GPIBEE

USB & Ethernet to GPIB Adapter

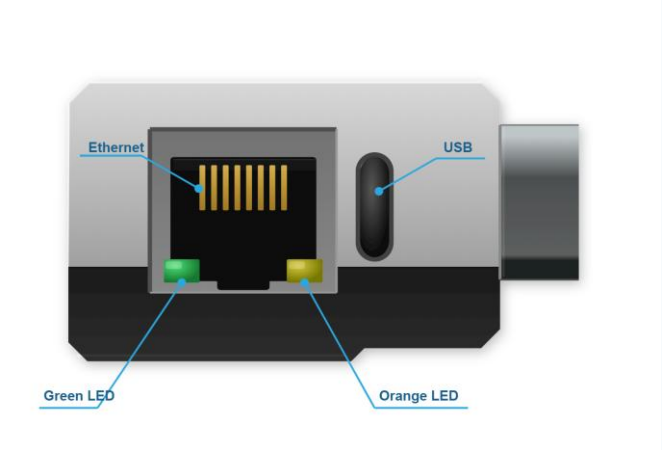
Quick Start Guide

Default mode: USB Network (VXI-11 over USB)

What you need

Item	Notes
GPIBEE device	Ships with USB Network Mode pre-configured
USB-C cable	For power and communication
GPIB cable (IEEE-488) — optional	To connect your instrument(s) — not needed if GPIBEE is plugged directly into your instrument's GPIB port
Computer with USB port	Windows 10/11, macOS, or Linux — no driver installation required
Web browser	Chrome, Firefox, Edge, Safari — any modern browser

1 Connect the cables



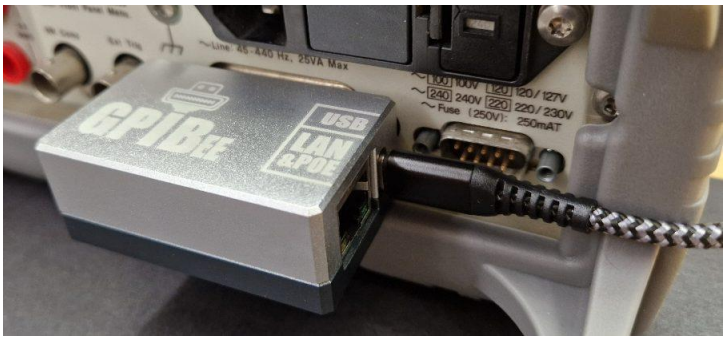
GPIBEE — side view, showing the Ethernet port, USB port, and both status LEDs.

① Connect a USB-C cable from GPIBEE's bottom edge to your computer.

② Connect a GPIB cable (optional) from GPIBEE's GPIB port to your instrument — or plug GPIBEE directly into your instrument's GPIB port.

③ That's it — GPIBEE is fully connected and ready to power up.

> **Power:** GPIBEE is powered entirely by USB — no external power supply needed.



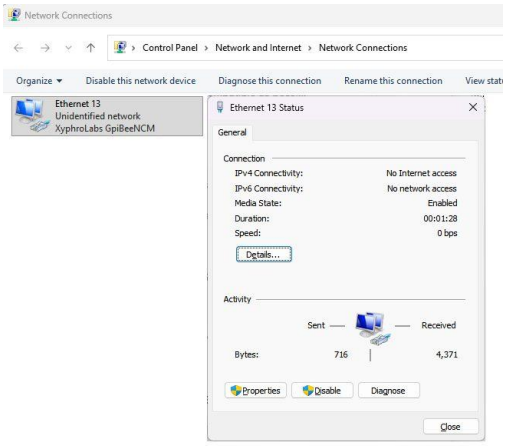
GPIBEE connected directly to an instrument's GPIB port, with USB-C providing power and the connection to the host computer.

2 Confirm USB Network Mode is active

After connecting USB, GPIBEE starts up. Both LEDs blink twice (normal startup) — this confirms GPIBEE is powered. The orange LED then lights up solid, confirming USB Network Mode is active — this check is worth doing too.

> **Note:** If no LED turns on, check the USB cable and port.

Your computer will recognize a new USB Ethernet adapter named “GPIBee” and assign itself an IP address automatically via GPIBEE's built-in DHCP server.



The GPIBEE USB network adapter (“XyphroLabs GpiBeeNCM”) appearing in Windows Network Connections.

• **Windows 10 / 11 — automatic, no driver needed**	• **macOS — automatic**	• **Linux — automatic (CDC NCM)**

Windows: The adapter may take 10–15 seconds to initialize on first use. Wait until the adapter shows “Connected” before proceeding.

3 Open the web interface

Open any web browser and navigate to:

```
http://192.168.3.2
```

The GPIBEE web interface loads. From here you can monitor status, configure settings, and send GPIB commands directly.

The GPIBEE web interface main page.

Note: This IP address was acquired automatically from GPIBEE itself — in USB Network Mode, GPIBEE runs its own DHCP server and hands your computer this address, so no manual network configuration is needed.

Tip: If the page does not load, ensure the “GPIBee” network adapter on your computer shows as “Connected” (Step 2). You can also try ping 192.168.3.2 in a terminal to verify reachability.

