

Model : iR2200-3300/2200i-3300i**Ref. No. : FF-T01-L5-000011-02****Date : September 27, 2002**

FF-T01-L5-000011-01 : additional information

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Location : Hard Disk Drive**Subject : Information of E602 troubleshooting****Reason : This bulletin notifies of servicing procedure to be followed if E602 error (HD-related error) occurred on an iR machine****Details : E602 errors on iR machines are classified into the following errors by the subcode and corresponding cause:****(1) E602-0001**

A HD mount error was detected when the HD was started up.

(2) E602-0002

A HD data read error was detected when the HD was started up.

(3) E602-0003

The data address registered on the HD is not consistent with the data. (Write-abort error on HD sector)

(4) E602-0004**An error occurs by checking the Control Table of "Image storage area" when the machine is "ON". (See Note: 3)****Trouble shooting of each sub code is as follows.****(1) E602-0001****Check the faulty connection between the HDD and the main controller PCB****Poor HDD : Replace the HDD, and reinstall System Software****Poor Main Controller PCB : Replace the main controller PCB****(2) E602-0002****System Software is not installed properly : Reinstall System Software**

(3) E602-0003

The following 4 partitions exist in the HDD of the iR models, and countermeasure differs depending on whether Write-Abort occurs in the area.

(Note) Partitions on iR machine

- 1) Image storage area
Saves and stores image data.
- 2) General-purpose file storage area
Stores user setting data, various log data, PDL spool data, and image data address.
- 3) PDL-related file storage area
Stores font data for printers.
- 4) Firmware storage area
Stores system software.

(a) If write to the image storage area was aborted

A function is implemented to fix a write-abort error in the image storage area, which automatically repairs the error after power is turned off and switched on again. (The function writes dummy data at locations specified by the data pointer to fix address-data inconsistency.)

If a write-abort error occurred in the image storage area and E602-0003 is output, turn off the main power and then turn it on again to fix the error. (See Note 1.)

(b) If write to other areas than the image storage area was aborted

If write to other areas than the image storage area was aborted, the automatic recovery function is unable to fix it. Follow the procedure below to manually recover the sector.

(i) If the machine can be entered service mode

- Enter service mode and set "0" for COPIER > FUNCTIONS > SYSTEM > HD-CHECK. (This will check and recover the entire sectors on the HD.) (This takes about 20 to 40 minutes depending on the HD capacity.)

After executing HD-CHECK, turn the power off and turn it on again to check that the HD starts up normally. If the HD fails to start up, set "1" and then "2" for HD-CLEAR. ("1" initializes the image storage area; "2" the general-purpose file storage area.)

After recovering from the write-abort error, reinstall system software. **(System reinstallation is recommended, as there is possibility that the sector fails to return in a proper state after auto-recovery of Write Abort sector)**

(ii) If the machine cannot enter service mode

E602-0003 may appear after power-on on a machine in a state incapable of entering service mode. (This occurs if write-abort error is detected during self-diagnosis after power-on.)

In this case, turn on the main power while holding down digit keys 1 and 9 at the same time. This activates a function that is equivalent to setting "0" for HD-CHECK in service mode.

After calling up the function, see "If the machine can enter service mode" above and do as you do after entering service mode.

(4) E602-0004

(a) In case recovery is possible, indicate the service error E602-0004 on the screen once, and turn "OFF" and "ON" the machine to recover

(b) In case recovery is impossible, the service error E602-0004 appears all the time on the screen : Replace the HDD and reinstall System Software

Remarks :

(1) Causes of write-abort errors

As a rule, write-abort error results from inconsistency between the address (data pointer) and the data. The address-data consistency is broken by turning power off at illegal timings.

iR machines access their HD at the timings below, not to mention when copying and/or writing of PDL data. If the main power is turned off coinciding with any of the following events, the E602-0003 error occurs.

i) 150 ms of initial process within 1 minute after a job

An iR machine performs internal process in the main unit for a duration of 150 ms at undetermined timing within 1 minute after completion of a copy/fax/print job. (During the internal process in the main unit, the controller accesses the image data address files on the HD.)

At what point in the 1-minute time span the process starts is undetermined. If the main power is turned on during the 150 ms, The E602-0003 code may appear when the power is turned on next time.

ii) 19 ms of inquiry from NetSpot

If an inquiry for job history information is sent from NetSpot on a PC to the copier, the HD makes writing operation for about 19 ms. Turning off the main power within this duration may cause E602-0003 when the power is turned on next time.

iii) Operation of remote UI

The HD makes writing operation also when remote UI is working. Turning off the main power within the duration may cause E602-0003 when the power is turned on next time.

(2) Maintenance functions in service mode

Checking and initializing the whole HDD or each partition of the 4 are possible from the following menus in service mode.

COPIER->FUNCTION->SYSTEM->CHK-TYPE : Specifying affected area

COPIER->FUNCTION->SYSTEM->HD-CHECK : Checking HDD or partitions

COPIER->FUNCTION->SYSTEM->HD-CLEAR : Initializing partitions

CHK-TYPE	HD-CHECK	HD-CLEAR
0(The whole disk)	Faulty sector check and recovery	(No function)
1(Area to accumulate image)	Compatibility check	Initialization
2(Area to store general-purpose files)	Compatibility check	Initialization
3(Area to store PDL related files)	Compatibility check	Initialization
4(Area to store Firmware)	Compatibility check	(No function)

Operation Procedure: Follow the chart above, and specify the area you wish to process with CHK-TYPE. Carry out HD-CHECK when checking compatibility, and HD-CLEAR when performing initialization.

System reinstallation is recommended after auto-recovery of sector with HD-CHECK (CHK-TYPE=0), as there is possibility that sector fails to return in a proper state.

If initializing "Image storage area" is carried out with HD-CLEAR (CHK-TYPE=1), all images accumulated in HDD are deleted.

(3) Prevention measures against E602-003/004

It is recommended to turn "OFF" the control panel, and put the machine in sleep mode before turning "OFF" the main power as prevention measures against E602-003/004. (for reduce the HDD load)

Cautions :

- (1) Note 1: Automatic recovery from write-abort error in the image storage area by main power off/on
This function is supported by the following versions of system software.
iR5000: v15.09 or later (v14.02 and previous versions sometimes took an E602-0003 error for an E602-0001 error. ~~→ Official release is scheduled in late February in 2002 and Beta version will be released in late December.~~)
iR2200: v6.01 or later
iR8500: v7.01 or later
Other models: Initial mass-production versions
- (2) Note 2: Recovery of sectors by holding down 1+9 during power-on
This function is supported by the following versions of boot ROM.
iR5000: v13.53 **or later** ~~→ Release is scheduled in early December in 2001.~~
Other models: v7.25

(3) Note 3: About E602-0004

As a result of the report “Incapability of booting up caused by HDD trouble” from the field, it was found out that the Control Table of “Image storage area” had been crashed. In case the Control Table is crashed, abnormal operations occur when checking compatibility during boot-up or when accessing files after boot-up. To reinforce prevention of the abnormal operations, software is modified to process the detailed check of the control table of “Image storage area” when the machine is “ON”. The indication appears if an error occurs during the check.

This function is supported by the following System Software versions or later.

**iR2200-3300 :v31.04 or later
iR5000-6000 : v15.09 or later
iR5000-6000p : v45.04 or later
iR5000i-6000i : v7.05 or later
iR105/7200/8500/8500B : v50.49 or later
Other models : supported from version manufactured at the initial volume production**