

G4201TM

InHome

G.hn Wave2 Bridge
for home network
via telephone cable

Quick Start Guide

Version 2.0
February 2025

For more information and purchase requests
contact info@gigacopper.net

2. Scope of delivery

- G4201TM Bridge
- DC-12V/1A Power Adapter
- Bracket for wall mounting (*produced after 2023/04*)
- RJ11/RJ11 telephone cable 1.5m
- TAE-F/RJ11 Adapter (*only in Germany*)

3. Specifications

- Dimensions (WxLxH): 111.5 x 83 x 24.5 mm
- Weight: 0.16 kg
- Operating temperature: 0°C - 40°C
- Power consumption: < 3 watts

4. G.hn specification

- G.hn Wave2, 2-200 MHz
- Connection type: 1 pair of wires (SISO), 2-200 MHz
- Physical bandwidth (PHY): approx. 1800 Mbit/s
- Net bandwidth: approx. 1500 Mbit/s
- Automatic splitting of the band between all connected G.hn modems
- Maximum allowable attenuation of the cable connection: 75dB

1. Introduction

With the G.hn Bridge G4201TM you can easily set up a **local network** over existing telephone cables.

The modems are "multipoint" capable. Up to 16 devices can be set up on a 2-wire telephone line. Each modem communicates directly with all others in the G.hn network ("peer-to-peer").

The G4201TM, G4202T, G4202TCP (with PoE/PoE+) and G4204T-W (with Wi-Fi) models are compatible with each other and can be combined in the network as desired.

Any type of cable can be used for data transmission – both twisted pair and non-twisted pair, the net bandwidth is up to approx. 1500 Mbit/s, depending on the cable length. This bandwidth is shared between all connected modems.

The G4201TM Bridge is also suitable for **forwarding the fiber optic connection from the ONT to the router** via an existing telephone line in the single-family home. Two modems are required.

5. Panel description



Panel and LED description

Labeling	Description
Rear	
12V DC	power connector
RST	Recessed reset button (15 sec.)
LED on/off	All LEDs in front turn on/off (<i>produced after 2023/08</i>)
LINE	G.hn connection
GE	Gigabit Ethernet Port
Front	
PWR LED	Indicates power availability
LINE LED	Status of the G.hn connection (green – OK, yellow – weak signal, off – no connection)
GE LED	Status of the Ethernet connection

6. Compatible modems

Models G4201TM (1x GE), G4202T (2x GE + analog phone), G4202TCP (2x GE with PoE/PoE+) and G4204T-W (4x GE and Wi-Fi) are compatible with each other, they can be combined in the network as desired.



7. Use for forwarding a fiber optic connection (ONT -> router)



For devices produced after 2023/08:
By default, DHCP Client is enabled, which allows the modem to obtain an IP address from the DHCP server. Disable the DHCP client in the modem before connecting to the ONT. To do this, log in to the modem's web interface (see point 11), set "IP / DHCP enabled" to "NO", enter an IPv4 from a private range (e.g. 192.168.9.252, netmask 255.255.255.0, default gateway 192.168.9.1, DNS 192.168.9.1) and confirm with OK.

IPv4 configuration*

DHCP enabled

NO

IPv4 address / netmask

192.168.9.252

255.255.255.0

Default Gateway

192.168.9.1

DNS

192.168.9.1

Additional address #1

192.168.10.253

255.255.255.0

Additional address #2

0.0.0.0

0.0.0.0

*All changes except the DNS server will have effect after system boot

Ok

Cancel

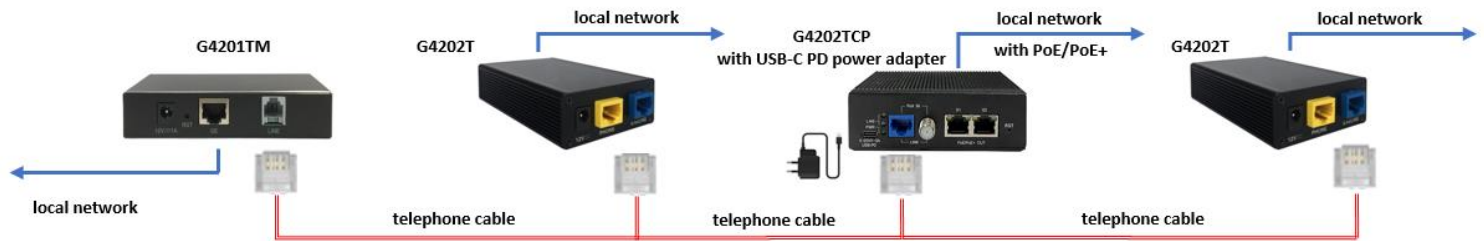
8. Use for home networking (local network after the router)

All types of wiring are possible: "point-to-point", "star-shaped" and "in series", even the combinations thereof.

