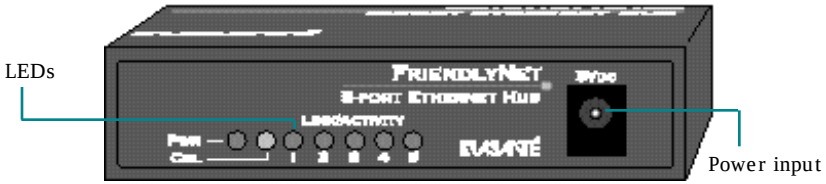
FriendlyNet™ Hub FH10T5

5-port Ethernet Hub



Front View

Back View

Features

- Five RJ-45 ports for 10Base-T network connection
- 1 RJ-45 uplink port for hub-to-hub connection (used to expand network)
- Easy accommodation of daisy-chain Ethernet topologies (up to four hubs can be daisy-chained per Ethernet segment)
- Power, collision, and link/activity light-emitting diodes (LEDs) that aid in problem diagnosis and simple network management
- Constant monitoring of ports for signal quality
- Automatic partitioning of ports that are producing noise or excessive collisions; automatic reconnection once errors are cleared
- Compact design; can be easily mounted on a wall or countertop
- Plug-and-play installation

Friendly Guide

1 Locate your parts

Your package includes:

- Five-port (FH10T5) FriendlyNet Hub
- External power adapter
- Wall-mount kit (two screws, two screw anchors)
- Four rubber “feet” (self-adhesive
- Friendly Guide (this card)
- Product registration card

What you'll need:

- **Straight-through** twisted-pair network cable **less than 100 meters** long fo each station (between the station and hub, including all patch cables and cro connect wires)

2 Before you start

- Find out what AC power-line voltage is used in your area; make sure your hu AC/DC power adapter matches this voltage
- The DC output power should be 5 V 800mA
- If you want to mount the hub on a wall, see the section “How to wall mount the FriendlyNet Hub” on the reverse side of this card

Note: It's OK to connect or disconnect network cable segments while the FriendlyNet Hub is plugged in and powered on.

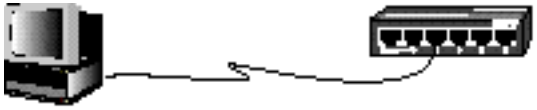
3 Choose a network configuration

a. Network station connected to a hub (see panel 3a)
b. Two hubs connected together (see panel 3b)
c. Multiple network stations and hubs connected together (see panel 3c)

Note: If you need help determining a configuration for your network, see the section “Network ideas and concepts” on the reverse side of this card.

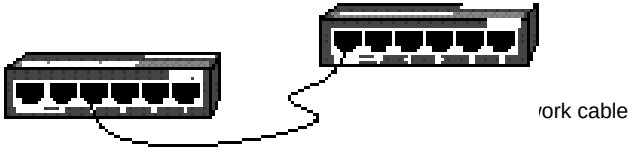
3a Connecting a network station to a hub

1. Connect one end of the network cable to one of the FriendlyNet Hub's **RJ-45** ports (this is any port except the port labeled “Uplink”).
2. Connect the cable's other end to a network station's Ethernet adapter.



3b Connecting two hubs (“cascading” or daisy chain)

- When the **Uplink** port on a hub is used, the hub's RJ-45 **port #5 can not be used** to connect to a network station, and vice versa.
- It's OK to interconnect FriendlyNet hubs, however, the path between any two network stations can't exceed more than **four** hubs and **five** cable segments.
- You may use both 5 and 8 port Ethernet hubs in the same network.
- When hubs are cascaded, all network stations remain on the same network.

