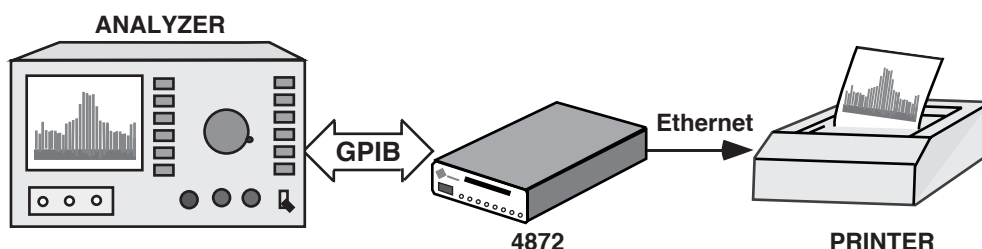
### Special Functions

The 4872 can be configured to automatically generate a formfeed character when finished printing for printers that need a formfeed command to print. The 4872 can also be set to output the HPGL plot command to the printer when starting to print to put the printer in the plot mode. An Idle command blocks printers' idle timeouts and prevents the printer from ejecting the page prematurely or from dropping the LAN connection.

The 4872 can also output the instrument data to a second Ethernet address. This lets the instrument data be captured by a PC while it is being printed or plotted. ICS supplies a Data Logging program that can save the instrument data output on a PC.

- Adapts GPIB Instruments to a compatible Printer with a Ethernet Interface. *Replaces old failing GPIB printers and plotters with a new color printer.*
- Automatically finds and links to most printers. *Eliminates the need to specify the printer IP address.*
- Built-in test page confirms printer's HPGL capability. *The easy way to test the 4872 and your printer combination.*
- Transparently passes the instrument's PCL5 and HP-GL/2 data to the printer. *Eliminates driver problems.*
- Secondary data output sends data to second Ethernet device *Record or archive test data while printing.*
- Configurable with a web browser. *Easy setup from any computer.*

CE Approved  
RoHS



Connects a GPIB Instrument to Ethernet Printer

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# 4872 SPECIFICATIONS

## GPIB Interface

### IEEE 488.1 Capabilities:

The 4872 meets IEEE-STD-488.1 with the following capabilities:

SH1, AH1, T6, L3, SR1, RL0, PP0, DC1, DT1 and C0

E2 Drivers incorporate power up/down protection.

### Address Capability

Primary addresses 0-30 and 31 for listen-only,

### Message Termination

Received device messages terminated with EOI on last byte. Linefeed terminator optional.

4872 Responses terminated with a linefeed and with EOI asserted on the last byte.

### GPIB Control Functions

Default is transparent GPIB data transfer mode. 4872 Status byte mimics older HP-IP/GPIB printer/plotter Status Byte Responses.

Device Trigger escapes to GPIB control functions for sending a test page to the printer from the GPIB bus. EXIT or SYST:OPER DATA command returns the 4872 to its transparent data mode.

## Printer Requirements

Printer must have an Ethernet interface and be PCL5 and HPGL/2 compatible to print and plot graphical data. SNMP protocol required for AutoFind and retrieving printer status.

## Network Capabilities

### Ethernet Interface

Type	IEEE 802.3 compliant
Speeds	10BaseT (10 Mb/s) 100BaseT (100 Mb/s)
IP Address	Static or DHCP
AutoIP default	169.254.48.72

### Internal WebServer

The internal WebServer provides HTML web pages for viewing and setting the 4872's network, GPIB and printer settings, blinking the LAN LED, displaying 4872 status and sending the printer testpage.

### Ping

Client side to verify printer physical connection while not printing.

### SNMP Protocol

Client side to find the printer and query printer status.

### TCP/IP Protocol

RAW protocol for data transfer

## User Configuration Settings

- 4872 network settings.
- 4872 GPIB address.
- Printer IP address.
- Enable Autofind Printer
- Send Formfeed character when buffer empty.
- Set Formfeed character delay
- Send Plot Mode command at start of data.
- Send idle sequence once every 8 seconds.
- Enable secondary data output link.
- Set secondary data IP address and port#.
- Disable SNMP and Ping

## Controls and Indicators

### CONTROLS

Power	Front-panel switch
LAN Reset	Rear-panel push-button

### LEDs

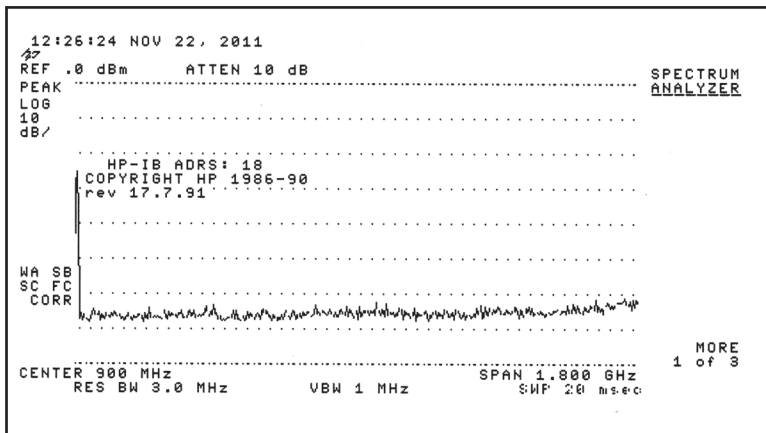
PWR	Power on
RDY	Unit has passed self test and linked to printer.
LAN	Unit connected to an active LAN
ACT	Transferring messages to/from the network
TALK	Unit is addressed to talk
LSTN	Unit is addressed to listen
PTR	Printer Fault or Warning
ERR	4872 Error

## Physical

Size	7.45" L x 5.57" W x 1.52" H (18.92 cm L x 14.15 cm W x 3.86 cm H)
Weight	1.6 lbs. (0.73 kg.) plus power adapter
Construction	RoHS Compliant
Temperature	
Operating	-10 °C to +55 °C
Storage	-40 °C to +70 °C
Humidity	0-90% RH non-condensing
Shock/Vibration	Normal handling
Connectors	
GPIB	GPIB 24 pin ribbon with metric studs.
Ethernet	RJ-45
Power	9 to 32 Vdc @ 4 VA
RFI/EMI	CE Certified

## Included Accessories

- Instruction Manual
- Support CD
- LAN Crossover Cable.
- UL/CSA/VDE approved AC power Adapters provided for:
  - US - 115±10% Vac, 60 Hz (std.)
  - U - 115/230 Vac, 50/60 Hz with plugs for UK, Europe, Australia/China and US/Japan



Typical Analyzer printout

## ORDERING INFORMATION

	Part Number
Ethernet - GPIB Controller with 115 VAC adapter, Manual and CD-ROM	4872
Ethernet - GPIB Controller with 115/230 VAC adapter, Manual and CD-ROM	4872-U
GPIB Accessory Cables	See separate data sheet
Rack Mounting Kits (holds one or two 4872s). See separate data sheet	Single - 114210, Dual - 114211