Bios Release Document
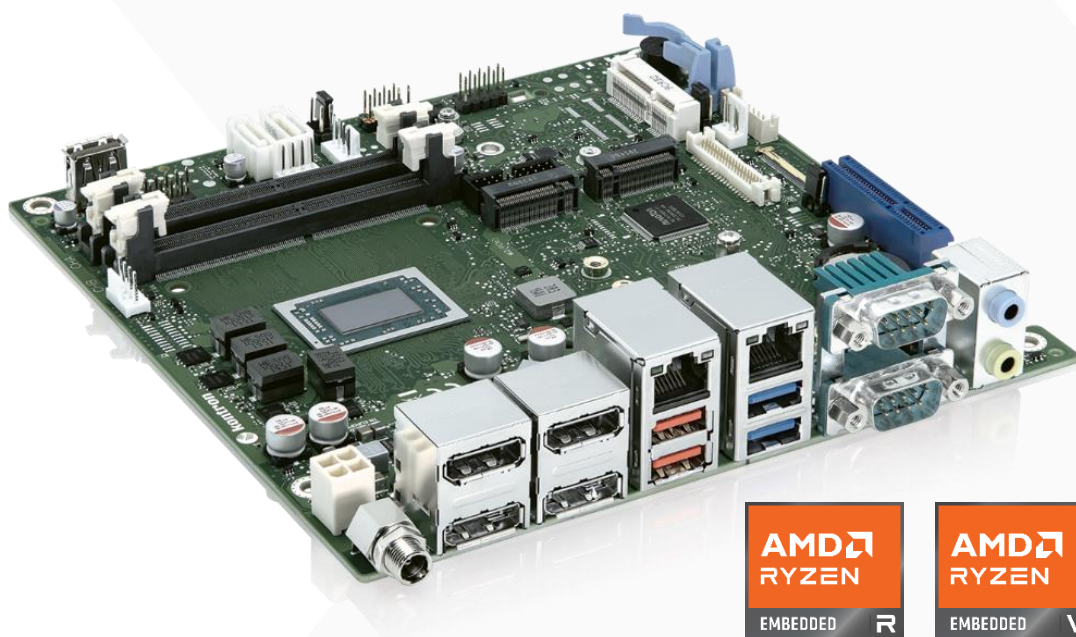
AMD Emb. Ryzen™ (R1000/V1000) mITX Series

mITX series

> D3713-Rx mini-ITX
> D3713-Vx mini-ITX

kontron

Revision History

Date	Document Revision	Notes
2023-09-11	V2.3	Updated document layout to fit to latest Kontron design guidelines. Added new BIOS version R1.8.0
2023-03-02	V2.2	Updated Migration workflow chapter
2023-03-02	V2.1	Added new BIOS version R1.7.0
2023-01-02	V2.0	New document layout. Document splitted for D3713 and D3714 boards. Updated BIOS version information in Migration workflow chapter. Corrected FTP download links.

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"
27.01.2022	R1.5.0	Added new BIOS version, Updated "BIOS Recovery" and "BIOS update options" section
21.10.2021	R1.3.0	Updated "Known Issues and Limitations"
01.09.2021	R1.3.0	Updated "Known Issues and Limitations"
09.08.2021	R1.3.0	Updated chapter "BIOS update options" – Removed "FUJITSU update utility", update in EFI shell possible via efiflash.efi.
02.07.2021	R1.3.0	Updated R1.3 with note: Added "Target directory requirements"
28.06.2021	R1.3.0	Added note regarding FUJ0430 driver for SDT64.exe tool (Returncode 48)
23.06.2021	R1.3.0	Added new BIOS Version, Updated tool support
23.02.2021	R1.2.0	Added new BIOS Version, Updated tool support
14.04.2021	R1.1.0	Updated Known Restrictions and Limitations
20.11.2020	R1.1.0	Added new BIOS version
19.10.2020	R1.0.0	Initial mass production release (D3713-V, -R)

Content

1   General Notes

1.1   Released OS versions and drivers

❯   MS Windows 10 (64bit)

1.2   Released drivers

An overview about released drivers for AMD Ryzen Embedded platform is available on FTP server. Just click on the links in the HTML file to download the driver packages.

