# ARCNET<sup>™</sup> NETWORKING HUBS From InterContinental Micro (ICM)

HUBs are required when more than two nodes are linked in an ARCnet network.

#### **ACTIVE HUBS**

InterContinental Micro offers two models of Active HUBs—the HUB-2A (two ports) and the HUB-8A (eight ports). Each port on either model can transmit up to 2300 feet at 2.5 MBits per second using RG-62 93 ohm coaxial cable. Active HUBs can interface with another Active HUB port, a network node, a Passive HUB port, or be left open for future expansion.

Integrating more than four nodes in a Local Area Network requires an Active HUB. Both the HUB-2A and the HUB-8A can be used as amplifier/repeaters for ARCnet signals traveling long distances—the HUB-2A is the more cost effective of the two models if used as an amplifier/repeater. Signals can be repeated between Active HUBs for distances of up to 40 miles.

Power supplies and low profile enclosures are included for both the HUB-2A and the HUB-8A. These HUBs require 115 VAC; however, they can be modified for use with 220 VAC.

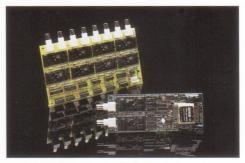
#### **PASSIVE HUBS**

ICM's 4-Port Passive HUB, the HUB-4P, is used to link nodes together. It acts as a junction for ARCnet signals and can connect up to four network nodes. The HUB-4P requires no power.

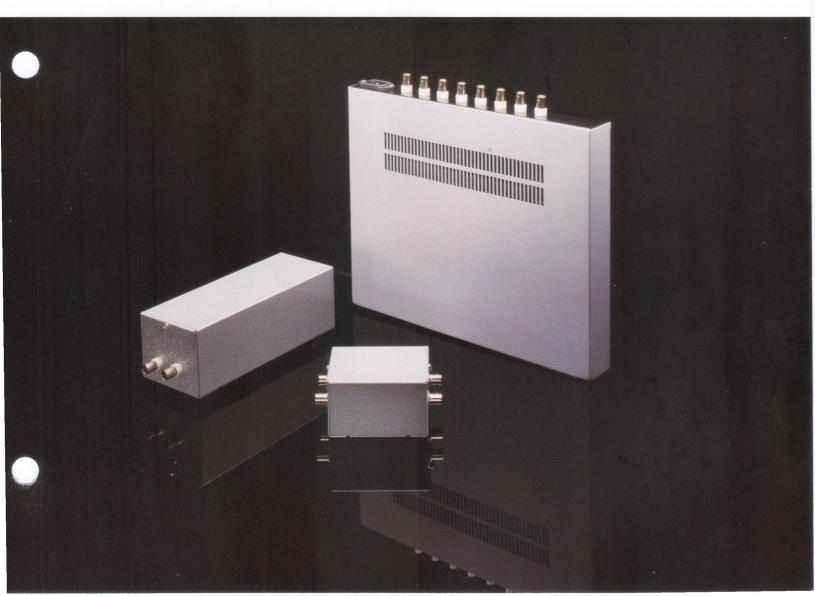
Each port on the HUB-4P can transmit up to 200 feet at 2.5 MBits per second using RG-62 93 ohm coaxial cable. Unlike the Active HUBs, Passive HUBs cannot be linked with other Passive HUBs. Passive HUBs can be interfaced with Active HUB ports, network nodes, or may be left open for future expansion. An Active HUB must be used to link Passive HUBs together.

### FEATURES Turbolan®—The Networking Solution

ICM's TurboLAN architecture is an S-100 BUS and ARCnet Local Area Network (LAN). TurboLAN runs under Software 2000's well established Multi-user, Multi-processor TurboDOS™ Operating Systems. TurboLAN is a star configuration network using coaxial cable in combination with HUBs to interconnect APPLICATION PROCESSORS (NODES) to FILESER-VERS. TurboLAN has been installed on many S-100 BUS Computers; IBM-PCs,<sup>™</sup> XTs,<sup>™</sup> ATs,<sup>™</sup> JRs<sup>™</sup>; Zenith Z100s,<sup>™</sup> Z-150s<sup>™</sup>; Tandy 1000s and 1200s; Coronas, Compaqs, Leading Edges, Faradays, Tavas and many other PC Compatibles. Additionally, ICM's ARCnet cards can be used on any ARCnet network



such as Via-Net, Novelle, SMC, Datapoint and others. Fileservers can be built around S-100 BUS computers, ATs, XTs, or any compatible with a hard disk. TurboLAN supports data sharing between PC-DOS,™ MS-DOS,™ CP/M 86,™ and CP/M 80™ environments. In addition, under TurboDOS, the S-100 BUS computer can have 16 or more Application Processors

