

G4201TM  
G.hn Master and Client

## Quick start guide

For further information and purchase enquiries  
please contact [info@gigacopper.net](mailto:info@gigacopper.net)

### 2. Package content

- G4201TM Master or G4201TM Client
- DC-12V/1A Power adapter
- RJ11/RJ11 telephone cable 1.5m, 4- wire (SISO and MIMO)
- TAE-F/RJ11 plug, 4- pole (SISO and MIMO)

### 3. Technical data

- Dimensions: 111.5 \* 83 \* 24.5 mm
- Weight: 0,19 kg
- Operating temperature: 0°C - 40°C
- Power consumption: < 3 Watt

### 4. G.hn Specification

- G.hn Wave2, 2-200 MHz
- Connection type: SISO (1 wire pair, 2-200MHz) and MIMO (2 wire pairs, 2-100MHz)
- Total bandwidth – ca. 1500 Mbit/s (Total Download and Upload)
- Splitting of the bandwidth – variable, default:  
70% Download (from master to client)  
30% Upload (from client to master)
- Maximum permissible attenuation of the cable connection: 75dB

### 1. Introduction

With the G.hn modem G4201TM you can easily extend your network via existing data and telephone cables.

The devices are also suitable for the distribution of fiber optic connections from the ONT to the router via existing telephone line.

The modem can use any type of cable - both twisted pair and non-twisted pair - for data transmission and achieves a speed of approx. 1500 Mbit/s (sum of both transmission directions).

The devices are always connected in pairs - a master and a client. The master determines how fast the data is transferred towards the client and back (download/upload).

In networks with several clients, a G.hn switch can be used instead of several master modems (see Installation). This enables the central administration of all G.hn components.

### 5. Interfaces

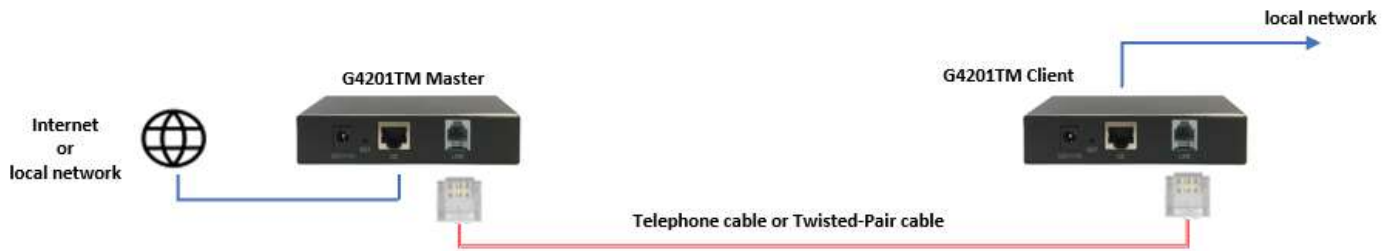


Panel and LED description

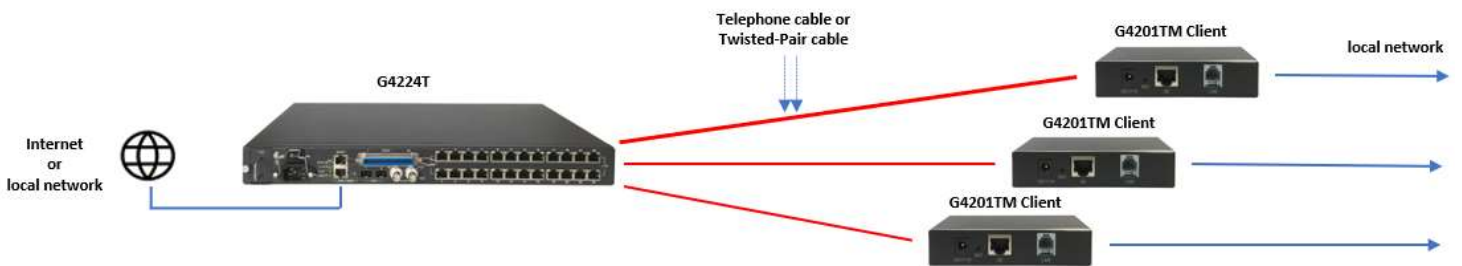
Labelling	Description
12V DC	Power input
RST	Recessed reset button (15 Sec.)
LINE	G.hn port
GE	Gigabit Ethernet Port
PWR LED	Displays power availability
LINE LED	Status of the G.hn connection (Green - OK, Yellow - weak signal, Off - no connection)
GE LED	Ethernet Connection Status

## 6. Installation

Variation 1 – „Point-to-Point“: one master and client



Variation 2 – Connection to the Switch G4224T or G4200-8T/4T



## 7. Connection type and wire assignment on device (RJ11 plug)

The G.hn connection can be established either via one wire pair (connection type SISO = G.hn profile "PHONE 200MHz") or via two wire pairs (connection type MIMO = G.hn profile "PHONE 100MHz MIMO"). The connection type must be configured via web interface in both modems or via the G.hn switch.

The default setting is one wire pair connection ("PHONE 200MHz").