https://ftp.kontron.com/main.html?download&weblink=3cb83a90a99c51160d2aa1f1f34cc340&subfolder=Products/Motherboards/Industrial/D3713_D3723_Mini-ITX/&realfilename=Drivers%5FRYZ%2Ehtml

1.3   Datasheets

❯   D3713-Rx and D3713-Vx:
❯   https://ftp.kontron.com/main.html?download&weblink=3cb83a90a99c51160d2aa1f1f34cc340&subfolder=Products/Motherboards/Industrial/D3713_D3723_Mini-ITX//Documentation&realfilename=DS%5FD3713%5FmITX%2Epdf

1.4   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/D3713_D3723_Mini-ITX//PCN

2 BIOS Update Options

2.1 Important information regarding tool support (Deskflash, Biosset, Efiflash, …)

From BIOS R1.3.0 up we re-introduced our full BIOS-Flash- and Manufacturingtools support to AMD Emb. Ryzen Platform.

D3713-R/V motherboards with BIOS R1.3.0 exFactory will have the full feature tool support without any special handling. Continue reading chapter "**2.3 BIOS Update Options**".

For boards delivered in the past with BIOS R1.0.0 or R1.1.0 a special update handling is required due to some major BIOS flash layout changes. Continue reading chapter "**2.2 BIOS Migration Workflow**".

Once R1.3.0 is installed on the system, you won't be able to flash the BIOS back to any previous released BIOS version!

Always use the latest available tools from Kontron FTP server and check the Readme files for more information about supported tools and versions.

2.2 BIOS Migration Workflow (BIOS update from R1.0.0 / R1.1.0 to ≥ R1.3.0)

Important: Please read chapter "1.2 Important Information regarding tool support." first.

> Do not use the migration workflow on D3713-V/R motherboards, which have already BIOS version R1.2.0 or later installed! Continue reading chapter "2.3 BIOS Update Options".

The BIOS Flash- and Manufacturing tools support is based on BIOS components and special BIOS layout structure, which cannot be added via AfuFlash BIOS update. Therefore, a special update routine is necessary to add all required major BIOS changes to the flash chip to be able to use our standard Flash tools (Deskflash, Efiflash) from R1.3.0 BIOS and above.

Attention: All **BIOS settings** and customizations get lost during the BIOS migration workflow. Motherboard relevant data (e.g. serial number) will be backed up and recovered during the procedure. Always execute all below mentioned steps without deleting or manipulating any files within the unzipped migration package.

- **Step 1**: Download and unzip D3713-*xx.R1.3.0.MIGRATION.zip from FTP BIOS folder (Section 1.5) and navigate into extracted folder on the target system. Regarding the target directory, please see the additional hints below.
- **Step 2**: Right-click to "update-win.bat" and select "Run as Administrator" to initiate a runtime flash with AFU (AMI Firmware Update Utility) to R1.2.2.Migration
  - o Update process starts during Windows runtime.
  - o After the process has finished, the system reboots automatically.
  - o Do not interact with the system while flash update is in process.
- **Step 3**: After the reboot and R1.2.2.Migration BIOS was flashed successful, right-click to "update-win.bat" again and select "Run as Administrator" to initiate the final capsule BIOS Update to R1.3.0
  - o In step 3 the BIOS update will be initialised via Deskflash flash tool and reboots automatically to BIOS POST flash.
    - ▪ Note: If the update during reboot fails, do not re-run the migration script. Use the standard update script of the target version, you want to use instead (2.3 BIOS Update Options). Check also BIOS update error handling.
  - o After the final reboot, the system is ready to use. Flash and Manufacturing tools are now supported as you are used to.
- **Step 4**: Optional: Right-click to "update-win.bat" and select "Run as Administrator" to initiate a check if BIOS Update procedure to R1.3.0 was successful.

Target directory requirements:
- ➢ Ideally extract the migration package into the root dir or keep the path as short as possible.
- ➢ There must not be any space character in the path. Otherwise the script will close without any message (command line error).
- ➢ If the script is located on a network share, please ensure not to access the script from multiple endpoints. Otherwise SDT.scd file gets corrupted. Make a local copy instead.

