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Fujitsu MPG series HDD Recovery Tool Manual
Version 2.02A
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This document explains the recovery method and usage of the Recovery Tool for FUJITSU MPG Series Hard Disk Drives.

Purpose of this Recovery Tool

The purpose of this tool is to recover customer's critical data from failing Fujitsu MPG series HDD if requested by the customer. However, the data of the failure drives may NOT be 100% recovered. For limitations of this Recovery Tool, please see the Section 3 of this document. After data recovery, the drive must be replaced with a good drive. Please do not use the recovered drive even if the drive works fine because the drive is fixed temporally for data recovery.

Licensing agreement conditions

Before use this Recovery Tool you must agree the following licensing agreement conditions. If you do not agree to the terms of this agreement, you are not authorized to use this Recovery Tool in any way.

- 1) This tool does not recover 100% due to the drive failure condition.
 - 2) Do not change or delete the copyright displays included in this tool.
 - 3) Do not change any contents included in this tool.
 - 4) Do not use any contents included in this tool for sales purpose.
 - 5) Do not distribute this tool without the permission of Fujitsu Ltd.
 - 6) Do not assume any liability based on this tool.
 - 7) Use this tool under the specified condition.
 - 8) Use this tool for exclusive purpose of recovering data from Fujitsu MPG series Hard disk drives.
 - 9) Use of this tool is prohibited without the above-mentioned agreements << items 1) - 8) >>
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Table of contents

1. Introduction
2. System configuration required
3. Drive condition to be recovered by this tool
4. Create the Recovery Tool on floppy disk
5. Run the Recovery Tool
6. Method of Using Copy Tool
7. Notification
8. Revision History

1. Introduction

This Recovery Tool is workable for all Fujitsu MPG series HDD drives.

FUJITSU MPG3204AH-E/MPG3409AH-E/MPG3307AH-E
FUJITSU MPG3102AH/MPG3153AH/MPG3204AH
FUJITSU MPG3102AT/MPG3204AT/MPG3307AT/MPG3409AT

2. System configuration required

- Microsoft (R) MS-DOS(R) 5.0 or later system with Monitor and Key board
- First Boot Device is Floppy drive
- When you make the Recovery Tool floppy disk, the following system configuration is required.
 - Microsoft(R) Windows(R) 95 or Microsoft(R) Windows(R) 98
 - Microsoft(R) Windows(R) Me
 - Microsoft(R) Windows NT(R)
 - Microsoft(R) Windows(R) 2000

3. Drive condition to be recovered by this tool

This Recovery Tool shall only be used in the following drive condition:
The hard disk drive is not recognized by the system but the motor is spinning.
Other abnormal conditions such as abnormal acoustics noise cannot be recovered and shall not be attempted by this Recovery Tool.

4. Create the Recovery Tool on floppy disk

First of all, the Recovery Tool file must be created from the attached "RecoverToolV202A.exe".
In the normal DOS PC environment according to the following procedure.

- 4-1. Prepare a formatted blank 1.44MB floppy disk.
- 4-2. Copy the software "[RecoverToolV202A.exe](#)" in the local Hard Disk drive first.
- 4-3. Click this software from Windows Explore.
- 4-4. "Fujitsu MPG Series Recovery Tool" message will be shown on the monitor. Insert the blank floppy disk into the floppy drive and click the ">>NEXT" button.
- 4-5. After "Now making a Recovery Tool floppy ..." message is shown on the monitor, wait for few minutes.
- 4-6. "Recovery Tool floppy was created. Please remove a floppy disk" message will be shown on the monitor, please click "OK" button to close. Then take out the floppy disk.

5. Run the Recovery Tool

- 5-1. At the first, please turn off the PC system, then connect the recovery drive to the Master of the Primary port of the system.

(Note) The jumper setting must be Master drive, please confirm the jumper setting.
In some specific PC system, the power is still supplied to the motherboard even if turn off the system power. In case of this, please disconnect the AC power cable from the system for more than 3 seconds. Reconnect the power and proceed to the recovery process.