4 Send your first GPIB command

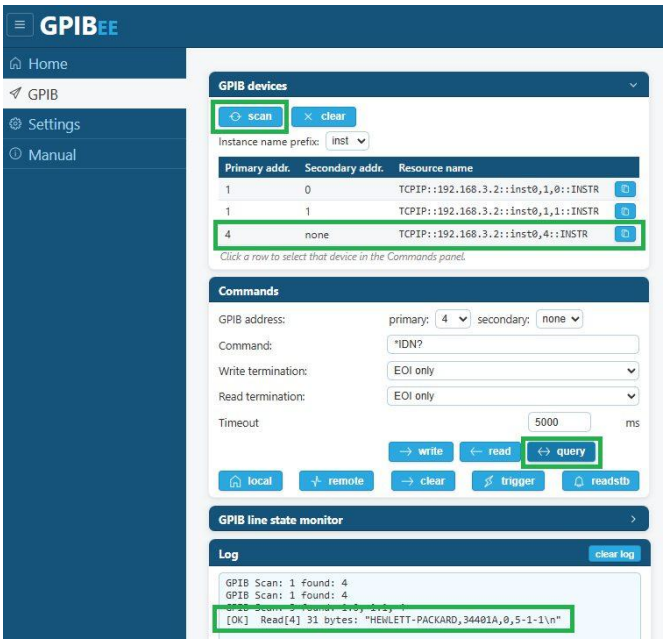
Make sure your instrument is powered on and connected. In the web interface, click GPIB in the left sidebar, then click Scan to scan for instruments — a list of connected GPIB devices appears. Select the one you want to interact with.

In the Commands panel you can now interact with the selected instrument. If your instrument is SCPI compliant, you can press the query button directly — the response to the *IDN? query, the instrument's identification string, appears in the Log below.

A successful *IDN? returns a string like:

IDENTIFICATION STRING

```
MANUFACTURER,MODEL,SERIAL,FIRMWARE
```



*Scanning for instruments, selecting one, and reading its *IDN? response in the Log.*

5 Connect from software (VISA / PyVISA / LabVIEW / MATLAB, etc.)

GPIBEE in USB Network Mode exposes a VXI-11 interface over the USB Ethernet connection. Use these resource strings in your software:

VXI-11 — GPIBEE'S INTERNAL SCPI INTERFACE

```
TCPIP::192.168.3.2::inst0::INSTR
```

VXI-11 — INSTRUMENT AT GPIB ADDRESS 5

```
TCPIP::192.168.3.2::inst0,5::INSTR
```

Most VISA implementations (NI-VISA, R&S VISA, Keysight, PyVISA) are also capable to auto-discover GPIBEE via VXI-11 or LXI/MDNS discovery.

These resource strings work the same way from any VISA-compatible environment — including LabVIEW, MATLAB's Instrument Control Toolbox, and NI-VISA/R&S VISA directly. To keep this quick start guide short, only a PyVISA (Python) example is shown below.

PyVISA example — GPIBEE's internal SCPI interface:

```
import pyvisa
rm = pyvisa.ResourceManager()
inst = rm.open_resource('TCPIP::192.168.3.2::inst0::INSTR')
print(inst.query('*IDN?'))
```

PyVISA example — GPIB instrument at primary address 22:

```
import pyvisa
rm = pyvisa.ResourceManager()
inst = rm.open_resource('TCPIP::192.168.3.2::inst0,22::INSTR')
print(inst.query('*IDN?'))
```

Optional — Switch to Ethernet mode

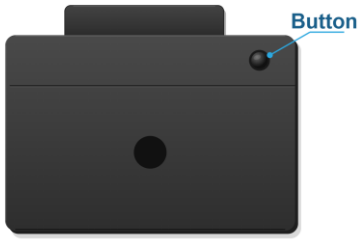
If you prefer to use GPIBEE over a network instead of USB:

- Connect an Ethernet cable to GPIBEE's Ethernet (RJ45) port.
- GPIBEE automatically detects the Ethernet link and switches to Ethernet mode.
- The green LED lights up solid instead of the orange one — this confirms Ethernet mode is now active.
- GPIBEE obtains an IP via DHCP, or falls back to 192.168.1.2 if no DHCP server is available.
- Discover GPIBEE on the network using mDNS, SSDP, or your VISA resource manager.

Power over Ethernet: GPIBEE can also be powered directly over the Ethernet cable (802.3af PoE) instead of USB — using either a PoE power injector or a PoE-capable (802.3af) network switch. No USB-C cable is needed in that case.

Note: When an Ethernet cable is disconnected while in Ethernet mode, GPIBEE automatically switches back to USB mode (orange LED).

Button Functions



Backside view — GPIB connector side up

Action	Function
Press 5× within 2 s	Factory Reset — both LEDs blink 5× to confirm
Hold 5 s	Firmware Update Mode — LEDs flash alternately
Hold, plug USB, release	Alternative firmware update entry
Press once, wait ~3 s	Fast USB Network access Mode — temporary easy access to web interface when e.g. USBTMC USB mode is used

Troubleshooting

No LED after connecting USB

Check USB-C cable and port. Try a different cable. Confirm the port provides power.

Cannot reach 192.168.3.2

Confirm the “GPIBee” network adapter appeared on your PC. On Windows, check Network Connections. Wait 15 s after first connection. Try ping 192.168.3.2.

GPIB instrument not responding

Check the GPIB cable is firmly connected at both ends. Confirm the instrument is powered on. Verify the GPIB address in the web console matches the instrument's configured address. Some instruments require their GPIB port to be explicitly enabled in their own settings menu.

Need to reset to defaults

Press the button 5 times within 2 seconds. Both LEDs blink 5× to confirm. Power-cycle the device afterwards.

> **What's next?** The Tutorials and Manual sections explain further steps, such as software integration and advanced configuration.