Hints:
- ➢ All relevant BIOS settings, SystemData, ... have to be adjusted again.
- ➢ **Do not copy** the temporary sdt.scd file to any other system. There are unique data included for the specific motherboard running the script on!
- ➢ **FUJ0430** device driver is necessary for SDT64.exe tool. SDT tool is responsible for board data transfer. Without the device driver, SDT64.exe stops working with error code "48 (0x30) - *No GABI UEFI Service present"*.
- ➢ Once Bios R1.2.2 is running further BIOS Updates can only be done with EfiFlash or DeskFlash.

2.3 BIOS Update (BIOS R1.3.0 and later)

Important: Please read chapter "1.2 Important Information regarding tool support." first.

2.3.1 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).

2.3.2 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

2.3.3 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 [updated V2.3]

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

Only use power supply with sufficient power. Using underrated DC-PSU can cause black screen (graphic is disabled, but BIOS update is executed in the background) during update.

Sometime BIOS update via "Capsule Flash" is not working properly on D371x boards with BIOS < R1.8.0.
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 Efiflash.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: "`Efiflash.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 has 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="D3713-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 Deskflash for Windows / Linux

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:

❯ D3713-R: Kontron FTP (HTTP): BIOS_D3713/D3713-R
❯ D3713-V: Kontron FTP (HTTP): BIOS_D3713/D3713-V

3.3 BIOS R1.0.0

First released mass production BIOS

- Several bug fixes compared to latest BIOS evaluation version.
- CPU microcode (0x08101016) for AMD FP5 RV-B0
- Feature: BIOS setup option "Passive Cooling" added. Please see help text in BIOS for details.

Known Issues and Limitations:

- Info: Access to BIOS "admin" options "AMD CBS" and "AMD PBS" in [Advanced] blocked to prevent unwanted BIOS settings changes, which can affect stable operation of the system. Menu text of both entries is still visible, but empty and not accessible.
- FAN characteristics will be improved with an upcoming BIOS version.
- Recovery BIOS support will be added with an upcoming BIOS version.
- Customer could hear a "Plop" noise that occurs after a finished playback. This is related to the standby-procedure of the RTL ALC Audio Chip. This harmless issue will be fixed with an upcoming driver.
- DisplayPort (DPP4) Limited Feature Support: The current HW version of D3713 (Rx**1** / Vx**1**) provides two-lane support only. Some DisplayPort monitors on DPP4 may not be detected sporadically.
- Limited support for D3352-A PCIe-M.2 carrier board with some specific NVMe M.2 modules. Problems during power state change can occur (e.g. Windows shutdown).

3.4 BIOS R1.1.0

Changes vs. previous released BIOS

> Updated fan characteristics to V4.05

> Fixed: Fan control is not working properly.

> Fixed: Delay between Shutdown Request and Power Off too long

> Fixed: Hang up of the USB 2.0 Hub after an overcurrent condition

> Fixed: Force LAN Boot option (after WOL event) is not working

> Fixed: Wrong Board WGS ID reporting in BIOS Setup

Known Issues and Limitations:

> Info: Access to BIOS "admin" options "AMD CBS" and "AMD PBS" in [Advanced] blocked to prevent unwanted BIOS settings changes, which can affect stable operation of the system. Menu text of both entries is still visible, but empty and not accessible.

> Recovery BIOS support will be added with an upcoming BIOS version.

> Customer could hear a "Plop" noise that occurs after a finished playback. This is related to the standby-procedure of the RTL ALC Audio Chip. This harmless issue will be fixed with an upcoming driver.

> DisplayPort (DPP4) Limited Feature Support: The current HW version of D3713 (Rx**1** / Vx**1**) provides two-lane support only. Some DisplayPort monitors on DPP4 may not be detected sporadically.

> Limited support for D3352-A PCIe-M.2 carrier board with some specific NVMe M.2 modules. Problems during power state change can occur (e.g. Windows shutdown).

> Disabled LAN device is still visible in the operating system.

> Some boot devices will not show in Boot Menu (F12), but system will boot without any issues.

> Bios Option "Power Failure Recovery" = "Disabled" currently not working.

> o As a workaround, you can use "Power Off" instead. For more details please have a look into the BIOS manual on FTP server.

3.5 BIOS R1.2.0

Changes vs. previous released BIOS

❯ Added support for new D3713-R1 variant.