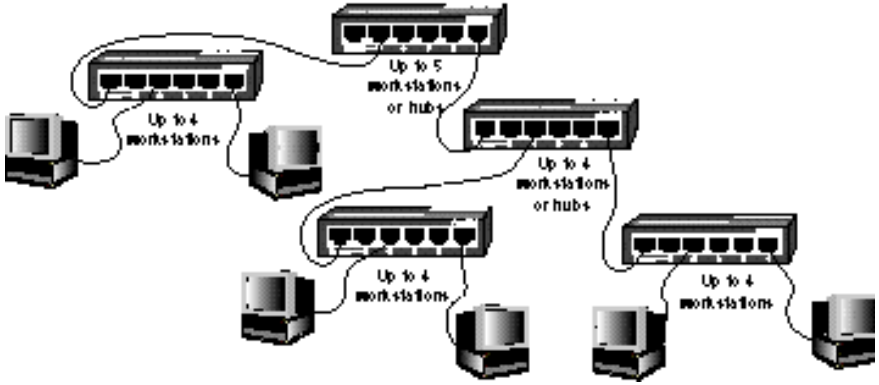


1. Designate one FriendlyNet Hub as the “primary” hub.
2. Insert one end of the network cable into one of the primary hub's **RJ-45** ports.
3. Insert the other end of the cable into the secondary hub's **Uplink** port.

3c Connecting a series of hubs & network stations

Please refer to the previous two sections for installation details. Keep in mind:

- Your Ethernet network configuration must comply with the IEEE 802.3 standard.
- No more than **five** cable segments can be connected between any two networ stations.
- No more than **four** hubs can be used between any two network stations.



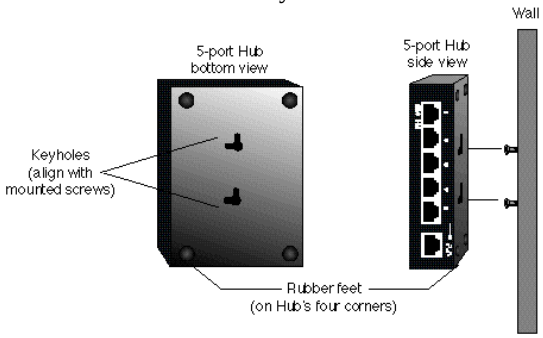
IEEE Ethernet 5-4-3-2 Repeater Rule:

5 segments, at most, may be connected by
4 hubs (repeaters) in a single point-to-point path;
3 of the segments may have attached nodes;
2 segments use inter-repeater links for distance and have no attached nodes

How to wall mount the FriendlyNet Hub

If you like, the FriendlyNet Hub can be secured to a wall or countertop.

1. Screw one of the enclosed 1/2-inch screws into a wall or countertop, leaving about 1/4 inch of screw threads exposed.
2. Align the other screw with the first screw, leaving approximately 2 inches between the two.
3. Screw the second screw in.
4. Line up the keyholes on the bottom of the FriendlyNet Hub with the mounted screws.
5. Hang or place the hub on



How to interpret the LED indicators

The FriendlyNet Hub's front panel has several LEDs that tell you what is going on with the FriendlyNet Hub and your network.

Power (PWR) green; lights when the FriendlyNet Hub is receiving power.

Collision (COL) yellow; lights when two or more workstations are simultaneously attempting to transmit packets.

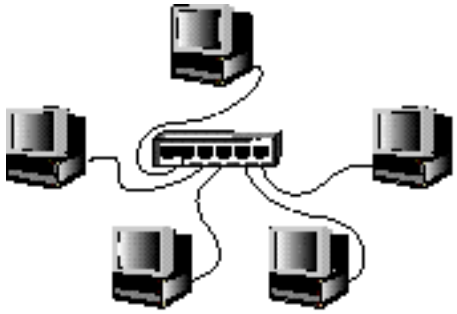
Note: This is not an error condition. Collisions normally occur when traffic flows across Ethernet networks. However, an excessively high number of collisions may indicate that your network is overly congested.

Link/Activity green; represent each of the five 10Base-T ports, light when a proper link between the station and the hub port exists. They blink when the ports are receiving network traffic.