- 5-2. The Recovery Tool floppy disk inserts to the boot floppy drive, then turn the PC system power on.

5-3. Next step, the following message will be shown on the monitor and the tool is downloaded from floppy disk.

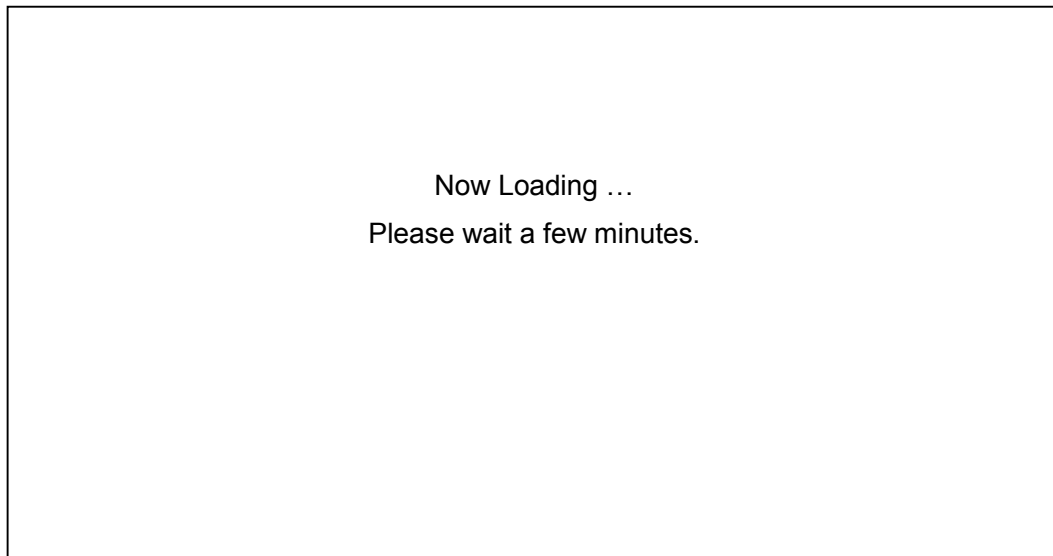


Fig. 1

5-4. A few minutes later, the following License Agreement message will be shown on the monitor, please read to the following License Agreement, press the "↓" or Page Down" key to see the rest of the agreement.

