# Video Recorder DIVAR network 2000/3000/5000 recorder

## 1 General Notices

**Notice!**
Bosch strongly recommends upgrading to the latest firmware for the best possible functionality, compatibility, performance and security.
Check http://downloadstore.boschsecurity.com/ regularly to see if there is a new firmware version available.

**Notice!**
Bosch strongly recommends to use https (instead of http) using your own officially signed certificates for secure communication.

**Notice!**
For the latest version of the Installation and Operating manual, please check www.boschsecurity.com.

## 2 DIVAR network 3000/5000 firmware v3.3.0 (2021-11-17)

File name: DIVAR_network_V3.3.0.R.2021117.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000/5000 recorder 32 IP channels with no or 16PoE

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- BMVS 11.0
- iPhone phone APP DIVAR Mobile Viewer v3.3.0
- Android phone APP DIVAR Mobile Viewer v3.3.0
- Bosch player v3.50.0
- Browser support: IE11
- Bosch camera FW 7.81 is recommended, though (limited) support is provided for Bosch cameras starting from the CPP3 platform running FW version 5.74 or later

Security Systems

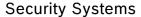| Product | Document type | Release # | SAP/Doc number |
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- Bosch CPP13 Inteox (Android) and CPP14 (Linux) cameras do not support the full integration through the Bosch protocol. These cameras can be added to the recorder through ONVIF with reduced functionality.

**This release includes the following new features/improvements:**
- ONVIF fallback for Bosch cameras
    - o Default connection for Bosch cameras is the Bosch protocol (RCP+)
    - o Setting is added to select ONVIF protocol for Bosch cameras
    - o ONVIF can be used for new Bosch cameras that are not compatible with this recorder firmware version
- Implemented additional support for the latest generation of CPP7.3 cameras:
    - o AUTODOME IP starlight 5100i (IR)
    - o FLEXIDOME IP indoor 8000i
    - o FLEXIDOME IP starlight 8000i
- Added a readme.txt file when the export player is downloaded with a short explanation how to use the export player
- A number of security improvements have been made.

**This release includes the following bug fix:**
- An occasional issue where USB storage devices would no longer get detected has been resolved.

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## Known limitations / system behavior:

### General:
- DIVAR network recorders do not support multi-channel encoders, except for the first line.
- Motion alarms for IP cameras can only be configured on the IP camera directly.
- Browser support for new Firefox and Chrome builds is no longer working correctly. For now, we recommend to use IE for the browser integration.
- Remote streaming does not work if asymmetric packet protection is configured in a router firewall.
- Sometimes a USB drive may have difficulties being detected. Formatting the USB drive should repair the file system and allow successful mounting.
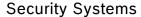
### Local interface:
- In 32CH Live viewing, the 2$^{nd}$ stream of the camera will be obtained. If this stream is 4K or higher, the video can't be displayed and the message: "Resolution too high to display" is displayed.
- The system can decode 16 * 1080p or 4 * 4K (3000/5000 models) or 8 * 1080p or 2 * 4K (2000 models). If the total amount of channels displayed has a higher combined resolution, not all channels can be displayed anymore. The channels that can't be displayed will receive the message: "Over decode ability".
- No AUX, Focus and Iris control possible on PTZ camera using ONVIF commands sent via IP connection.
- Sometimes a button pressed on the remote control get missed by the DIVAR network. Therefore it could be that a button must be pressed a few times to get response.
- Custom favorite views which have been created in live mode, can't be used in sequence modes.

### Playback:
- In multi-channel playback in fast-forward mode, the playback time is not in sync for all channels. After switching to normal speed, the playback continues in sync again.
- When switching between forward/backward single stepping playback, the video is only displayed after a new I-Frame is reached, which prevents fluent stepping when switching backward/forward.

### Player:
- Channel / Time overlay incorrectly scale with the video instead of displaying at a static readable size.
- The exported player is not exported with the recordings if a player.exe already exists on the export medium. To retrieve the latest version of the player.exe with an export, always make sure that there is no player present on the exported location first.

