C1000

IDE Adapter Card Manual
for the
Micro Channel Bus Architecture (*)

* Micro Channel is a registered trademark of International Business Machines Corporation

Custom Computer Systems

FCC Statement

The C1000 adapter card has been designed to meet the limits for a Class B digital device. However, no guarantee is given. The C1000 IDE adapter card is considered to be a sub-system component.

Table of Contents

1.0 Introduction

This manual describes the C1000 IDE drive
adapter for computer systems using the *
Micro Channel Architecture Bus. Installation
instructions for the adapter card and option
reference disk are given below. Please take a
few minutes to read these instructions.

2.0 Unpacking Checklist

Your new C1000 adapter card is shipped along
with a 3.5" floppy reference disk that
contains the option description file
@6213.adf. Additionally there may be a
readme.txt file that contains the latest
updates and information. The following
options are also available, note that one or
more of these items may have been included in
your installation kit.

3.0 Optional Equipment

-Dual Drive Power Cable

-Single Drive Power Cable

-Single Drive Interface Cable

-Dual Drive 40 pin Interface Cable

-Model 50 Mounting Kit

-Model 55 Mounting Kit

-Model 60 Mounting Kit

-Model 70 Mounting Kit

-Model 80 Mounting Kit

4.0 Making a Working Copy of Your Reference Diskette

In order to configure your C1000 controller card you will need to make a working copy of your reference diskette. Insert your original reference diskette in drive a: and re-boot your system. Select option 2 from the main menu on the reference diskette to create your working copy. Refer to the documentation that came with your computer for additional information.

5.0 Copying the C1000 Option File

To copy your C1000 @6213.adf option file, boot your system using your working copy reference diskette and select option 5 (COPY AN OPTION DISKETTE) from the main menu. You will be prompted to insert your option diskette. Proceed by following these steps outlined below.

STEP-1 Remove working copy reference diskette.

STEP-2 Insert your new C1000 option diskette and press the enter key. You will be prompted to insert the reference diskette.

STEP-3 Insert your working copy reference diskette and press the enter key, your C1000 option file will be copied to your working copy reference diskette. We now have a working copy of the reference diskette containing the necessary C1000 option file. From here we can proceed to the hardware installation.

10.0 Power Connector Description

```
Pin 1       +5 volt
Pin 2        ground
Pin 3        ground
Pin 4       +12 volt
```

11.0 IDE Connector Description

01	RES*	02	GND
03	D7	04	D8
05	D6	06	D9
07	D5	08	D10
09	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	GND	20	N.C.
21	N.C.	22	GND
23	WR*	24	GND
25	RD*	26	GND
27	N.C.	28	N.C.
29	N.C.	30	GND
31	INT	32	IO16*
33	A1	34	N.C.
35	A0	36	A2
37	SEL0*	38	SEL1*
39	SLV/ACT	40	N.C.

NOTE: * Low True

6.0 Installation

Before proceeding with the installation, make sure that you have turned off all power to your computer and any attachments. Remove all power cords from your equipment before proceeding any further! Remove the cover from your computer systems to allow you to access the systems internal components and expansion slots. If you are not replacing your existing hard disk with an IDE drive(s) then refer to the co-resident installation section of this manual.

6.1 Removing Your Existing Hard Drive
The hard disk removal procedure differs depending on the type and model of your system. If you have difficulties have your dealer perform the installation.

6.2 C1000 Card Installation

Select an un-occupied expansion slot and loosen the thumbscrew on the back. Pull out and remove the blank filler plate that was held by the thumbscrew. Insert The C1000 controller card carefully into the system bus making sure that the board is correctly positioned and held in the card guide. Press the card firmly into the bus connector, and secure the board in place with the thumbscrew.

6.3 Connecting the Interface Cable

Connect one end of the 40 pin cable to connector P3 on the C1000 adapter. Make sure that pin 1 is aligned properly (refer to the board layout diagram fig. 1).

- Single Drive Connection using a two-connector interface cable, connect the other side of the 40 pin cable to the 40 pin connector on the drive. Make sure that pin 1 on the cable connects to pin one on the drive.