Network ideas and concepts

Need help setting up your Ethernet network? Here are a few ways you can configure it.

Star topology

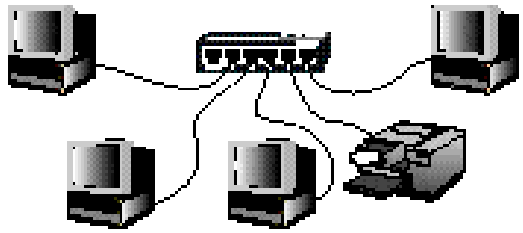


You can connect up to five workstations (also known as “nodes”) to one FriendlyNet 5-Port Hub. This is called a star topology because multiple ”points' come off of one hub (also known as a repeater).

One of the biggest advantages of using a star topology is that troubleshooting easy, as each segment supports only one attachment (a star topology must com with the IEEE 802.3 connection rules).

Example 1: Stand-alone network (single star topology)

In a stand-alone network, network resources (workstations, printers, etc.) are connected together by a single hub. The number of network resources that c be connected together depend on the number of ports supported by the hub.



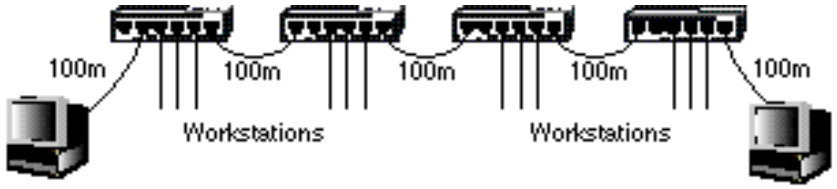
For details on setting up a stand-alone network, please see the section “Connec ing a network station to a hub.”

Network ideas and concepts (continued)

Example 2: Expanded network (multiple star topologies)

In an expanded network, multiple network resources are connected together by multiple hubs, which are "daisy-chained" together.

The number of network resources that can be connected together in an expanded network are limited to the IEEE 5-4-3-2 repeater rule (see "Connecting a series of hubs and network stations").



For details on setting up an expanded network, please see the sections "Connecting two hubs" and "Connecting a series of hubs & network stations."

FriendlyNet Hub specifications

Network interface	RJ-45 port: five connectors for use with 10Base-T cabling; one RJ-45 Uplink port
Maximum segment	10Base-T (UTP): 100 meters max (328 feet); (24 AWGUTP)
Physical dimensions	100mmx78.5mmx26mm (3.9"x3.1"x1.0") (l x w x h)
Weight	1.0 kg (2.2 lbs)
Environment	Temperature • Operating: 0° C to +50° C • Storage: -20° C to +70° C Humidity • Operating: 10% to 80% RH • Storage: 5% to 90% RH
Input power requirements	Voltage: AC voltage to 5VDC external power
Standard compliance	IEEE 802.3 Ethernet specification for UTP FCC Part 15 Class A, CE

Solving problems

If your FriendlyNet hub has an LED that is not illuminating, it may be caused by one of the following problems.

Possible problem	Solution
• No twisted-pair cable is connected	Check connection
• The link pulse is disabled at the other end	Check network device and power
• No power is flowing to the hub	Check to see that it is plugged in
• The twisted-pair connection is faulty	Check cable
• There's a non-10Base-T device at the other end	Check network device

Need assistance?

Here's how to reach Asanté Technical Support.

Telephone..... (800) 622-7464
Fax .....(408) 432-6018
Fax-Reply .....(800) 741-8607
BBS ..... (408) 432-1416
FTP Archive .....ftp.asante.com
ARA BBS (guest login) ..... (408) 894-0765
AppleLink mail/BBS ..... ASANTE
Internet mail ..... support@asante.com
World Wide Web site ..... http://www.asante.com

Technical Support hours: 6:00 a.m. to 5:00 p.m. PST, Monday - Friday

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