❯ Updated fan characteristics to V4.06

❯ Fixed: Hotplug on DPP4 not working properly [HW revision D3713-Rx**2** / -Vx**2** mandatory]

❯ Fixed: Recognition/Boot problems with 2nd NVME SSD.

❯ Fixed: HDMI Display detected as DVI instead of HDMI.

❯ Fixed: HD Audio Frontpanel detection not working properly.

❯ Fixed: Audio "Plop" noise with connected REAR speakers.

❯ Fixed: Some boot devices will not show in Boot Menu (F12).

❯ Fixed: Disabled LAN device is still visible in the operating system.

❯ Fixed: Renamed options of "LVDS Dual Channel Mode" to "Auto"/"Enabled"

❯ Feature: BIOS recovery support (via SATA device).

❯ Feature: Enable SoC watchdog in BIOS to support new SystemGuard V5 tool.

❯ Feature: Add BSOC control for "CPU TDP" and "Passive Cooling". System builders can now grey out these options, to prevent unwanted user changes. See TechNotes for more details.

❯ Feature: Add support for BIOS settings tools – EFI Shell (GabiSettings.efi) only. Biosset support is still limited (only read access to BIOS settings, writing them not yet possible).

❯ Feature: Re-Enable internal graphics if no graphics controller found and internal graphics device was disabled before.

❯ Removed: BIOS admin options "AMD CBS" and "AMD PBS" from BIOS menu.

❯ Removed: Item "Disabled" from "Power Failure Recovery" – not supported by D3713. Use "Power Off" instead.

Known Issues and Limitations:

❯ BIOS recovery only possible via SATA drive. Recovery via USB stick not yet supported.

❯ BIOS settings can only be changed in EFI shell, using GabiSettings.efi (change active + default values, export and import settings in text format).

❯ HW revision D3713-Rx**1** / -Vx**1**: Limited feature support for DisplayPort (DPP4): Two-lane support only. Some DisplayPort monitors on DPP4 might not be detected sporadically.

❯ Limited support for D3352-A PCIe-M.2 carrier board with some specific NVMe M.2 modules. Problems during power state change can occur (e.g. Windows shutdown).

❯ BIOS option "Allow Firmware Rollback" is currently not working. Kontron flash tool support necessary.

3.6 BIOS R1.3.0

> For updating boards to R1.3.0 BIOS carefully read section 1.3 in this document first!

Changes vs. previous released BIOS

> ❯ Fixed: NVMe speed issues on D3713-Vx.

> ❯ Fixed: Scheduled wake from hibernate (S4) is not working

> ❯ Fixed: BIOS option [CPU Conf. > "Active Processor Cores"] core count wrong. [**D3713-*1 only**]

> ❯ Fixed: BIOS option [CPU Conf. > "Simultaneous Multithreading"] shown, even board does not support it [**D3713-R1 only**]

> ❯ Fixed: Status of NVMe drive is not shown in [Drive Conf. > Offboard Controller Configuration]

> ❯ Feature: Updated integrated EDID panel data (Panel option 1-9). Adjustments to Kontron brand. [**Only for boards with R1.3.0 delivered ex-factory**]

> ❯ Feature: Added BIOS option to change between fTPM (AMD) and dTPM (external header)

> ❯ Feature: Add support for BIOS Flash API "GABI Flash Update"
> - o Support for Kontron flash tools Deskflash / Efiflash
> - o Full support for Biosset / GabiSettings.efi
> - o Support for BIOS quiet boot logo change
> - o Support for BIOS option "System Firmware Rollback"

> ❯ Feature: Updated available BIOS settings IDs ("SetupItemID") for Biosset/Gabisettings.

> ❯ Removed: Support for AMI / 3rd party flash utilities (AfuWin, AfuEfi).

> ❯ Removed: BIOS option for COM port IRQ selection.
> - o Reason: Windows doesn't care about these BIOS options.

Known Issues and Limitations:

> ❯ **BIOS downgrade to a version prior R1.3.0 is blocked!**

> ❯ BIOS recovery only possible via SATA drive. Recovery via USB stick not yet supported.

> ❯ HW revision D3713-Rx**1** / -Vx**1**: Limited feature support for DisplayPort (DPP4): Two-lane support only. Some DisplayPort monitors on DPP4 might not be detected sporadically.

