

**EXTERNAL SPECIFICATION
(User Perspective)**

TITLE : Autodeflect test Specification

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SCSI EXTERNAL SPECIFICATION

1. INTRODUCTION

1.1. Purpose

AUTODEFECT program,

- (1) reads defect list recorded by manufacturer in Xebec format,
- (2) translates the defect list into Adaptec format,
- (3) formats the disk, surface analysis, and labels the disk.

1.2. Applicable Documents

The following documents are useful in understanding the diagnostic and the overall functionality of the program:

- (1) *Xebec S1410 5.25 Inch Winchester Disk Controller*
- (2) *Sun SCSI Programmers' Manual*, W. M. Bradley
- (3) *Sun SCSI Board Theory of Operation*, W. M. Bradley
- (4) *Introduction to the SASI/SCSI Interface and the Adaptec Controller*, 5/23/83, Bill Stanley, Adaptec Inc.
- (5) *Adaptec ACB 4000 and 5000 Series Disk Controllers OEM Manual*, 5/16/83, Adaptec Inc.

At this time the above specifications have not yet been assigned part numbers.

2. SYSTEM OVERVIEW

2.1. General Description

Basically this program will be used in R/I as an initial defect translation and test for variety of disks supported by sun manufacturing. It reads the defect map on the disk by Xebec controller and converts it to the format acceptable by Adaptec controller. Then formats with the defect list, surface analysis and labels the disk.

2.2. Features

The AUTODEFECT program provides the user the following features:

- (1) Fully automated test.
- (2) None destructive in the case if the disk has already been formatted by Adaptec.

There is a utility for adding, deleting, printing the defect list which can be accessed by entering CONTROL-C while it is in the format phase. This routine will be a great help in case of additional defects must be entered.

2.3. Required Configuration

The following hardware is required:

- (1) A test station containing:
 - * a card-cage (PN: 340-0332),
 - * two power supplies (PN: 300-0135-03),
 - * a Sun 2 processor board (PN: 501-1007-01),
 - * one megabyte of memory (PN: 501-1013-01),
 - * a means of booting the SCSI diagnostic, and
 - * a monitor.

The monitor may either be a "dumb terminal" or a Sun monitor, video board, and keyboard.

- (2) A known good Xebec controller.
- (3) A known good Adaptec board (PN: 370-1010-01) with a jumper on A-B in switch J5.
- (4) A power cable for Adaptec board (PN: 530-xxxx-x).
- (5) A power cable for the disk (PN: 530-xxxx-x).
- (6) A power cable for Xebec board (PN: 530-xxxx-x).
- (7) The internal cable running from the SCSI board to the Adaptec and Xebec board.
- (8) The internal cable running from Xebec and Adaptec board to the disk.

2.4. Error Handler

Upon receiving an error the test will print the error message and immediately terminates the process. Possible errors could be a malfunction in one of the hardware pieces such as: disk, Adaptec or Xebec board, and cables.

3. RUN PROCEDURE

3.1. Pre-Loading

Configure the workstation as described above and load the Autodefect program.

3.2. Starting the Translation

Enter one of the following PROM monitor command:

```
>bec(,n)stand/autodefect  
or,  
>bie(,n)stand/autodefect
```

where n is the ethernet server id in hexadecimal.

The program will display the following messages:

```
Auto Defect Handler  Rev. 3/11/85
```

```
Enter drive selection:
```

```
0 -- Micropolice 1304 (50 Mb)  
1 -- Micropolice 1325 (85 Mb)
```

```
Which one?
```

**AUTODEFECT EXTERNAL SPECIFICATION
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User must enter 0, or 1 based on the type of disk is being used.
Then displays the following messages:

Enter type of test:
0 -- complete surface analysis test
1 -- partial surface analysis test
2 -- no surface analysis test
Which one?

User enters 0, for full surface analysis,
1, for partial surface analysis, or
2, for no surface analysis test at all.

If anything other than 0-2 entered, the program displays the following error message:

number out of range -- reenter

Full surface analysis analyzes the disk starting from cylinder 0 till the last cylinder, where partial surface analysis analyzes 25 cylinders from beginning and 25 cylinders from the end of disk.

After the selection phase, program will start actual translation and displays the following messages on each step:

Adaptec trys to read defect list

The disk not formatted by Adaptec, try with Xebec

Internal diag test completed.

Ram diag test completed.

Reading defects from disk by Xebec controller...

Now the defect list has been set to Adaptec format.

If disk does not have the defect list either in Xebec or in Adaptec format it will ask the operator to add defects for each head.

If none was entered, it will display:

No disk defect list found, or entered
Disk will be formatted without defect list.

And it proceeds:

SCSI format.

DISK FORMAT - DESTROYS ALL DISK DATA!
Format done

Seek

SURFACE ANALYSIS - DESTROYS ALL DISK DATA!

**AUTODEFECT EXTERNAL SPECIFICATION
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Surface analysis complete.

label this disk ...

verify label

And prints partition information.

At this point the translation and the test is complete. The following messages will be displayed:

If you want to test another drive, attach the cables
and power on the drive

Enter :

s : start next drive

f : reformat the drive

m : select drive type

q : quit testing

If anything other than the above options entered, it will display:

Unknown command, re-enter

**EXTERNAL SPECIFICATION
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AUTHOR : Reza Rahsaz

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```

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1 -- Micropolis 1325 (85 Mb)  
2 -- Fujitsu M2243AS (85 Mb)
```

```
Which one?
```

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