



A2065

Ethernet Local Area Network Board

Hardware Installation Guide

Preliminary

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FCC Statement

WARNING: This device complies with Part 15 of the FCC Rules and Standard C108.8-M1983 of the Canadian Standards Association's Regulations. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation. If you suspect interference, you can test this device by turning it off and on. If this device does cause interference, the user is encouraged to correct the interference by one of the following means:

- reorient the receiving antenna or AC plug
- change the relative positions of the device and the receiver
- plug the device into a different outlet so the device and the receiver are on different circuits

CAUTION: Only equipment with shield-grounded cables (computer input-output devices, terminals, printers, etc.), certified to comply with Class A limits, can be attached to this device. Operation with non-certified equipment may result in communications interference. Changes or modifications to this device not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Your house AC wall receptacle must be a three-pronged type (AC ground). If not, contact an electrician to install the proper receptacle. If a multi-connector box is used to connect the computer and peripherals to AC, the ground must be common to all units.

If necessary, contact your Commodore dealer or an experienced radio-TV technician for additional suggestions. You may find the following FCC booklet helpful: "How to Identify and Resolve Radio-TV Interference Problems." The booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, stock no. 004-000-00345-4.

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INTRODUCTION

This document describes the installation of the Amiga Ethernet Local Area Network Board. This manual assumes that the user has experience with Ethernet. AmigaDOS users must have networking software in order to connect their Amiga to the network.

INSTALLING THE A2065

Configuration of the Ethernet Board

The Ethernet board must be configured to operate with the type of cable used at your site. The board supports two types of network cable. **Thick Ethernet** is a one-half inch thick shielded cable used as the transmission medium in the original standard defined by XEROX®. **Thin Ethernet** (also known as **Cheapernet**) is a less expensive form of coaxial cable which offers a lower connection cost per node and is often substituted for Thick Ethernet in small installations where the long cable lengths and higher number of nodes accommodated by Thick Ethernet are not required.

The A2065 Ethernet board is preset at the factory for Thin Ethernet and interrupt level 2. For different cable types the jumpers are defined as follows:

In figure 1, there is a six row by three column array labeled **ABC**. This jumper block defines which cable interface is used, Thick or Thin Ethernet. For Thin Ethernet operation the jumper must be set to **AB**. For Thick Ethernet operation the jumper must be set to **BC**. The jumper is preset to **AB** for use with Thin Ethernet.

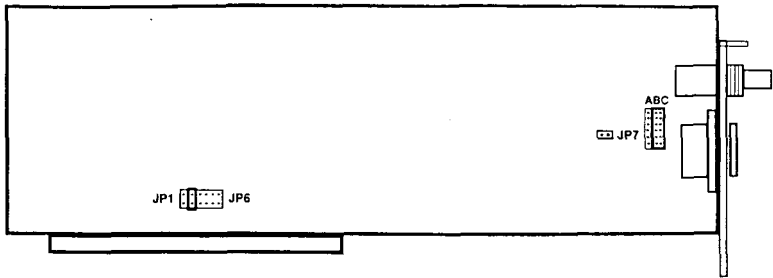


Figure 1
A2065 Ethernet Board

The interrupt level is preset at the factory for level 2 and must not be changed. Jumper block **JP1-JP6** sets the different possible interrupts with position **JP2** being the second position in from the left as shown in figure 1.

Jumper **JP7** controls the type of Ethernet transceiver being used. For type 2 Ethernet, jumper **JP7** must be off. If your site uses type 1 Ethernet, a jumper block must be placed on **JP7**. Most sites use type 2 Ethernet, so **JP7** is left off; this is the default setting, preset from the factory.

Installation Procedure

1. Turn off and disconnect the Amiga

Turn off the Amiga, and unplug the power cable. Disconnect all peripherals and cables from the Amiga.

2. Remove the Amiga's cover

Remove the two screws on the lower left side of the Amiga. Remove the two screws on the lower right side of the Amiga. Put them aside.

Remove the center screw from the rear of the Amiga. Be careful to remove the correct screw.