> ❯ Limited support for D3352-A PCIe-M.2 carrier board with some specific NVMe M.2 modules. Problems during power state change can occur (e.g. Windows shutdown).

> ❯ Feature "Keyboard Wake" is not working from S5 / G0 power state.

> ❯ Realtek LAN Controller (LAN1) sporadically disappears in BIOS after cycled "warm" boot.

3.7 BIOS R1.5.0

Changes vs. previous released BIOS

❯ Fixed: "Power Failure Recovery" = "Always Off" not working if a power loss happens during WoL wakeup boot.

❯ Fixed: Board cannot be switched off with "Power Failure Recovery" = "Always Off" and "Power Button" = "Disabled".

❯ Fixed: GPIO expander PCA9554A not accessible from Linux OS.

  o Added new BIOS option for Linux support: Change [Advanced > Onboard Devices > "I2C Bus 3"] from "Auto" to "Enable" in order to enable GPIO expander in Linux.

  o SetupItemID "I2C Bus 3" = 0x6406. Supported values: 0x1, 0x2, 0x3 (Dis., En., Auto)

  o Info: GPIO access via BMCAPI in Windows is requires "I2C Bus 3" = "Auto".

❯ Fixed: Intrusion switch not working in Windows BMCAPI*. **(BMCAPI V5 required**)

❯ Fixed: Detection errors of LAN1 (Realtek) and LAN2 (i210) under specific circumstances

❯ Fixed: Some settings cannot be changed by tool (Biosset, GabiSettings.efi):

  o "TDP Limitation", "SATA Controller", "Serial Port 1….4"

❯ Feature: Changed display output priority. With this change, customers are able to have a "fall-back" for LVDS only systems, if LVDS output is broken. See TechNotes for details.

❯ Feature: BIOS update package updated. Now includes a reduced EFI shell and BIOS update script.

Known Issues and Limitations:

❯ BIOS downgrade to a version prior R1.3.0 is blocked!

❯ BIOS recovery only possible via SATA drive. Recovery via USB stick not yet supported.

❯ HW revision D3713-Rx**1 / -**Vx**1**: Limited feature support for DisplayPort (DPP4): Two-lane support only. Some DisplayPort monitors on DPP4 might not be detected sporadically.

❯ Limited support for D3352-A PCIe-M.2 carrier board with some specific NVMe M.2 modules. Problems during power state change can occur (e.g. Windows shutdown).

❯ Feature "Keyboard Wake" is not working from S5 / G0 power state. This is a technology limitation of AMD Embedded SoC.

❯ Additional I2C/SMBUS on FeatureConnector (pin17/19) not accessible from Linux OS.

❯ [D3713-R2/R4 only] Unsupported options for "Active Processor Cores" shown in BIOS.

3.8 BIOS R1.7.0

Changes vs. previous released BIOS

› Fixed: Optimized BIOS update handling

› Fixed: COM port communication errors if multiple COM ports used in parallel.

› Fixed: Multiple issues with the Watchdog timeout available in BIOS setup.

› Fixed: PState1 and PState2 setting in "PPC Adjustment" not working. PState0 is always active.

› Fixed: When "Hyper-V" is enabled in Windows Features, the system enters Black Screen after reboot.

› Fixed: "LVDS adjusted parameters" EDID entry does not disappear after LVDS data deletion.

› Fixed: LVDS configuration option can be changed with User privileges. Changed to "Admin".

› Fixed: OemIdent corrupts link to SMBIOS Type 3 within Type 2 structure.

› Fixed: Sporadically black screen on LVDS after warm-reboot from OS. EDID data cannot read from RTD213x eDP/LVDS converter.

› Fixed: Shutdown (S5 clean shutdown) from OS sporadically failed with Intel WifiCards connected (AC9260, AX200).

› Fixed: BIOS setting "UMA Frame buffer size" has no effect on graphics memory in OS.

› Fixed: [**D3713-R2/R4 only**] Unsupported options for "Active Processor Cores" shown in BIOS.

› Fixed: [Power > Power Failure Recovery] -> "Previous state" option not working properly when set in BIOS. If system is in OS when power fails, the system remains off after DC power returned.