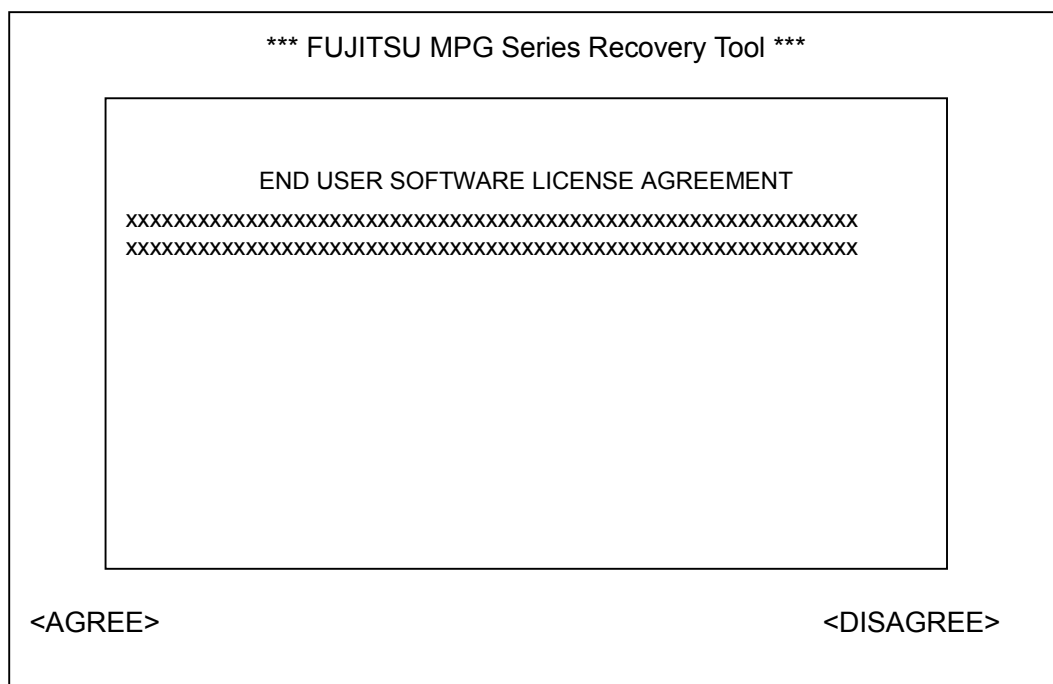


Fig. 2

Do you accept all of the terms of the preceding License Agreement? If you NO, please click the "DISAGREE", the tool will stop. Then turn the PC system power off.

To run you must accept the agreement, please click the “AGREE” to start the tool.

- 5-5. The recovery process is started, the following message will be shown on the monitor. Please wait and do NOT turn off of the system until recovery has been completed.

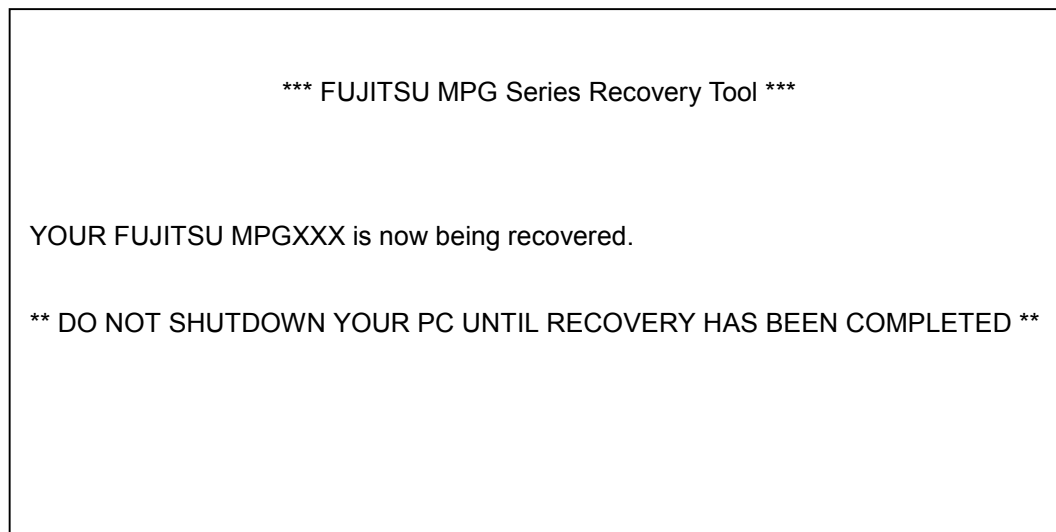


Fig. 3

- 5-6. If recovery is not necessary, the following message will be shown on the monitor. Please turn the PC system power off.

