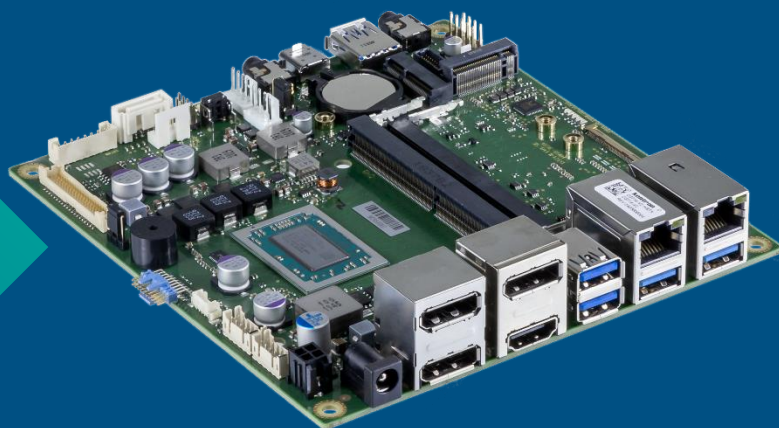


# BIOS RELEASE NOTES

AMD Emb. Ryzen™  
(R1000/V1000) mSTX  
Series

Document version: 2.1



- D3714-Rx mini-STX
- D3714-Vx mini-STX

# Revision History

Date	Document Revision	Notes
24.04.2023	V2.1	Added new BIOS version R1.7.0
02.01.2022	V2.0	New document layout. Document splitted for D3713 and D3714 boards. Added new BIOS version R1.6.0.

Date	BIOS Version	Notes
07.10.2022	R1.5.0	Added note regarding Recovery handling.
04.08.2022	R1.5.0	Updated "BIOS update Options" – BIOS update error handling
13.06.2022	R1.5.0	Initial mass production release (D3714-V, -R). Updated document with D3714 related comments. Added "BIOS update error handling"

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# 1 General Notes

## 1.1 Released OS versions and drivers

- ▶ MS Windows 10 (64bit)

Released drivers:

[https://ftp.kontron.com/main.html?download&weblink=3cb83a90a99c51160d2aa1f1f34cc340&subfolder=Products/Motherboards/Industrial/D3714\\_D3724\\_Mini-STX/&realfilename=Drivers%5FRYZ%2Ehtml](https://ftp.kontron.com/main.html?download&weblink=3cb83a90a99c51160d2aa1f1f34cc340&subfolder=Products/Motherboards/Industrial/D3714_D3724_Mini-STX/&realfilename=Drivers%5FRYZ%2Ehtml)

## 1.2 Datasheets

- ▶ D3714-Rx and D3714-Vx:

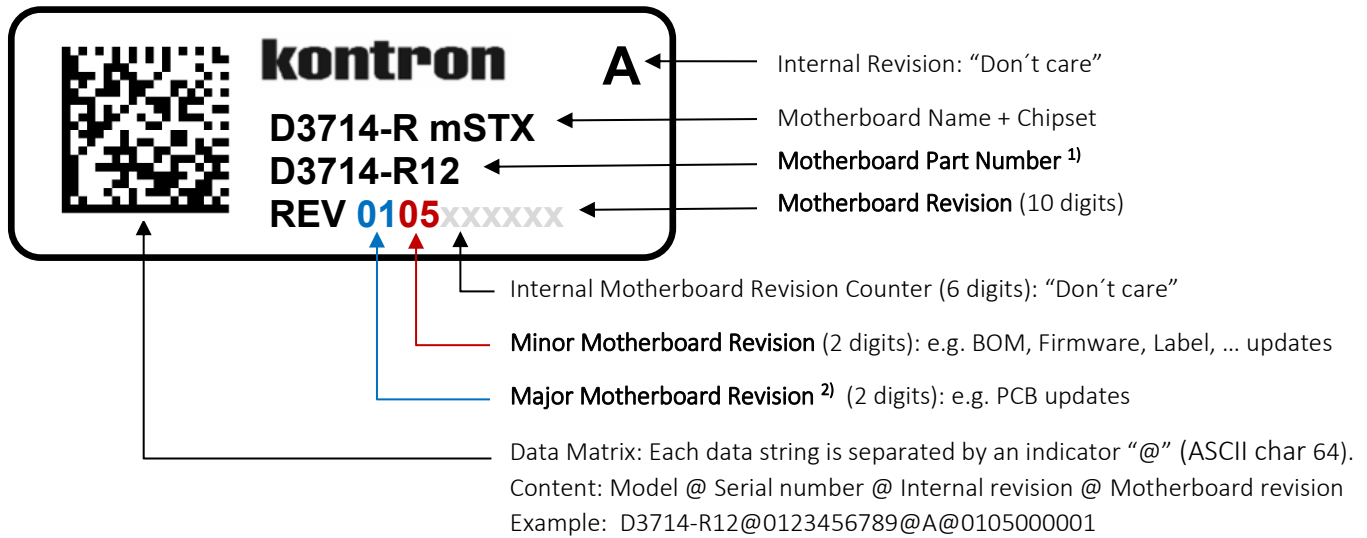
[https://ftp.kontron.com/main.html?download&weblink=3cb83a90a99c51160d2aa1f1f34cc340&subfolder=Products/Motherboards/Industrial/D3714\\_D3724\\_Mini-STX//Documentation&realfilename=DS%5FD3714%5FmSTX%2Epdf](https://ftp.kontron.com/main.html?download&weblink=3cb83a90a99c51160d2aa1f1f34cc340&subfolder=Products/Motherboards/Industrial/D3714_D3724_Mini-STX//Documentation&realfilename=DS%5FD3714%5FmSTX%2Epdf)