Turn the Amiga so that you are facing the front of the machine. Grasp the cover on both sides and slide it towards you while lifting upwards.

If the cover seems stuck, do not force it. Look under the cover to see if any wires or cables are caught on the cover. If anything is caught, gently untangle it, and continue to slide the cover off.

3. Install the A2065

The A2065 board can be installed in any one of the five 100-pin expansion slots. You may need to temporarily remove other internal expansion boards in order to install the A2065. Once the A2065 is installed, replace the other expansion boards.

After you select a slot for the A2065, locate the metal slot cover at the back of that slot. Remove the screw securing the slot cover and set it aside. Remove the slot cover and save it, in case you ever remove the A2065.

Feed the Ethernet board BNC and 15 pin connectors through the slot, and at the same time align the A2065 board with the selected slot. Align the front edge of the board with the plastic groove inside the front of the Amiga.

Make sure that the board is free of all cables. Apply even pressure to insert the board into the slot. Secure the A2065 to the back of the Amiga using the screw that held the slot cover.

4. Replace the Amiga's Cover

Replace the Amiga's cover. Reconnect all cables and peripherals to the computer. Your A2065 is now installed.

If your network uses Thin Ethernet cable, connect a BNC T-connector to the BNC connector located on the Ethernet board, and connect the cable from your network into this T-connector. Open BNC connectors on network cables and T-connectors should be terminated with BNC terminator caps. If your network uses Thick Ethernet, plug the fifteen pin connector from your transceiver cable into the connector located on the Ethernet board's bracket.

NOTE: If you are connecting the A2065 to an existing network, consult your network administrator.

TECHNICAL SPECIFICATIONS

Ethernet type	Thick Ethernet 10BASE5	Thin Ethernet (Cheapernet) 10BASE2
Data rate	10Mbps	10Mbps
Segment length without repeaters	500 meters	185 meters
Network length without repeaters	2500 meters	925 meters
Nodes per segment	100	30
Minimum node spacing	2.5 meters	0.5 meters
Cable/connector	0.4 inch diameter 50 ohm double shielded N-series shielded connector rugged cable	0.2 inch diameter 50 ohm RG-58 A/U type Single BNC connector flexible cable
Transceiver cable	0.38 inch diameter multiway cable with 15 pin D connectors maximum length: 50 meters	not required

A2065 ETHERNET ADDRESS

In Ethernet LANs, each network board has a unique 48-bit **Ethernet Address** associated with it. Manufacturers of Ethernet boards are assigned **Global Ethernet Address Blocks** by the Standards Office of the IEEE™ (The Institute for Electrical and Electronic Engineers). Commodore has been assigned the address block beginning with the following 3 bytes or 24 bits, written in hexadecimal:

00-80-10

The last half of the Ethernet address is obtained from the last 24 bits of the A2065 board's serial number as defined by Amiga AutoConfig™ specifications. The last 24 bits of this serial number are printed in hexadecimal on chip U4 of the A2065 board.

The 48-bit Ethernet address for the A2065 can be obtained by combining Commodore's address block number with the board serial number. For example, an A2065 with board serial number 000001 would have the following Ethernet Address:

00-80-10-00-00-01

WHERE TO GO FOR ADDITIONAL INFORMATION ON LOCAL AREA NETWORKS

General LAN Information

O'Dell, Peter. *The Computer Networking Book*. Chapel Hill, NC: Ventana Press, 1989.

