

G4202T
G.hn Master and Client

Quick start guide

For further information and purchase enquiries
please contact info@gigacopper.net

2. Package content

- G4202T Master or G4202T 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: : 103 * 66 * 27 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 (Sum of Download and Upload)
- Splitting of the bandwidth – variable, ex works:
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 G4202T 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

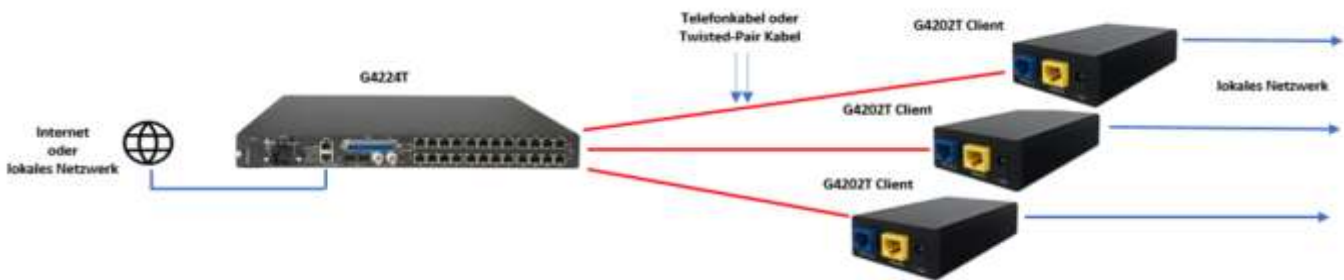
Labelling	Description
12V DC	Power input
RST	Recessed reset button (15 Sec.)
LINE	G.hn port
G1, G2	2x 1 Gigabit Ethernet Port
PHONE	Analog phone port (RJ45)
PWR LED	Displays power availability
LINE LED	Status of the G.hn connection (Green - OK, Yellow - weak signal, Off - no connection)
G1/G2 LED	Ethernet Connection Status

6. Installation

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



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



7. Connection type and wire assignment on device (RJ45 plug)

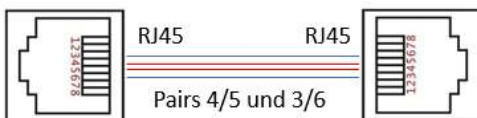
The G.hn connection can be established either via one wire pair (connection type SISO = G.hn profile "PHONE 200MHz") or via two wire pairs (connection type MIMO = G.hn profile "PHONE 100MHz MIMO"). The connection type must be configured via web interface in both modems or via the G.hn switch.

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

Wire assignment SISO



Wire assignment MIMO



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 loop through an analogue telephone line on the same line parallel to the G.hn signal. To do this, connect the telephone line and the telephone to the PHONE connections on the G.hn master and G.hn client.

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

**G4202T-L Web Configuration**

Log Out

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

•MAC address 00:1e:6e:03:cd:9b

•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

Ok Cancel

•G.hn profile PHONE 200MHz ▾

Ok Cancel

•Range optimization model Short ▾

* Short: less than 150m. Long: more than 150m.

Ok Cancel

•G.hn DownStream/UpStream Ratio %

* Range is 20% to 80%.

Ok Cancel

Neighboring Domain Interference Mitigation (NDIM)

•NDIM mode MANUAL ▾

•Domain ID (DOD)

Ok Cancel

Available Connections

Device ID	MAC Address	Phy Tx (Mbps)	Phy Rx (Mbps)
2	00:1e:6e:03:cd:46	1855	1855

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. Both Ethernet ports of the G4202T modem can be configured independently.

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 two configuration windows. The top window is titled "Multicast Configuration*" and contains the following settings:

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

The bottom window is titled "Broadcast suppression" and contains the following setting:

- Broadcast xput limit (Mbps): 2

14. 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