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### RAID:
- Using RAID has a large impact on the system performance. In order to maintain fluent playback, it is recommended to keep the amount of channels performing playback small (e.g. 1x or 4x playback).
- RAID (re)building is slow and may take several days to weeks to complete. During this time, the RAID system is fully active and working though.
- It's not possible to view the status of the HDD's when the system is in RAID mode.

### Dewarping:
- Dewarping in playback mode on the local device is only possible in single speed playback.
- While watching a dewarped camera in playback mode on a local device, when switching views, the camera will first show the fish-eye view before loading the dewarped image.
- Local dewarping is not supported on a 4K monitor output because graphical performance is not sufficient to give an acceptable dewarped picture. This is not physically blocked because with only 3-4 IP cameras still a 4K monitor could be used.
- Very occasionally, the local dewarping video feed may hang. If this happens, turning the dewarping off and on will correct this problem.
- The player can not automatically handle the correct resolution for panoramic cameras. When watching the export of panoramic video, the corresponding aspect ratio (e.g. 4:3, 16:9) can be configured in the menu to prevent stretching of panoramic video.
- Due to the 32-bit applications of the web client and player, both applications have performance limitations in the amount of cameras that can be dewarped and the speed of moving through the dewarped video. Our recommendation is to only dewarp 1 or 2 cameras at the same time in the web client and player.

### Web clients:
- During playback, when the profile is switching, the first frame of the video gets stuck for approximately one second.
- The pages: network info, network test and HDD info/health are not available for the web clients and can only be accessed on the device itself.
- Opening video in full-screen will always be loaded on the 1st monitor, even when the full-screen is requested on the 2nd monitor.

### SNMP:
- No traps are launched for HDD status changes and recording stops.

### Bosch cameras:
- Due to hardware limitations, it is not possible to use a GOP (group of pictures) size of a value bigger than 60. Bosch cameras support a value up to 255. If the recorder finds that the camera is set to a value higher than 60 or to Automatic, then the recorder will automatically set this value back to 60 to ensure compatibility with the recorder.
- It's currently not possible for IP cameras to enable or disable audio recording. If audio is enabled on the camera, it is automatically also streamed and recorded by the recorder at this stage.

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- Only motion alarm events are received from IP cameras. Other alarm modes, such as tampering, imagetoodark and globalscenechange are not supported.


**Mobile app:**
- Remote configuration for recording settings have been removed from the mobile app.
- Dewarping is not available on the mobile app.
- In order to stream video from the DIVAR analog to the DIVAR mobile viewer, there may be no port forwarding in the router, unless the forwarded port is equal to the incoming port (e.g. map port 8000 on the router to TCP port 8000 in the recorder).

**<span style="color:red">Bosch strongly recommends upgrading to the latest firmware for the best possible functionality, compatibility and performance.</span>**

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# 3 DIVAR network 2000/3000/5000 firmware version history

## 3.1 Version 1.0.0 (2016-12-05)

File name: DIVAR_network_V1.0.0.R.20161205.bin
Version 1.0.0 is the Initial firmware release

**Key features:**
- Simple operation using Install Wizard for initial setup
- 16 or 32 IP channels with maximum 320 Mbps incoming bandwidth
- 8 or 12MP IP camera support for view and playback
- Real time live display for 16 channels @1080p or 4 channels @4k
- Compact, sturdy and stylish design
- Separate internet and IP camera networks
- Supports H.264 video compression technology and is H.265-ready
- Simultaneous record and view multiple video signals
- PoE switch integrated that can supply power to a maximum of 16 connected cameras
- Free Bosch DDNS service
- Alarms in and outputs with extensive alarm handling functions
- Local control by mouse, front panel or remote control
- Local VGA and HDMI monitor outputs
- Dome control
- Keyboard control for 5000 network model
- Web application access via network
- Authenticity check for local and remote archives
- Smartphone App's