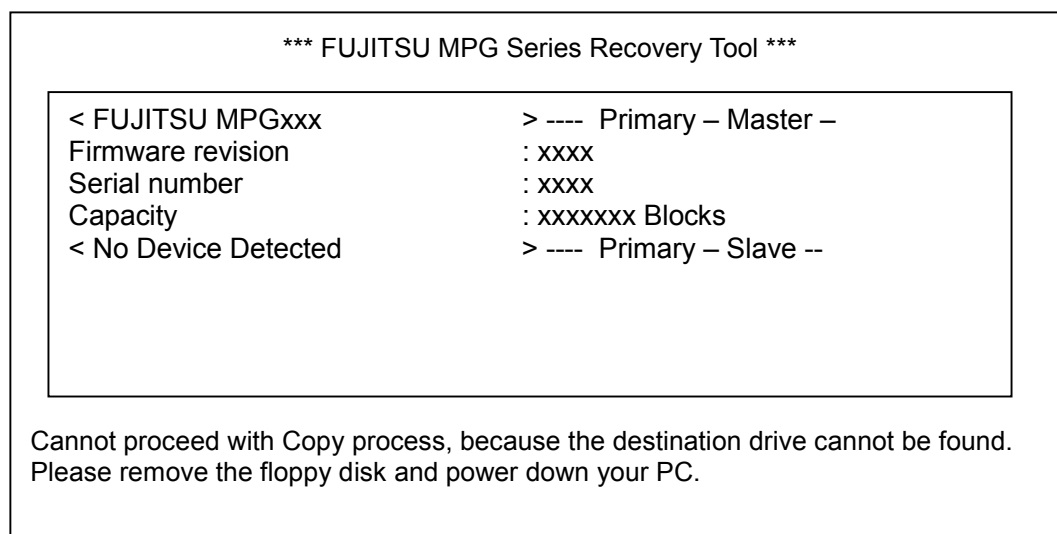


Fig. 4

5-7. When recovery is completed, the following message will be shown on the monitor.
Please turn the PC system power off.

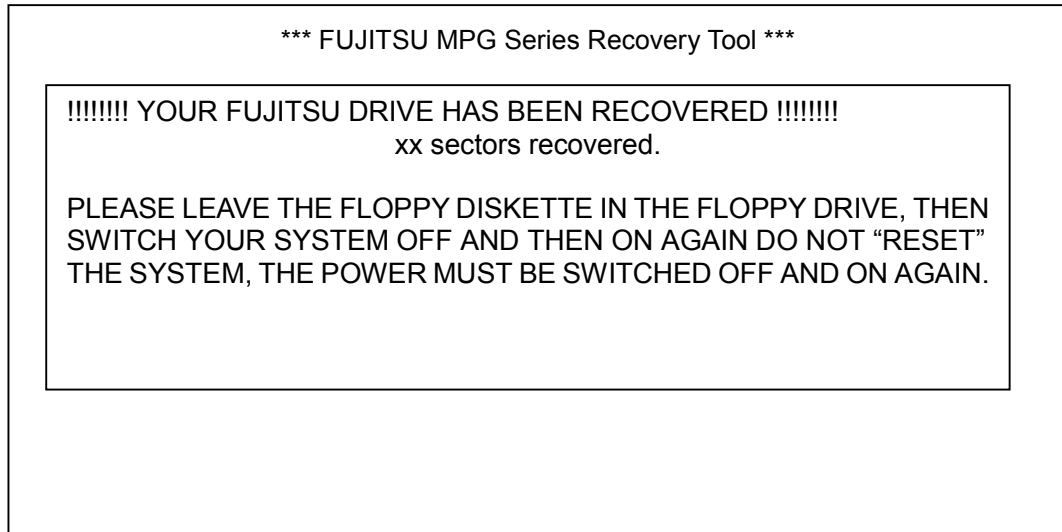


Fig. 5

6. Instructions to use the Copy Tool

6-1. Please set the jumper pin of the drive as below. Then please connect the drive to the Primary port. The data will be copied from the Master to Slave drive of Primary port.

- Source drive (Original drive) is set to the Master drive
- Destination drive (New drive) is set to the Slave drive

<< Note >>

In the specific PC system, the power is still supplied to the motherboard even if turn off the system power. In case of this, please disconnect the AC power cable from consent. Then conduct to proceed to copy process.

6-2 Insert the Recovery Tool into the floppy disk drive. Then turn on the system power.

6-3 Next, the following message will be shown on the monitor and will be downloaded the Recovery Tool from the floppy disk drive.