- Dual IDE Drive Connection using a three-connector interface cable, connect the two 40 pin cable connectors to drives 1 and 2 in a daisy-chain configuration. Set the Master / Slave jumpers on the drives, refer to your drive manual for the proper jumper configuration. Attach the 4 conductor power connecter(s) to the drives using either the power cable provided by your system or the C1000 optional 1 or 2 drive power cable.

7.0 Configuration and Setup

After completing the hardware installation re-connect power to your system and insert your working copy of the reference diskette into drive A: turn on the power to your system.
When your system boots, you should see an ERROR 165 displayed on your screen. This indicates that the computer has recognized the presence of your newly installed C1000 adapter card, but has not been configured properly, press enter to continue. At this point a description of the error message is displayed along with a prompt that reads "Automatically Configure the System? (Y/N)".

7.1 Automatic Configuration

Select Y to automatically configure the system. Your C1000 card will be configured using the default values.

7.2 Manual Configuration

Select no, this will load the main setup menu. From the main menu select option 3 (SET CONFIGURATION) this will take us to the set configuration menu. From the set configuration menu select option 2 (change configuration). The configuration options for each slot in your system will be displayed, use the arrow keys to move the display to the slot containing the C1000 card.

7.3 Selecting I/O Address

Using the arrow keys move the cursor down to (I/O OPTIONS) and select the primary address range using the F5=Previous and the F6=Next keys to change the I/O address assignments. If a conflicting assignment is made it will be marked with an asterisk and must be changed to use the adapter.

7.4 Selecting ROM Address

Use the arrow keys move the cursor down to (ROM Address) and select a valid address range using the F5=Previous and the F6=Next keys to change the ROM address assignments. If a conflicting assignment is made it will be marked with an asterisk and must be changed to use the adapter.

7.5 Selecting Interrupt

Use the arrow keys to move the cursor down to (Interrupt Selection) and select an unused interrupt using the F5=Previous and the F6=Next keys. Note the C1000 controller card requires a dedicated interrupt, and will not operate correctly if the interrupt chosen is used by another adapter card. Make sure that your selected interrupt is unique and only assigned to the C1000 adapter.

7.6 Drive Type Setting

The automatic configuration is set independently for drive 0 and for drive 1, however, the procedure for each is the same. Use the arrow keys to move the cursor down to select one of the two automatic parameter identification modes for the desired drive.

-Identify Translate Mode

The identify and translate mode retrieves the disk drive parameters directly from the drive and utilizes C-Stor's proprietary factor translation algorithm to allow drives reporting more than 1024 cylinders to be used at the maximum storage capacity.

-Identify Truncate Mode

The identified and truncate mode should be selected for drives not supporting geometry translation.

To select one the two modes, use the F5=Previous and the F6=Next keys as required.

8.0 Co-Resident Installation

Your new C1000 IDE controller card can be configured to operate with your existing hard disk drive(s) by setting the co-resident installation to yes. Use the arrow keys to move the cursor down to (CO-RESIDENT Installation) and select (YES) using the F5=Previous and the F6=Next keys.

If your co-resident installation is with an existing controller that has an option-rom BIOS, the C1000 option-rom BIOS address must be set to a higher address than the existing controllers address.

i.e.

Slot 1 C1000 IDE Adapter Card

Rom Address....................[Segment DC00]

      NOTE DC00 > D800............

Slot 2 Existing Controller......[D800]

8.1 Co-resident Installation with DOS 4.XX

If you are configuring the C1000 adapter card
in co-resident mode, and you are using DOS
version 4.XX the TOTAL NUMBER OF DRIVES in
your system are limited to 2: one existing
drive, plus one IDE drive attached to the
C1000 adapter card. This is due to a bug in
DOS version 4.XX that limits the number of
hard drives to 2. This problem can be
eliminated by using DOS version 3.3 or 5.0.

9.0 Board Layout Figure 1

4 pin Power P4   40 pin IDE P3

```
.................................................
:    .......              .......... pin 1  :
:    :.....:              :........:         :
:                                           :
:    1234                                    :
:...........................    ..      ...  :
                            -------  --------
```