Personal Computers on Ethernet

by

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Many researchers in the Division have projects which require transferring large files between their personal computers (PC) and VAX computers in the Laboratory for Oceans Computing Facility (LOCF). Since Ethernet local area network provides high-speed communication channels which make file transfers (among other capabilities) practical, we have put together a network plan to connect IBM and IBM compatible PC's to Ethernet for participating personnel of Code 670 in building 22.

Our design employs ThinWire Ethernet technology. A simplified configuration diagram is shown in Figure 1. A DEC multiport repeater (DEMPR) is used for connection of ThinWire Ethernet segments. One port of DEMPR is connected to a H4000 transceiver and the transceiver is clamped onto the Goddard Ethernet 'backbone' coaxial cable so that the PC's can be optionally on the SPAN network. All these 'common' elements have been successfully installed and tested.

The components needed for each PC to access the network are: a PC Ethernet controller and communication software. We have put together 'mass' buys for these items and have received all the components. A few PC stations have been connected to the network and have functioned very satisfactorily. In addition to providing fast file transferring between two modes, the software

also supports task-to-task communications, network resource sharing, remote file access, and utilities for network file operations. We are now in the process of stringing cables to connect all other PC stations to the network.
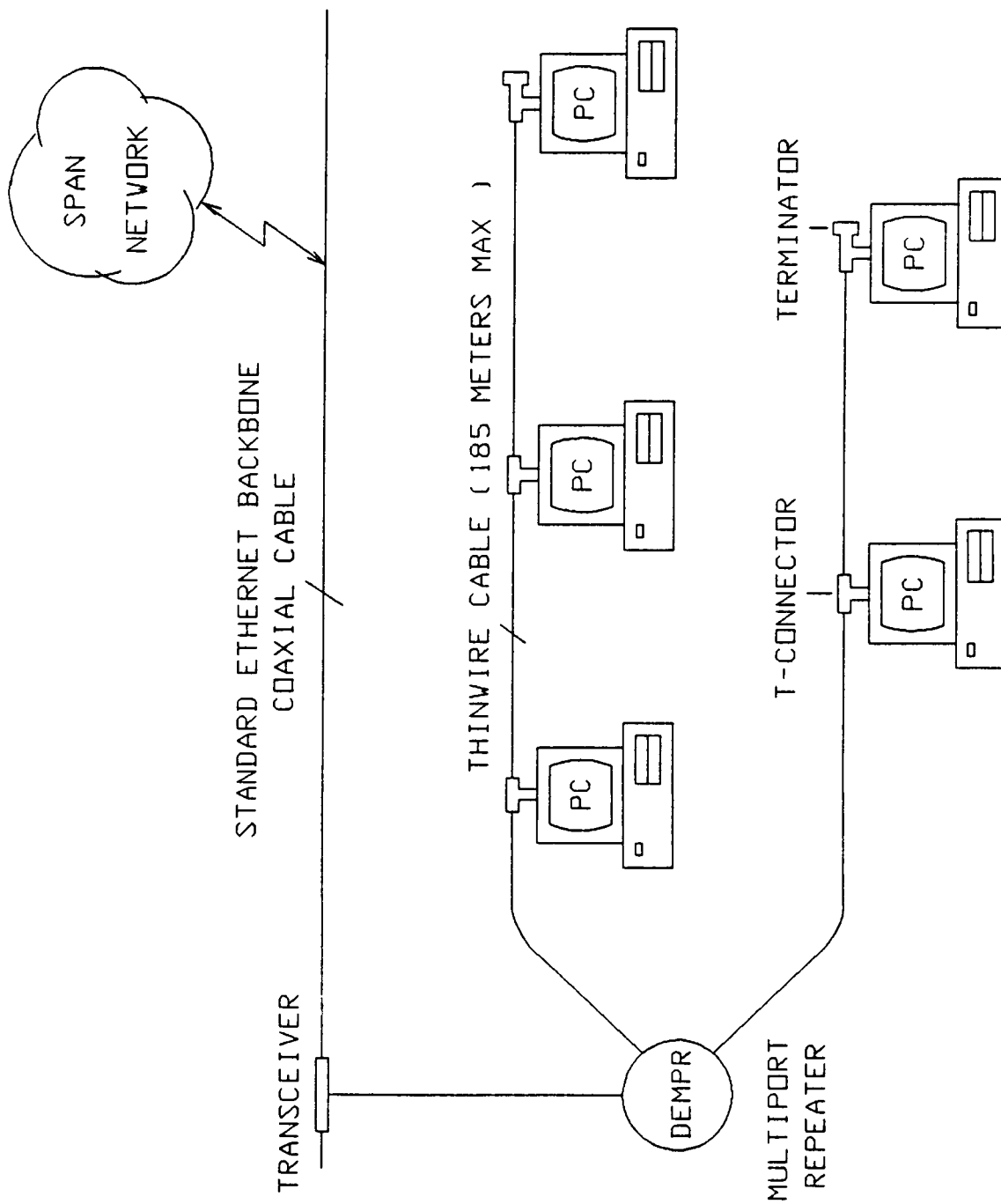
Figure 1. PC-Based Ethernet Configuration

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