## 1.3 Product change notification

Product related changes communicated through “Product Change Notification” (PCN) on FTP server:

[https://ftp.kontron.com/main.html?download&weblink=3cb83a90a99c51160d2aa1f1f34cc340&subfolder=Products/Motherboards/Industrial/D3714\\_D3724\\_Mini-STX//PCN](https://ftp.kontron.com/main.html?download&weblink=3cb83a90a99c51160d2aa1f1f34cc340&subfolder=Products/Motherboards/Industrial/D3714_D3724_Mini-STX//PCN)

## 1.4 Motherboard labelling and revision scheme



### 1) Motherboard part number example:

- ▶ D3714-R12:
  - **D37**14-R12: Kontron boards family (technology based family)
  - D37**14**-R12: Formfactor and board variant
  - D3714-R**12**: Number for derivate of board variant
  - D3714-R**12**: PCB version (Increases, if major motherboard revision is updated)

2) Major revision is always "01" for first release to manufacturing, even "PCB version" on the revision label (**R12**) indicates that this is already the second PCB version.

For evaluation/pre-production motherboards the major revision is marked with alphabetic letters (0A, 0B, ...).

Example:

Development revision of D3714-R12 motherboard: **0B**05xxxxxx

Initial released motherboard revision: **01**05xxxxxx

## 2 BIOS Update Options

### 2.1 EFI Flash Update

Use ZIP-files for EFI-based BIOS Update

1. Copy all content of *Dxxxx-Yzz.R1.\*.0.zip* to any FAT32 formatted USB drive/stick:
2. Switch on system and boot to UEFI shell. Included autostart script (startup.nsh) will automatically select the BIOS update stick and starts the BIOS update.
3. Follow the screen instructions.

Please refer to *BIOS-Flash-Tools documentation* for detailed information:

[Kontron FTP \(HTTP\): BIOS-Flash-Tools](#)

Note: AMD Ryzen D371x BIOS does not support FUJITSU Update Utility (via Boot menu entry).

### 2.2 Windows Flash Update

Use Dxxx-xyz.DFI.\$xe for Windows-based BIOS update

→ Rename file to \*.exe after download and run exe-file from MS Windows

### 2.3 BIOS Recovery

**Note:** BIOS Recovery support on D371x boards only supported from SATA drive.

Instruction how to recover BIOS:

- Copy the complete content of BIOS ZIP package (including D\*.ROM, D\*.UPD, efiflash.efi, startup.nsh) to a FAT32 formatted SATA drive.
- Connect SATA drive to the system and change connect jumper to “Recovery” position (see [BIOS FlashTools HowTo](#) or TechNotes for details)
- Disconnect all other drives. Power On the system. (If removing drives is not possible, select the connected SATA recovery media via BootMenu F12).
- Instead of loading the BIOS code from NVRAM chip, system boots from ROM file content. Afterwards EFI shell is starting.
- After EFI shell is started, startup.nsh script automatically detect the BIOS update file (D\*.UPD) and starts Efiflash.efi. Otherwise manually run Efiflash.efi /AUTO to update the BIOS.
  - o **Hint:** please extend startup.nsh flash parameter with “/runtime /noreset” as mentioned in next chapter “BIOS update error handling” to ensure that BIOS recovery update gets executed in any circumstances.
- Wait for update process finished. Disconnect DC-power, remove the jumper and recovery drive.
- Reconnect all drives and power on the system. Done.

## 2.4 BIOS update error handling

If you discover any problems after a BIOS flash please try if “Load Optimized Default Values” (F3) in BIOS Setup solves the problem.

Sometime BIOS update via “Capsule Flash” is not working properly on D371x boards.

Capsule process in POST started but exited without counting percentages to 100%. You will hear four short beeps at the beginning of the update (instead of two).

Checking the last update state with Eflash.efi /LCS returns “Flash Image Signature Error”.

Workaround to update BIOS:

### 2.4.1 EFI Flash Update

- Prepare USB FAT32 stick as mentioned in “EFI Flash Update”
- Boot to UEFI shell and abort the startup script
- Run: “**Eflash.efi /auto /runtime /noreset**” and confirm the questions with “y”
  - o Please use /runtime always with /noreset!
- **Do not touch or power off the system during BIOS update!**
- After BIOS update finished please restart the system with “**reset -c**” (power cycle reset).

### 2.4.2 Windows Flash Update

- Download BIOS update package from FTP server and unzip the content to the file system.
- Edit the flash script \Windows\DeskFlash64Bit\_UPD.bat script and add “/FORCERUNTIME” parameter to the update command in line 12:
  - o **set DESKFLASHARGS=/UPD /LF /NRB /W /OV /FORCERUNTIME /WD="%~dp0" /O="D3714-Rxx.R1.5.0.UPD.bup"**
- Execute “DeskFlash64Bit\_UPD.bat” as usual and follow the screen instructions.
- **Do not touch or power off the system during BIOS update!**
- After BIOS update has finished please **shutdown the system!** A simple reboot will lead to a black screen. The BIOS needs a clean shutdown from OS in order to re-initialise correctly after BIOS update.

## 2.5 Additional information

If you discover error messages like “Hardware not supported”, please check [Bios-Flash-Tools HowTo PDF](#), chapter “System Requirements”.

## 2.6 Modify BIOS Setup Settings and Defaults (Tool GabiSettings.efi, BIOSSET)

BIOS settings can be modified by the Windows and Linux tool BIOSSET (Modify BIOS Setup Settings and Defaults). See BIOSSET tool help (parameter -h) for further details.

For EFI shell environment, you can use GabiSettings.efi tool.

For more details about these tools, please have a look in our *Manufacturing-Tools HowTo* document: [Kontron FTP \(HTTP\): Common-Mainboard-Tools](#)

## 2.7 What's about DOS support and where are the DOS tools?

There is no “Legacy” OS support (CSM mode) implemented anymore. So only usage of UEFI operating systems is possible.

We provide tools and documentation for Windows, Linux and EFI:

[Kontron FTP \(HTTP\): Common-Mainboard-Tools](#)

## 2.8 Note: Customer Service Release BIOS

Besides the released BIOS versions there may be additional BIOS versions

(Customer Service Release BIOS = CSR BIOS) that solve specific customer problems.

Please note: These versions are not pre-installed ex factory.



## 3 Released BIOS versions

### 3.1 UEFI core version

- ▶ AMI Aptio V5.0.0.17

### 3.2 BIOS Download

The released BIOS version is available here:

- ▶ D3714-R: [Kontron FTP \(HTTP\): BIOS\\_D3714/D3714-R](#)
- ▶ D3714-V: [Kontron FTP \(HTTP\): BIOS\\_D3714/D3714-V](#)