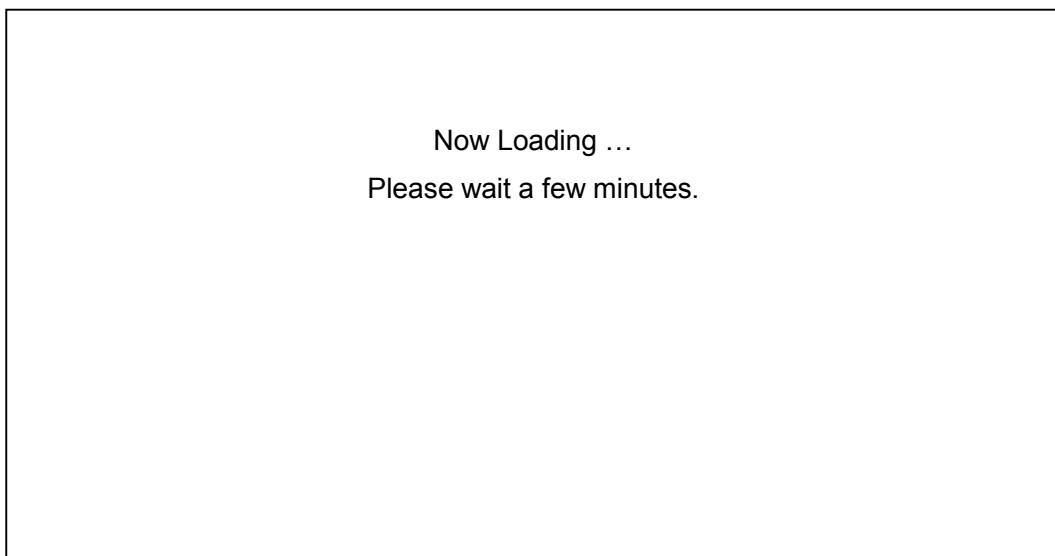


Fig.6

- 6-4. A few minutes later, the following License Agreement message will be shown on the monitor, please read to the following License Agreement, press the "↓" or "Page Down" key to see the rest of the agreement.

The screenshot shows a window titled "*** FUJITSU MPG Series Recovery Tool ***". Inside the window, there is a large rectangular box containing the text "END USER SOFTWARE LICENSE AGREEMENT". Below this box, at the bottom of the window, are two buttons: "<AGREE>" on the left and "<DISAGREE>" on the right.

Fig. 7

If you agree to use this tool, please click the "AGREE". The tool will be started to recover the data. If you do not agree, please click the "DISAGREE", the tool will be stopped. Please turn the PC system power off.

- 6-5. The following message will be shown on the monitor, please push the "F1" key to select the copy option. Click the "COPY START" to start the Copy process.

The screenshot shows a window titled "*** FUJITSU MPG Series Recovery Tool ***". Inside the window, there is a large rectangular box containing the following text:

<FUJITSU MPGxxx	> --- Primary – Master –
Firmware revision	: xxxx
Serial number	: xxxx
Capacity	: xxxxxxxx Blocks
<FUJITSU MPGxxx	> --- Primary – Slave –
Firmware revision	: xxxx
Serial number	: xxxx
Capacity	: xxxxxxxx Blocks

Below this box, at the bottom of the window, are two buttons: "<COPY START>" on the left and "<EXIT>" on the right.

Fig. 8

6-6. Choose the copy option before starting the copy to recover. Then please click the << OK >> after selected the copy option.

*** SETUP COPY OPTION ***

Check source drive	: ENABLE
Check destination drive	: ENABLE
Check after copy	: NONE
Permission error count	: 100

<< OK >>

Fig. 9

[Explanation of the Options]

(1) Check the source drive (ENABLE/DISABLE)

This setting will be confirmed the Boot sector of the source drive.

ENABLE : This is default setting to confirm whether data has been written on the source drive or not.

DISABLE : Do not confirm before Copy process.

(2) Check the destination drive (ENABLE/DISABLE)

This setting will be confirmed the Boot sector of the destination drive.

ENABLE : This is default setting to confirm data has NOT been on the destination drive.(As default setting)

DISABLE : Do not confirm before copy process.

(3) Check after copy (NONE/VERIFY/COMPARE)

This is an option to check the sectors after copy.