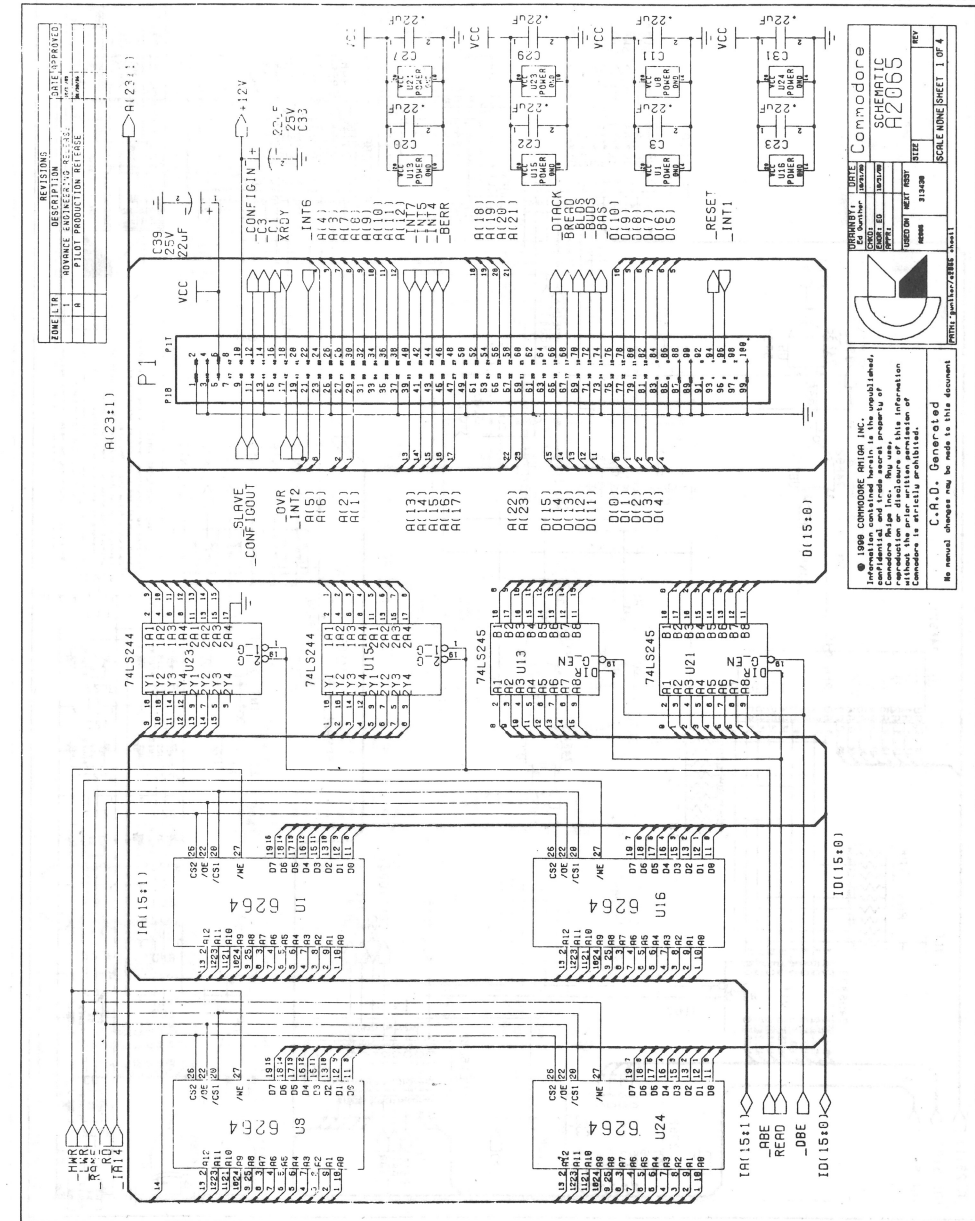
ETHERNET LANs

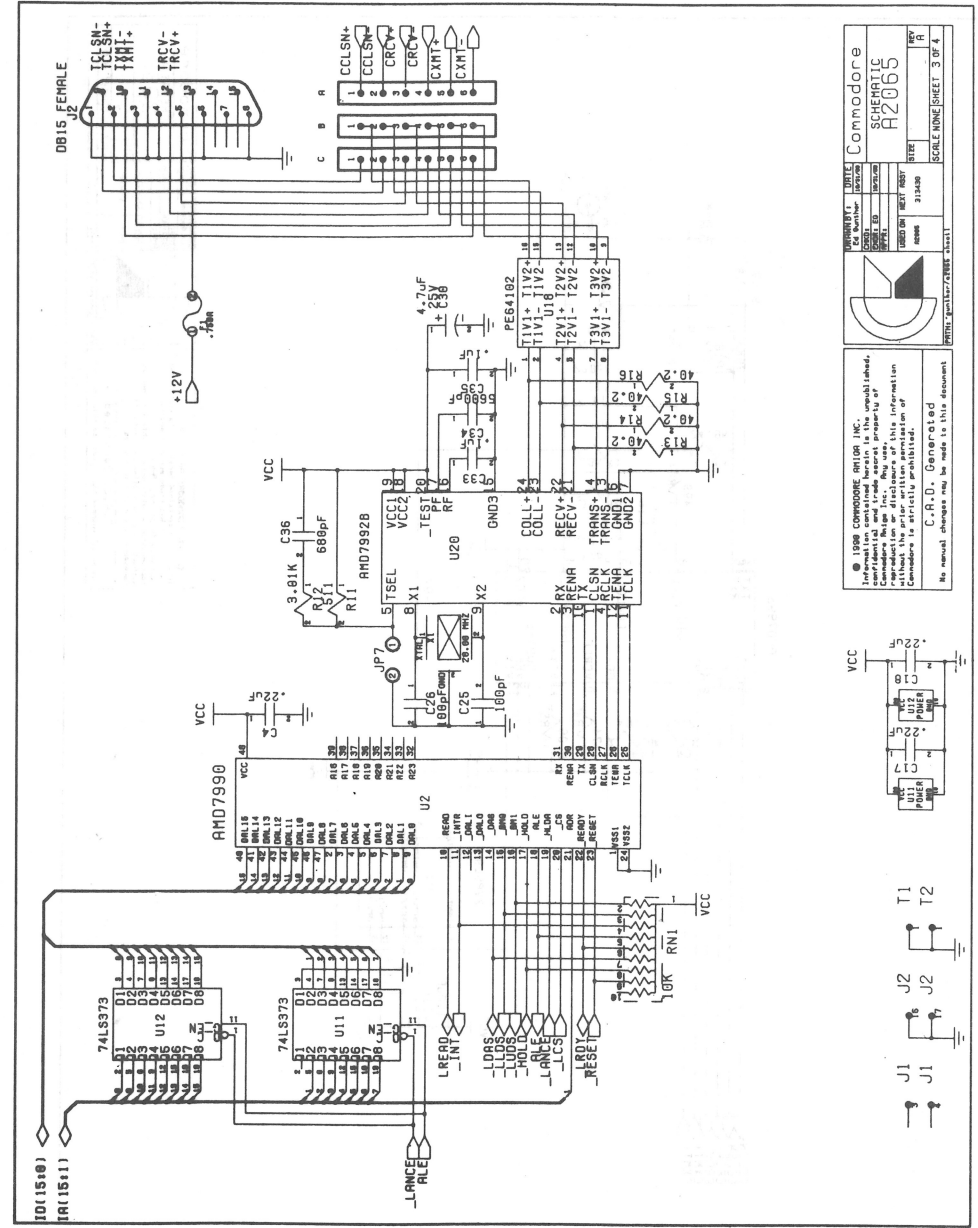
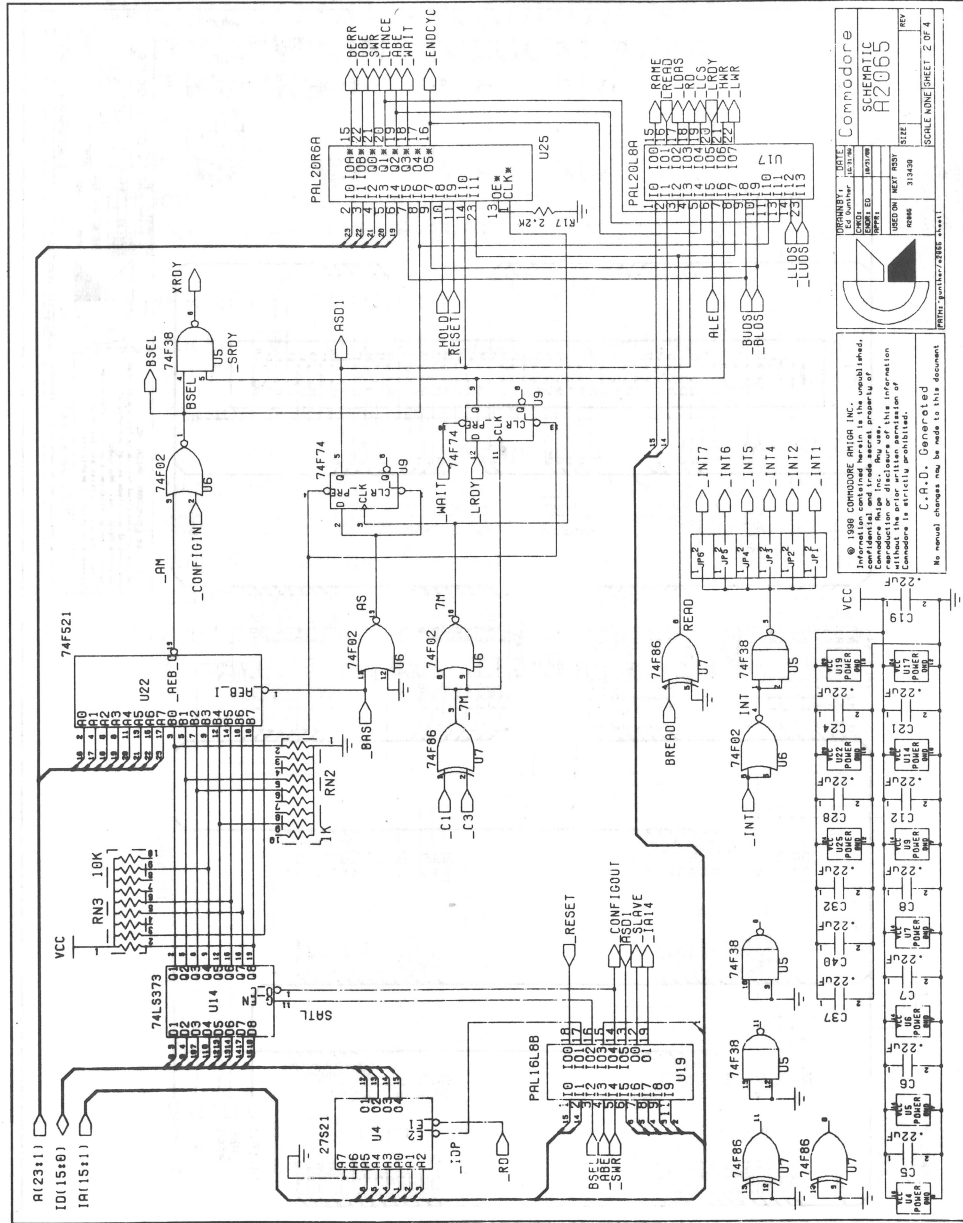
Hancock, Bill, *Designing and Implementing ETHERNET NETWORKS*. Wellesley, Massachusetts: QED Information Sciences, Inc., 1988.

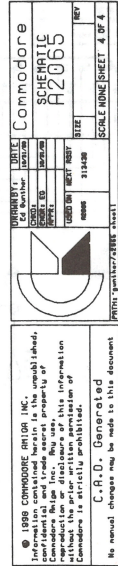
Madrow, Thomas W. *LANS: Applications of IEEE/ANSI 802 Standards*. New York: John Wiley & Sons, Inc., 1989.

ISO 8802-3 ANSI/IEEE Std 802.3—CSMA/CD Access Methods and Physical Layer Specifications. New York: IEEE Computer Society, 1989.

ISO 8802-3 ANSI/IEEE Std 802.3b, c, d and e—Supplements to CSMA/CD. New York: IEEE Computer Society, 1989.









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