› Fixed: I2C on feature connector not accessible from Linux OS.

  o 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.

  o SetupItemID "I2C Bus 1" = 0x6404. Supported values: 0x1, 0x2, 0x3 (Dis., En., Auto)

› Feature: Add new BIOS setup option to configure internal COM3 and COM4 port

  o [Serial Port [3|4] configuration > "Serial Port"]: "Disabled", "Std IO", "Memory IO"

  o [Serial Port [3|4] configuration > "UART Driver Type"]: "AMD UART Driver", "AMD Serial Driver"

  o A detailed description regarding the different configuration and their relation to OS function is available on FTP server: D37x3_COM-Port_Configuration.pdf

› Feature: Added new SetupItemIDs for several BIOS options and updated D3713*SetupItemIDs.txt file.

  o Please use at least GabiSettings-EFI_V0.14_KEU to support new ItemIDs > 0x6400.

› Feature: Add Memory details to "System Information" in BIOS.

› 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 (R1.7.0):

❯ **BIOS downgrade to a version prior R1.3.0 is blocked!**

❯ BIOS recovery only possible via SATA drive. Recovery via USB stick not yet supported.

❯ HW revision D3713-Rx**1** / -Vx**1**: Limited feature support for DisplayPort (DPP4): Two-lane support only. Some DisplayPort monitors on DPP4 might not be detected sporadically.

❯ Limited support for D3352-A PCIe-M.2 carrier board with some specific NVMe M.2 modules. Problems during power state change can occur (e.g. Windows shutdown).

❯ Feature "Keyboard Wake" is not working from S5 / G0 power state. This is a technology limitation of AMD Embedded SoC.

❯ Black screen during reboot (warm reset) may occur in very rare circumstances in high temperature environments (> 40°C).

3.9 BIOS R1.8.0 [<mark>new V2.3</mark>]

Changes vs. previous released BIOS

❯ Fixed: Sporadically error message „fTPM NV corrupted" during POST reboot, after BIOS update or creating/restoring settings archives (NVUX, SCD).

❯ Fixed: Forced LAN boot after WoL Event not working directly after AC-Fail/Resume.

❯ Fixed: System hang with black screen after multiple reboots (e.g. during reboot tests).

❯ Fixed: Single Thread Indirect Branch Predictors (STIBP) BIOS option accessible with user right. Admin access is now required.

❯ Fixed: [D3713-V2/V4 only] Simultaneous Multithreading BIOS option not available.

❯ Fixed: [D3713-V3 only] System stops working if "Active Processor Cores" or "Simultaneous Multithreading" BIOS option is changed.

❯ Fixed: [D3713-V2/R1 only] Changing CPU TDP option in BIOS not working.

❯ Fixed: Changing LVDS Backlight brightness value in BIOS not working.

❯ Fixed: Boot Removable Media setting in BIOS not working as expected.

❯ Fixed: Package data loss on COM2 (RS232).

❯ Fixed: BIOS capsule update not working.

  o Important: The fix is only working on future BIOS updates with R1.8.0 or later as a starting base. For updating BIOS ≤ R1.7.0 to R1.8.0 the "runtime" workaround is still necessary.

❯ Feature: Updated SetupItemID list (e.g. added option for "RS485 half duplex") for Gabisettings/Biosset. Some items in BIOS could not be changed by tool.

❯ Feature: Corrected memory information display in BIOS setup. Memory information is now available in [Main > System Information].

Known Issues and Limitations (R1.8.0):

❯ BIOS downgrade to a version prior R1.3.0 is blocked!

❯ BIOS recovery only possible via SATA drive. Recovery via USB stick not yet supported.

❯ HW revision D3713-Rx1 / -Vx1: Limited feature support for DisplayPort (DPP4): Two-lane support only. Some DisplayPort monitors on DPP4 might not be detected sporadically.

❯ Limited support for D3352-A PCIe-M.2 carrier board with some specific NVMe M.2 modules. Problems during power state change can occur (e.g. Windows shutdown).

❯ Feature "Keyboard Wake" is not working from S5 / G0 power state. This is a technology limitation of AMD Embedded SoC.

❯ COM2 RS-422/485: Hardware or software connected to COM2 RS422/485 must be able to handle package loss. No hardware-handshake support.

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.

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