NONE : No check after copy. <As default setting>

VERIFY : After copy, all sectors of the destination drive will be checked with Read.

COMPARE : All sectors of the destination drive will be compared with source drive.

(4) Permissible error count (1 to 999/0/DIS)

This number is assigned to permit the number of the error of the source drive during copy process.

The default setting is as 100. It can be allowed from 1 to 999 counts.

(The default is 100)

0 : In case of "0" setting, the recovery process will be stopped by first error.
(Error stop function)

DIS : All errors will be disregarded.

6-7. After starting copy process, the below message will be shown on the monitor.

[illegible]

Fig. 10

6-8. When following message will be shown on the monitor, the Copy process has been completed.
If you want to see the logging data, a formatted floppy to the floppy drive after take off the Recovery Tool floppy.
Then please choose the "Save Logging File". The logging data will be saved in the "Report.txt" file of floppy disk. Also it can be seen on monitor using scroll key.
You do not need the logging data, please select the "EXIT", and turn the PC system power off.

```

*** FUJITSU MPG Series Recovery Tool ***

<FUJITSU MPGxxx          > ---- Primary - Master -
Firmware revision         : xxxx
Serial number             : xxxx
Capacity                  : xxxxxxxx
<FUJITSU MPGxxx          > ---- Primary - Slave -
Firmware revision         : xxxx
Serial number             : xxxx
Capacity                  : xxxxxxxx

+++++++ Recovery information +++++++

<Slave Logging File>                                           <EXIT>

```

Fig. 11

6-9. The logging file (Report.txt) specification

[Drive Information]

The Drive Information is shown on the monitor for both Master and Slave drives of the Primary port.

- Firmware revision
- Serial number of the
- Capacity by LBA of the drives

[Drive Copy Information]

Error information is shown on the monitor during copy processing.

(Example)

[A]	[B]	[C]	[D]	[E]	[F]
Detected read error	(1)	: Primary - Master	04936600	51	40

[A]	: Content of error	→ Related read error
[B]	: Number of error	→ 1 st error
[C]	: Error drive	→ Primary – Master drive (Source)
[D]	: LBA	→ LBA = 4936600h
[E]	: Content of ST Reg (1F7h)	→ Uncorrectable ECC error
[F]	: Content of ER Reg(1F1h)	→ (ST=51, ER=40)

<< Note >>

The Tool does not recognize the LBA. Therefore the LBA information cannot be provided which files were recovered. So please confirm the copy result by yourself after copy.

(Example of the Copy result)

The following messages with blue font are the example after copy process.

FUJITSU MPG Series Recovery Tool Version 2.02A

+++++++ Drive information ++++++

< FUJITSU MPG3409AT E > ---- Primary - Master ----

Firmware revision : 82C4

Serial number : VH06T160FAEP

Capacity : 80063424 Blocks

< FUJITSU MPG3409AT E > ---- Primary - Slave ----

Firmware revision : 82C4

Serial number : VH06T160FAH7

Capacity : 80063424 Blocks

+++++++ Drive copy information ++++++

Source Drive : Primary-Master

Destination Drive : Primary-Slave

* Detected read error(1) : Primary-Master 04936600 51 40

* Detected read error(2) : Primary-Master 04936601 51 40

.....
* Detected read error(10) : Primary-Master 0493661 51 40

Copy end.

read error count = 10

write error count = 0

7. Notification

7-1. This tool just recovers user data in the hard disk drive.

Please note that this drive cannot be used continuously even if looks the drive works fine after recovered process.

7-2. In case of occurred unrecoverable error on the source (Original) drive, the Recovery Tool will write NUL data (All zero) to the same LBA address on the destination drive.

Also the unrecoverable error information will be shown on the monitor and save to the logging file. So please confirm the copy result whether it was success after copy process.

8. Revision History

Version 2.01	2001.12.27	: First released version (β version)
Version 2.02	2002.01.15	: Changed the logging output format
Version 2.02A	2002.02.05	: Changed the messages on the monitor (Formal released)

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