## 3.2 Version 1.1.2 (2017-03-24)

File name: DIVAR_network_V1.1.2.R.20170324.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000 recorder 32 IP channels with no or 16PoE
- DIVAR network 5000 recorder 32 IP channels with no or 16PoE

**This release includes the following new features/improvement:**
- Improved high secure authentication of user name and passwords credentials. This improvement will lead to the following constraints:
    o Upgrading from firmware v1.0.0 to v1.1.x will reset all passwords to 000000
    o Downgrading to firmware v1.0.0 is no longer possible
    o With firmware v1.1.x - all user names and passwords will be case sensitive

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- o With firmware v1.1.x - in order to change an account name, the account password must be provided as well (due to the high encryption in firmware side)
- o Android APP v1.2.1 and iPhone APP v1.2.0 or higher must be used to support this firmware. Older versions will not be compatible.
- Bosch Video Client v1.7.6 including Configuration Manager is supporting DIVAR network firmware v1.1.2 and higher
- With the DIVAR network PoE models it is now possible to disable the auto assignment of connected IP cameras via the PoE switch. With this new feature it is possible to manually assign IP cameras that are connected via an external switch on one of the unit PoE ports.

**This release includes the following bug fixes:**

- Motion from cameras which takes less than 1 seconds will now always be detected.
- A reboot of the unit caused by remote communication has been resolved.
- The IP camera password settings are now stored in the DIVAR network PoE models when cameras are automatically assigned. Also after the unit reboots.
- Issue has been fixed that connecting to PoE port by DHCP causes unexpected username configuration ("admin" instead of "service").
- Length of User Interface text for different languages has been reduced to fit in the menu's.
- The QR codes in the web page couldn't be scanned correctly. This has been fixed.
- Duplicate IP assignment of the same camera is no longer possible in this release.
- Handling of IP cameras streaming B frames is improved.
- Improved Export player v3.33.6 shows the correct resolution ratio of the exported cameras.

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
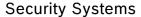- Bosch Video Client v1.7.6
- iPhone phone APP DIVAR Mobile Viewer v1.2.0
- Android phone APP DIVAR Mobile Viewer v1.2.1
- Browser support: IE10/IE11 and Firefox

## 3.3   Version 1.2.0 (2017-05-24)

File name: DIVAR_network_V1.2.0.R.20170524.bin

**This release includes the following new features/improvement:**
- The DIVAR Mobile Viewer APPs v1.3.0 for iOS and Android can now also connect through HTTPS that ensure encrypted communication between DVR and APP.
- The DIVAR Mobile Viewer APPs v1.3.0 for iOS and Android are now also compatible with the DIVAR AN 3000/5000.
- Bandwidth limit feature has been added with the option to limit the bandwidth traffic to network connections outside the subnet of the DVR (WAN). Bandwidth limit does NOT apply to network connection on the same subnet unless specified differently.

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- Chrome web browser is now supported in this release.
- An export button is added in playback window on web-client.

**This release includes the following bug fixes:**
- The option: "Channel display" now only shows/hides the channel name and not the event and recording icons.
- The issue where an incorrect time zone was sent to the camera in case of GMT+0 was used, is solved in this release.
- The DIVAR network/hybrid Web client can now work together with the DIVAR AN 3000/5000 Web clients.
- Port 5000 can now also been used.
- The latest recording time in the info page is updated more regularly.
- SNMP configuration do now also allow configuration of TRAP port 161.
- Showing an incorrect temperature alarm in some cases has been corrected.
- Issues with the cameo overlay in the web-client have been fixed.
- Local UI text that is too long to fit in the window is now cut off. Hoovering over the text with the mouse will show the full text. Additionally, several improvements to the actual text translations have been made.
- An issue where the recording could be paused for several seconds when the recording thread switched between different HDD partitions has been fixed.
- The issue where remotely deleting video when DST is activated would result in deleting the wrong hour has been corrected.
- Handling improved for PTZ commands from Android APP for installations with more than one PTZ camera.