### 3.3 BIOS R1.5.0

#### First released mass production BIOS for D3714-R and D3714-V

- Several bug fixes compared to latest BIOS evaluation version.
- CPU microcode (0x08101016) for AMD FP5 RV-B0
- [D3714-R2 only] Fixed: Unsupported options for “Active Processor Cores” shown in BIOS.
- [D3714 only] Fixed: I2C on feature connector not usable.
  - Added BIOS option for Linux support: Change [Advanced > Onboard Devices > “I2C Bus 1”] from “Auto” to “Enable” in order to enable I2C bus in Linux.
  - SetupItemID “I2C Bus 1” = 0x6404. Supported values: 0x1, 0x2, 0x3 (Dis., En., Auto)
- Fixed: GPIO expander PCA9554A not accessible from Linux OS.
  - Added BIOS option for Linux support: Change [Advanced > Onboard Devices > “I2C Bus 3”] from “Auto” to “Enable” in order to enable GPIO expander in Linux.
  - SetupItemID “I2C Bus 3” = 0x6406. Supported values: 0x1, 0x2, 0x3 (Dis., En., Auto)
  - Info: GPIO access via BMCAPi in Windows is requires “I2C Bus 3” = “Auto”.

#### Known Issues and Limitations:

- BIOS recovery only possible via SATA drive. Recovery via USB stick not yet supported.
- Feature “Keyboard Wake” is not working from S5 / G0 power state. This is a technology limitation of AMD Embedded SoC.

### 3.4 BIOS R1.6.0

**Note:** This BIOS version was only released for D3714-R1 boards

#### Changes vs. previous released BIOS

- [D3714-R1 only] Fixed: Bad performance in OS. Frequency drops down to 400 Mhz.
  - Only with HW revision "Rev.0106" or above.
- Fixed: Removed unsupported "Housing Monitoring" BIOS option.
- Fixed: LVDS Configuration options not protected by BIOS ADMIN password.
- Fixed: "Force LAN Boot after WoL" not working after recovery from "AC fail".
- Feature: Add memory details to [BIOS > Main > System Information]

#### Known Issues and Limitations:

- BIOS recovery only possible via SATA drive. Recovery via USB stick not yet supported.
- Feature "Keyboard Wake" is not working from S5 / G0 power state. This is a technology limitation of AMD Embedded SoC.

### 3.5 BIOS R1.7.0 [new V2.1]

#### Changes vs. previous released BIOS

- Fixed: Optimized BIOS update handling
- Fixed: Sporadically system hangs with black screen after reboot.
- Fixed: Multiple issues with the Watchdog timeout available in BIOS setup.
- Fixed: When “Hyper-V” is enabled in Windows Features, the system enters Black Screen after reboot.
- Fixed: OemIdent corrupts link to SMBIOS Type 3 within Type 2 structure.
- Fixed: PState1 and PState2 setting in “PPC Adjustment” not working. PState0 is always active
- Fixed: BIOS setting “UMA Frame buffer size” has no effect on graphics memory in OS.
- Fixed: [Power > Power Failure Recovery] -> “Previous state” and “Always Off” option not working properly when set in BIOS.
- Fixed: Disabled “Wake on LAN” not working for Realtek LAN controller.
- Feature: Added new SetupItemIDs for several BIOS options and updated D3714\*SetupItemIDs.txt file.
  - Please use at least GabiSettings-EFI\_V0.14\_KEU to support new ItemIDs > 0x6400.
- Feature: Updated Silent boot logo to new Kontron logo 2023. The logo will not be replaced by standard BIOS update and is only available ex-factory on newly produced motherboards with this BIOS version. The logo for manual update is available on FTP server: [Kontron\\_QuietBootBIOSLogo.zip](#)

#### Known Issues and Limitations:

- BIOS recovery only possible via SATA drive. Recovery via USB stick not yet supported.
- Feature “Keyboard Wake” is not working from S5 / G0 power state. This is a technology limitation of AMD Embedded SoC.



## About Kontron

Kontron is a global leader in IoT/Embedded Computing Technology (ECT). Kontron offers individual solutions in the areas of Internet of Things (IoT) and Industry 4.0 through a combined portfolio of hardware, software and services. With its standard and customized products based on highly reliable state-of-the-art technologies, Kontron provides secure and innovative applications for a wide variety of industries. As a result, customers benefit from accelerated time-to-market, lower total cost of ownership, extended product lifecycles and the best fully integrated applications.

For more information, please visit: [www.kontron.com](http://www.kontron.com)



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