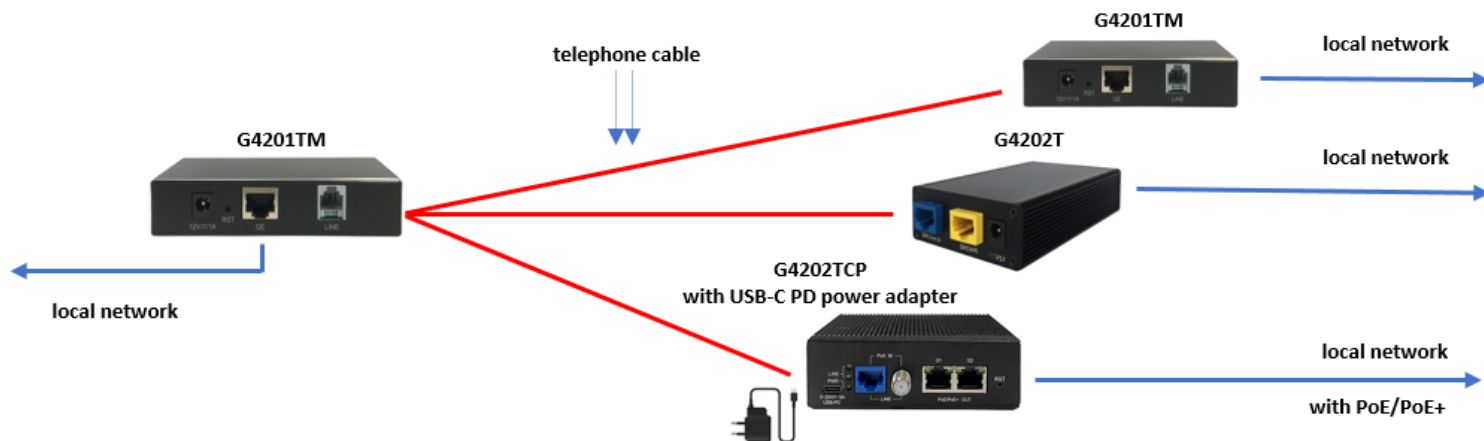
"Point-to-Point":



"In line"



"Star-shaped"



9. Connection type and pin assignment on the device (RJ11 plug)

The G.hn connection is made via a pair of wires (connection type SISO = G.hn profile "PHONE 200MHz").

Pin assignment SISO



10. Installation Notes

- The cable cores can be placed straight or crossed.
- Maximum range of the G.hn connection depends on the type of cable used and the environment. Typical values for a 0.5 mm twisted-pair cable: Connection possible up to approx. 600m, max. bandwidth of 1500 Mbit/s – up to approx. 100m.
- In the web interface of each modem, the negotiated bandwidths can be queried to all other G.hn bridges in the network (see point 15).

Further information and recommendations can be found on our homepage www.gigacopper.net under the heading Support.

11. IP address

The modems do not require IP addresses from the local network segment during operation, because they mediate data traffic via the MAC addresses.

Factory settings for devices produced until 2023/08:

- IPv4 DHCP client is deactivated, the modem does not obtain an IP address from the local DHCP server. If desired, a static IP address can be configured or the DHCP client can be activated (menu "IP" in the web interface)
- Primary IP address: 192.168.10.253

Factory settings for devices produced after 2023/08:

- IPv4 DHCP client is enabled, the modem obtains an IP address from the local DHCP server
- Secondary IP address: 192.168.10.253

12. Administration

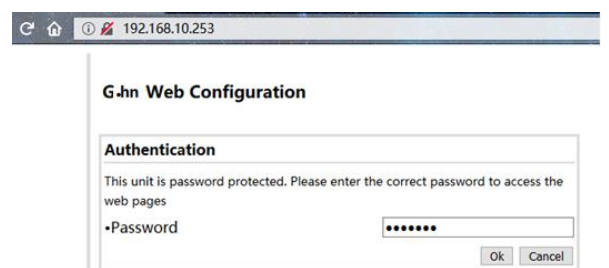
Login to the Web Interface

For devices produced until 2023/08:

- Connect your computer to the G.hn modem through the GE port.
- Assign your computer a fixed IP address, e.g. 192.168.10.100 (netmask 255.255.255.0).
- Open a web browser and connect to 192.168.10.253.
- Log in with the default password: paterna

For devices produced after 2023/08:

- On your computer, open a web browser and connect to the IP address of the modem. Use the IP address assigned by the local DHCP server.
- Log in with the default password: paterna
- The connection via the second IP address (192.168.10.253) is possible even if the modem has not yet received an IP address from the local DHCP server. Procedure as described above.



13. Use of Multicast IP-TV

For the transmission of Multicast IP-TV (e.g. Telekom MagentaTV) in the network, "IGMP snooping" must be activated in the multicast configuration.

A screenshot of the 'Multicast Configuration*' web interface. It contains several settings: '•IGMP Snooping' set to 'YES', '•MLD snooping' set to 'NO', '•IGMP/MLD broadcast report' set to 'NO', '•IGMP/MLD broadcast report mode' set to '0', and '•Filter unknown multicast traffic' set to 'NO'. Below these is a section for '•IGMP Multicast ranges:' with two columns of IP address ranges. The 'Minimum IP address' column shows four ranges, all starting with '224' and ending with '.0.0'. The 'Maximum IP address' column shows four ranges, all starting with '239' and ending with '.255.255'. At the bottom right of this section are 'Ok' and 'Cancel' buttons. Below the multicast configuration is a section titled 'Broadcast supression' (note the spelling) with a setting '•Broadcast xput limit (Mbps)' set to '2'. At the bottom right of this section are 'Ok' and 'Cancel' buttons.

14. Notching, compatibility with DSL/VDSL

The G.hn modems can also be used in parallel with DSL/VDSL connections with unshielded telephone cables and via pairs of a common cable.

In the case of DSL and VDSL50, the G.hn modems usually do not require any additional settings.

For compatibility with VDSL100 (profile 17a) and VDSL250 (profile 35b), the G.hn level in the range 2-17MHz and 2-30MHz must be reduced by 10dB. The setting must be configured in each modem (G.hn spectrum).

Notches Configuration

Notch index	Start freq (KHz)	Stop freq (KHz)	Depth (dB)	Type
0	0	3516	100	Regulation

Add new user notch

•Index (0..9)

1

•Start frequency (KHz)

2000

•Stop frequency (KHz)

17000

•Depth (0..40dB, 100 removes notch)

10

Ok

Cancel

Remove user notch

•Index (0..9)

Ok

Cancel

15. Query of negotiated bandwidths

The bandwidths negotiated from the G.hn modem to all other G.hn bridges in the network can be queried via the web interface. The reported values are gross data transfer rates at the physical layer (PHY). The transfer speed at the application level is about 15-20% lower.

G4201TM Web Configuration

- G.hn
- IP
- Ethernet
- Device
- Multicast
- QoS
- VLAN
- G.hn spec
- Log file
- Advanced

Basic settings

•MAC address

00:1e:6e:03:cc:36

•Device ID

3

•Domain Name

Gnow

•Force node Type

AUTOMATIC

•Node type*

END_POINT

* Node type change can take some time, please refresh page to update state

Ok

Cancel

•G.hn profile

PHONE 200MHZ

Ok

Cancel

Neighboring Domain Interference Mitigation (NDIM)

•NDIM mode

AUTOMATIC

•Domain ID (DOD)

7

Ok

Cancel

Available Connections

Device ID	MAC Address	Phy Tx (Mbps)	Phy Rx (Mbps)
1	00:1e:6e:03:cc:6f	1643	1654
2	00:1e:6e:03:cc:73	1815	1842

16. VLAN usage in the network

The devices are compatible with VLANs according to the 802.1Q standard.

The VLAN tags are forwarded transparently. External Ethernet switches must be used for the formation of VLANs.

17. Wall mount

There are 4 small black screws in the corners on the back of the device.

To attach the brackets for wall mounting, first loosen 2 screws on one side, place the bracket and fix it with these screws.

Repeat the step on the other side.



18. Warranty

We offer a 12-month warranty on all products purchased from us. Full warranty terms can be found at <https://www.gigacopper.net/wp/en/warranty/>