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- iPhone phone APP DIVAR Mobile Viewer v1.2.0 and v1.3.0.
- Android phone APP DIVAR Mobile Viewer v1.2.1 and v1.3.0.
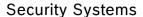- Browser support: IE10/IE11, Firefox and Google Chrome.

## 3.4   Version 1.2.1 (2017-07-19)

File name: DIVAR_network_V1.2.1.R.20170719.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000 recorder 32 IP channels with no or 16PoE
- DIVAR network 5000 recorder 32 IP channels with no or 16PoE

**This release includes the following new features/improvement:**

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- The camera name in live mode that is partly covered by on screen icons can be completely shown by moving the mouse pointer on the name.
- ONVIF compatibility of Sony and Axis IP cameras has been improved.
- In full screen or quad playback mode the full camera names are displayed in the camera selection dropdown boxes rather than the camera ID to simplify the selection of the right camera.
- Several improvements have been made to the archive player to enhance the archive player usability.

**This release includes the following bug fixes:**
- Fixed a compatibility issue with Bosch camera firmware v6.40 and later. The camera firmware got a change where the default I-Frame distance was increased to reduce the bitrate. As a result, it may take a while to display the video when switching camera view modes in our recorder. This problem has been resolved in this firmware by overwriting the default value upon connecting the camera. This value can also be configured in the configuration menu.
- An issue in the Archive player where authenticating archive files sometimes incorrectly reports authentic files to be tampered with, is fixed.
- An issue where exported video sometimes could not be played in the archive player has been resolved
- In the previous firmware v1.1.2 it was not possible to download new firmware via the local user interface from the Bosch downloadstore. This has been corrected.
- An issue where the time-zone synchronization with IP cameras got an incorrect UTC offset under GMT+0 has been corrected.

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- iPhone phone APP DIVAR Mobile Viewer v1.3.0.
- Android phone APP DIVAR Mobile Viewer v1.3.0.
- Browser support: IE10/IE11, Firefox and Google Chrome.

## 3.5   Version 1.3.0 (2018-02-05)

File name: DIVAR_network_V1.3.0.R.20180205.bin

**This release includes the following new features/improvement:**
- It is now possible to import your own SSL certificates, including chain certificates. Please do not forget to activate the new certificate after importing it!

Release date
2021-12-23

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| **DIVAR network 2000/3000/5000** | **Release notes** | V3.3.0 (2021-11-17) | AR18-21-B002 | |

## This release includes the following bug fixes:
- A problem where motion would no longer be detected after 1 minute for Bosch cameras running FW 6.40 and later has been resolved.
- A problem where remote connections could lead to the network interface to become un-accessible has been resolved.
- An issue where users without administrator rights were not able to login BVC and/or view video has been resolved.
- It is now possible again to configure spaces in the camera names, locally and remotely.
- It is also possible again to add Korean characters in the camera names.

## DIVAR hybrid 3000/5000 supports the following PC software, mobile APPs and Web browsers:
- Bosch Video Client v1.7.6
- iPhone phone APP   DIVAR Mobile Viewer v1.3.0.
- Android phone APP  DIVAR Mobile Viewer v1.3.0.
- Browser support: IE10/IE11, Firefox and Google Chrome.

## 3.6    Version 1.4.0 (2018-04-13)

File name: DIVAR_network_V1.4.0.R.20180413.bin
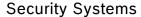
**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000 recorder 32 IP channels with no or 16PoE
- DIVAR network 5000 recorder 32 IP channels with no or 16PoE

## This release includes the following new features/improvement:
- It is now possible to create user accounts which are prompted to modify the password upon first login

## This release includes the following bug fixes:
- Fixed the issue where DIVAR AN Web client could not export video when using the DIVAR network/hybrid web client simultaneously.
- Fixed an issue where the image attachment was not always included in the alarm email send for IP cameras.
- Fixed an issue where the user could lock himself out of the unit.
- Fixed a problem where HTTPS connection in the mobile app was not working anymore (issue introduced in 1.3.0).
- Increased the support for non-ASCII encoded languages like Chinese and Korean in the web client.