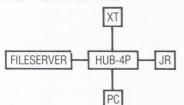


(Slaves) on the BUS, also under the control of the Fileserver.

The simplest configuration is one in which one node is connected to one Fileserver with a single RG-62 93 ohm coaxial cable. An example of this would be a Fileserver (S-100 Bus System or AT) with a single PC node. This simple network would use our S-100 BUS ARCnet controller (LANS100) at the S-100 BUS and our PC-BUS ARCnet controller (LANPC) at the PC or AT. No HUB is required in this simple 2-port network.

> FILESERVER PC (S100 BUS WITH 8 SLAVES)

To add additional nodes, typically a 4-port Passive HUB (HUB-4P) would be the first building block. The Passive HUB is used as the junction box for a Fileserver and up to three nodes. The Passive HUB requires no power and serves as a simple junction box. Passive HUBs CANNOT be connected to each other. The maximum length for a coax cable is a 2300 foot run between Active HUB Nodes and 200 feet between Passive HUB Nodes.



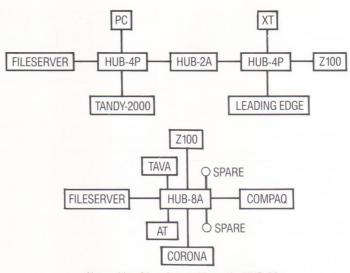
If greater distance or more nodes are desired, AC powered Active HUBs can be used. Active HUBs can be connected to individual nodes, other Active HUBs or Passive HUBs to increase the number of nodes connected to the network. Active HUBs are also used to repeat signals between HUBs for up to 40 miles. ICM provides both 2-port (HUB-2A) and 8-port (HUB-8A) Active HUBs, in enclosures with power supplies. The maximum number of Fileservers and nodes is 255 in any combination.

An example of the requirements for a 6 node LAN is a 2-port Active HUB with 4-port Passive HUBs on each end. Another set-up could be an 8-port Active HUB alone. The first setup allows for a Fileserver and up to 5 nodes, while the second allows up to 7 nodes. Your choice would probably depend on the location of the various work centers, cost and routing of cabling, etc.

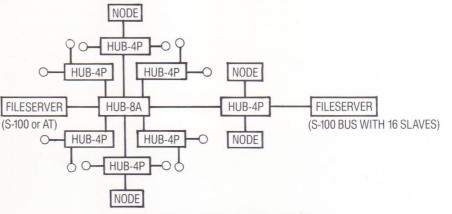


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Networking 24 nodes could use the HUB-8A. eight port active HUB, with passive HUBs on the ports for expansion.



ICM has made setting up the ARCnet HUBs and cables a simple procedure. We provide menu driven start-up programs to make configuration easier for the installer to set up. These start-up programs automatically configure the Fileservers and nodes and produce executable operating systems that generally meet your requirements.

Contact InterContinental Micro for more information regarding our expanding networking products line.

# **Performance Specifications**

## NETWORK INTERFACE:

Modified Token Passing Local Area Network
(ARCnet Protocol)
Transmission Mode Baseband
Transmission Medium Coaxial Cable/RG62
(93 ohm)
Transmission Distance
Between Active Nodes 2300 feet (max)
Between Passive Nodes 200 feet (max)
Transmission Distance 40 miles (max)

Transmission Speed 2.5 Mbps, Typical
Transmission Voltage
Transmit Mode 20.1V P-P Typical
Receive Mode 6.7V P-P Typical
POWER REQUIREMENTS:
Voltages
OPERATING ENVIRONMENT:
Temperature 0 to 45 Degrees Celsius   Relative Humidity 0 to 95%

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