

## PRODUCT FACTS

### Recovery BIOS and BIOS Update

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Product Recovery BIOS, BIOS Update

Pages 4

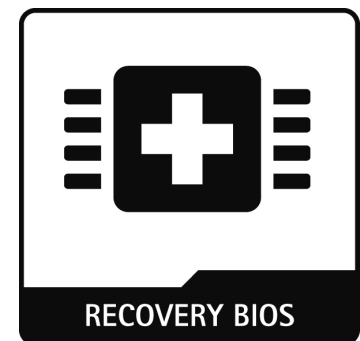
#### Brief Description

The BIOS update of a mainboard is a critical process that should not be interrupted. If an error occurs e.g. due to power failure the BIOS may become corrupted; this can result in a failure to boot and make the system completely inoperable. Thanks to the Fujitsu Technology Solutions Recovery BIOS functionality a new BIOS can be flashed any time, even after such a severe flash failure has occurred.

Thus, the function of the PC system can be restored immediately without changing parts etc.

Furthermore, Fujitsu Technology Solutions provides new BIOS versions in a couple of different ways; this allows the user to choose the most convenient and reliable way for flashing their systems:

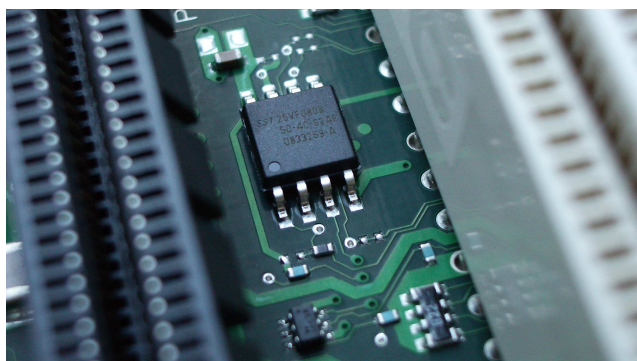
- From Floppy Disk (also Recovery BIOS possible)
- From USB Memory Stick (also Recovery BIOS possible)
- From CD/DVD Drive (by ISO-Image)
- From within Windows with the DeskFlash Utility



#### Benefits

- Flexible BIOS update process; meets requirements from different system environments
- Easy and reliable recovery process after failed and disastrous flash attempts;
- Recovery without need to remove the board or replace parts

#### BIOS Storage Device on D2831-S



## Functional Description

### Flash BIOS Update Process

As soon as a PC is powered on, a resident software called BIOS (Basic Input Output System) is executed. The BIOS is responsible for testing hardware, initializing PC components and providing interface structures to the operating system. It resides in a so-called Flash EEPROM (EEPROM = electrically erasable programmable read-only memory) on the mainboard and can be updated with a BIOS update. The BIOS for mainboards made by Fujitsu Technology Solutions is based on the Phoenix BIOS (currently "SecureCore") and is customized by the in-house BIOS development team to guarantee the perfect match between BIOS, mainboard components and operating systems.

### When should a BIOS be updated?

Fujitsu Technology Solutions provides new BIOS Versions as soon as it is required to ensure compatibility with new operating systems, new software or new hardware. Additionally, new features and functionalities can be incorporated. The BIOS should be updated whenever a problem cannot be solved with new drivers or software. New BIOS versions are provided by Fujitsu Technology Solutions for download; see download links below.

### How to update the BIOS?

The BIOS can be updated from one of several different sources (check availability for specific board versions):

- From Floppy Disk
- From USB Memory Stick
- From CD/DVD Drive (by ISO-Image)
- From within Windows with the DeskFlash Utility

### BIOS Update from Floppy Disk

A bootable BIOS Update Diskette is created and used for the update:

1. Download the appropriate update file from our website (from <http://ts.fujitsu.com/support/downloads.html>)
2. Insert a blank floppy (1,44MB) and run the update file (e.g. 2836S1R100.exe for D2831-S).
3. A bootable floppy will be created
4. Insert the floppy disk into the system which should be updated
5. Restart the PC and make sure that the system will boot from diskette (Attention: possibly, the boot order must be checked and modified)
6. The BIOS update process is done automatically
7. Follow the on-screen information if required to complete the process
8. Remove the floppy disk from the system
9. Restart the system and enter the BIOS by pressing the <F2> key to enter the BIOS Setup.
10. Select EXIT, select "Get Default Values"  
Hint: If the BIOS Setup Values have been changed by the user remember that user settings
11. Exit the BIOS Setup

**BIOS Update from USB Memory Stick (see also detailed description in Product Facts “BIOS Update”)**

A USB Memory Stick is made bootable, the BIOS file is copied to it and used for the update:

1. Before using your USB Memory Stick for a BIOS update, backup all data of the memory stick. The memory stick will be formatted and FreeDOS will be copied to the memory stick. Data previously stored on the USB Memory Stick will be lost!
2. Select and download the correct BIOS image (includes the USB Stick preparation utility) from <http://ts.fujitsu.com/support/downloads.html>
  - a. Select the motherboard type you want to update
  - b. Select Flash BIOS
  - c. Select Flash BIOS Update – USB Stick
  - d. Accept the license conditions and download the self extracting file
3. With the USB Memory Stick connected to the system, run the utility program and follow the on-screen instructions. This will create a bootable USB stick that contains the BIOS file and the flash update program.
4. Reset your system, plug in the prepared USB memory stick and boot your system from the USB stick. Check the BIOS setup first to make sure that the USB memory stick is the first boot device; alternatively the USB memory stick can be selected from the Pre-Boot-Menu by pressing the <F12> key before boot.
5. Follow the on-screen directions to complete the process

**BIOS Update from within Windows using DeskFlash**

A BIOS Update can be done directly from Windows using the Utility DeskFlash which is provided on the DVD “Drivers & Utilities”. Follow the on-screen instructions of this tool to perform the update.

**What is a Recovery BIOS?**

If a severe error such as a power failure occurs while the BIOS update is in progress, the BIOS may become corrupted and leave the system in an unbootable condition. The Fujitsu Technology Solutions Recovery BIOS technology allows the repair of the BIOS; a new BIOS can be flashed from a floppy disk or a USB Memory Stick any time, thereby restoring the functionality.

The Recovery BIOS resides in its own area in the Flash EEPROM; it is well protected from corruption and available even after a disastrous flashing attempt. If required, use the following method to recover the BIOS:

1. Turn off the computer, disconnect the A/C power cable and open the case
2. According to your type of mainboard, set jumper to: “Enable System BIOS recovery”; see table below for the jumper settings
3. Close the chassis, reconnect the A/C cable
4. Insert a BIOS Update diskette (see section “How to update the BIOS?”) or an USB Memory Stick and turn the computer on
5. Watch the sounds from the system speaker  
The BIOS recovery was successful when you hear beeps in the sequence “short-short-long-long-long” and the floppy activity light turns off. The BIOS recovery may take a few minutes.
6. Turn off the computer, disconnect the AC cable and open the chassis
7. Reset the jumpers to their original position
8. Close the chassis, reconnect the A/C cable and remove the diskette or USB Memory Stick
9. Turn on the computer and enter the BIOS-Setup. (Press the <F2> key during Boot)
10. Select “Get Default Values” in the menu EXIT
11. In the menu “EXIT”, choose “Save Changes & Exit”

The computer will now reboot and the BIOS Recovery is complete.

**Table Frontpanel Connector: Setting for Recovery BIOS**

Jumper	Signal	Control-panel Plug Connector
B	Enable System BIOS recovery	
C	Factory setting	

## Additional information and downloads

- General Information:  
[www.ts.fujitsu.com/mainboards](http://www.ts.fujitsu.com/mainboards)
- Documentation and downloads:  
<ftp://ts.fujitsu.com/pub/Mainboard-OEM-Sales/>

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