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Release date
2021-12-23

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**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- iPhone phone APP   DIVAR Mobile Viewer v1.3.0.
- Android phone APP  DIVAR Mobile Viewer v1.3.0.
- Browser support: IE10/IE11, Firefox and Google Chrome.

## 3.7   Version 2.0.0 (2018-10-27)

File name: DIVAR_network_V2.0.0.R.20181027.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000 recorder 32 IP channels with no or 16PoE
- DIVAR network 5000 recorder 32 IP channels with no or 16PoE

**This release includes the following new features/improvement:**

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- iPhone phone APP DIVAR Mobile Viewer v2.0.0
- Android phone APP DIVAR Mobile Viewer v2.0.0
- Bosch player v3.3.21
- Browser support: IE10/IE11

**Notice!**
Firmware v2.0.0 provides a lot of new features which are only available for Bosch IP cameras. The release letter contains a separate chapter to indicate the differentiation compared to 3$^{rd}$ party cameras which do not support these new features.

If the software is upgraded from FW 1.4.0 to FW 2.0.0, the Bosch cameras are still registered as a 3$^{rd}$ party camera. To use the new Bosch specific features, the cameras must be removed and re-added to the systems device list. This can be done in the detection page located under settings -> camera -> detection. If you don't want to use the new features or re-configure your system, you can simply ignore this and keep the cameras as is.

Any new Bosch camera which is added to the system while running FW 2.0.0 or later already, will automatically be detected as a Bosch camera. In this case, no additional steps are required.

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For a more detailed description of this procedure and additional information of all the changes, please check the new operator manual on the Bosch website.
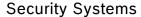
**Notice!**
Due to various security improvements in Firmware v2.0.0, it is not possible to downgrade back to Firmware v1.4.0 automatically. Please downgrade back to Firmware v.1.99.0 first before downgrading to v1.4.0 in this case. Both version will be and remain available on the Bosch website and downloadstore.

## This release includes the following new features/improvement:

**New features for Bosch cameras:**
- The recorder now supports all Bosch FW versions from 5.74 and higher instead of only FW 6.30 and higher. To ensure **the highest security** and optimal compatibility, we recommend to use FW version 6.51 though.
- H.265 is now supported for all cameras which can stream H.265.
- It is now possible to control the AUX, Focus and Iris control for IP cameras as well.
- Privacy masks are now also fully supported for IP cameras.
  The usage of privacy masks has been re-designed and it is now also possible to create privacy masks in the recorder for IP cameras, including PTZ cameras. This means it is now possible for IP cameras to decide if a privacy mask should be recorded in the video and thus always visible or that a privacy mask is only visible in live mode.
- The installer page supports the configuration of the focus position through the lens wizard for all cameras which have an AVF option.
- It's now possible to configure the channel name/time from the recorder for IP cameras and define if the overlay should be recorded in the video or only shown/hidden on request. This overlay can also be made transparent or shown with a black background.
- It's also possible to use the default camera profiles for recording settings directly from the recorder. This helps assigning the preferred frame-rate and bit rate for every situation. This new feature also provides additional options to further optimize the image quality and bit rate optimization.
- A number of the most commonly used installation settings can be configured directly from the recorder:
  o Application variant (e.g. HDR mode)
  o Base frame-rate (e.g. 25 fps or 30 fps)
  o Coding standard (H.264 or H.265)
  o Image rotation and mirroring
- A new maintenance menu is introduced to maintain the cameras connected to the recorder. This maintenance menu provides the option to:
  o Import / export camera configuration
  o Update the camera firmware
  o Reboot the camera
  o Factory default the camera

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**Web clients:**
- There is now a confirmation dialogue when requesting to delete video, both locally as well as on the WEB client.