Wire assignment SISO

Variation 1 – „Point-to-Point“



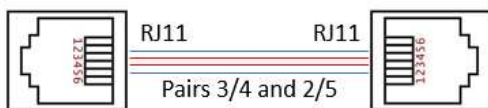
Wire assignment SISO

Variation 2 – Connection to Switch



Wire assignment MIMO

Variation 1 – „Point-to-Point“



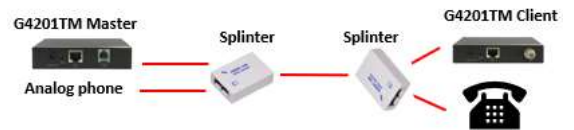
Wire assignment MIMO

Variation 2 – Connection to Switch



## 8. Installation notes

- The wires of a pair can be connected straight or crossed.
- Maximum range of the G.hn connection depends on the type of cable used, the connection type and the environment. Typical values for a 0.5 mm twisted pair cable: connection possible up to approx. 600/800 metres (SISO/MIMO), maximum bandwidth of 1500 Mbit/s - up to approx. 100/200 metres (SISO/MIMO).
- For longer cables (up approx. 100-150m), the bandwidth can be increased by up to 15% (SISO) resp. up to 25% (MIMO) by adjusting the signal level. For this purpose, the "Range optimization model" must be set to "Long" in the web interface of both devices resp. the "LongRangeMode" setting must be activated in the G.hn switch.
- The negotiated bandwidth can be queried via the web interface of the devices (see point 11).
- The bandwidth split of the G.hn connection is variable. It can be set between 80/20% and 20/80%. In the factory setting, 70% of the bandwidth is reserved for download (direction master to client) and 30% for upload (direction client to master). The allocation can be configured via master web interface (menu G.hn DownStream / UpStream Ratio) resp. via the G.hn switch.
- It is possible to transmit an analogue telephone line on the same line parallel to the G.hn signal. Use a DSL splinter for this purpose.



## 9. Administration

IP-Adress: 192.168.10.252 (Master), 192.168.10.253 (Client). Login password: paterna, Factory reset password: betera

Login via Webinterface

- Connect your computer to the G.hn modem via the GE port..
- Assign a fixed IP address to your computer, e.g. 192.168.10.100 (network mask 255.255.255.0).
- Open a web browser and connect to 192.168.10.252 or 192.168.10.253
- Login with the standard password: paterna



## 10. IP address

The devices do not require IP addresses from the local network segment during operation, because they transmit the data traffic via the MAC addresses. In the factory setting, they do not obtain any addresses from the local DHCP server.

If desired, static IP addresses can be configured or the DHCP client can be activated ("IP" menu in the web interface).

## 11. Query of the negotiated bandwidth

The negotiated bandwidths for both directions can be queried via web interface of each modem. The values shown are gross data transmission rates on physical layer (PHY). The transmission rate on application layer is approx. 15-20% lower.

## G4201TM-L Web Configuration

Log O

- [G.hn](#)
- [IP](#)
- [Ethernet](#)
- [Device](#)
- [Multicast](#)
- [QoS](#)
- [VLAN](#)
- [G.hn spectrum](#)
- [Log file](#)
- [Advanced](#)

**Basic settings**

- MAC address 00:1e:6e:03:cb:7b
- Device ID 1
- Domain Name
- Force node Type DOMAIN\_MASTER ▾
- Node type\* DOMAIN\_MASTER
- \* Node type change can take some time, please refresh page to update state

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- G.hn profile PHONE 200MHz ▾

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- Range optimization model Short ▾
- \* Short: less than 150m. Long: more than 150m.

- G.hn DownStream/UpStream Ratio  %
- \* Range is 20% to 80%.

**Neighboring Domain Interference Mitigation (NDIM)**

- NDIM mode MANUAL ▾
- Domain ID (DOD)

**Available Connections**

Device ID	MAC Address	Phy Tx (Mbps)	Phy Rx (Mbps)
2	00:1e:6e:03:83:b1	1845	1841

## 12. VLAN usage in the network

The devices support VLANs according to 802.1Q standard.

The VLAN tags are forwarded transparently by default. External Ethernet switches can be used to manage VLANs.

Instead of external Ethernet switches, the VLAN configuration can be done by the manageable G.hn switches G4200-8T/4T and G4224T.

### 13. Multicast IP TV

For broadcast of multicast IP TV in the network, "IGMP Snooping" must be activated in the multicast configuration.

The image shows a network configuration interface with two main sections: "Multicast Configuration\*" and "Broadcast suppression".

**Multicast Configuration\***

- IGMP Snooping: YES (dropdown)
- MLD snooping: NO (dropdown)
- IGMP/MLD broadcast report: NO (dropdown)
- IGMP/MLD broadcast report mode: 0 (dropdown)
- Filter unknown multicast traffic: NO (dropdown)
- IGMP Multicast ranges:
  - Minimum IP address: 224.0.0.0
  - Maximum IP address: 239.254.255.255

**Broadcast suppression**

- Broadcast xput limit (Mbps): 2

### 13. Guarantee

We provide a 24-month warranty on all products purchased from us. You can find complete warranty conditions at [https://gigacopper.net/web/en/Guarantee\\_declaration.pdf](https://gigacopper.net/web/en/Guarantee_declaration.pdf)