**Local Interface:**
- It is now possible to create your own custom views.
  Cameras can be assigned freely to view windows and for each view, it is possible to select the primary or secondary stream. These views can then be saved as favorite views. This feature should not only help to customize the ideal setup, but it also helps to control the performance of the system within its limitations. In case many high resolution cameras are used for example, selecting the 2$^{nd}$ stream in views can ensure that there is always enough decoding capabilities to view the video of all cameras.
- PTZ control in the cameo is now indicated with a PTZ arrow showing the moving direction, rather than showing the same mouse pointer icon.
- Alarm sequences can now be paused by clicking on the sequence icon to take a closer look at the video, change cameo lay-outs and control PTZ cameras, without the alarm sequence automatically switching to the next views.

**Configuration:**
- The detection page has been redesigned to be more user-friendly and provide a better performance. It now more clearly supports the mandatory authorization of cameras, provide the option to configure a single camera or a batch of cameras at the same time, and provides a more reliable result when searching for cameras and obtain their MAC address.
- When the resolution is applied, there is now a check to see if the new resolution is supported by the monitor. If not, it will revert back to the previous resolution. This should prevent problems with accidently setting the system to an unsupported resolution and then not be able to set it back.
- The UX for all tables inside the local interface has been improved. For actions on a single line, it is no longer required to tick the checkbox. Instead it is sufficient to simple select the line to execute the action – or double click the line in case there is only a single action possible.
- A new timezone has been added for Iran (+03:30).

**Mobile app:**
- The new mobile app now supports push notifications
  The notifications are send for alarms for both iOS and Android devices. This provides a very convenient way to be notified quickly in case an alarm comes in. In order to receive push notifications, the new mobile app has to be downloaded and inside the new app, push notifications need to be activated in the device configuration settings. In this release, the push notifications may come with some delay due to technical limitations which will be addressed in the next release.
- Legal notices and privacy statements have been added to our mobile applications to better inform how Bosch handles your video data and personal data. They can also be directly found at:

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- o https://www.boschsecurity.com/xc/en/terms-of-use/terms-of-use/provider/
- o https://www.boschsecurity.com/xc/en/terms-of-use/terms-of-use/legal-notice/
- o https://www.boschsecurity.com/xc/en/terms-of-use/terms-of-use/privacy-statement/

**Security improvements:**
- From 2.0.0 onwards, the recorder will only accept firmware images which are officially signed by Bosch. This stops hackers from potentially intercepting a firmware image and replace it with their own modified firmware.

- Support for TLS1.0 has been completely removed. TLS 1.1 is still supported for browser compatibility, but all Bosch software will automatically attempt to communicate through TLS 1.2 by default.
- Support for all weak ciphers has been dropped. The device will now only accept 256-bit ciphers with a key length of 2048.
  (e.g. TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 (secp256r1))

- It is now possible to completely disable any HTTP traffic going to/from the recorder and only allow remote communication over secure HTTPS.
- HTTPS communication between IP cameras and the recorder is now also possible
- Retrieving a firmware update from the Bosch downloadstore is now always done through a HTTPS connection to further prevent any man-in-the-middle attacks on this process.

- Passwords now have to fulfil a stronger password policy:
  - o consist of minimum 8 characters.
  - o include the use of both upper-case and lower-case letters (case sensitivity)
  - o include one or more numerical digits
  - o include special characters, such as @, #, $
- When a camera is connected to the recorder for the first time, it is now mandatory to first set an initial service password for this camera to prevent any unwanted access to the cameras configuration options. The password for live/user accounts still need to be manually set in case desired

- A security algorithm to prevent brute-force attacks against account credentials has been implemented. After logging in incorrectly 5 times, the system will be locked against further login attempts. The lock period starts with 1 minute and incrementally increases for each login attempt after that up to a maximum of 60 minutes after 10 incorrect login attempts. Restarting the device resets the lock-out procedure and allow you to attempt to login again immediately.
- In case of incorrect credentials, there is no longer a hint given if the username or password is incorrect.
- The configuration file is now completely encrypted and can no longer be viewed.

**This release includes the following bug fixes:**
- It's now possible to modify the live viewing rights of the default user

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- An issue in the player where a DAV file is exported to an AVI file, no longer results into several small AVI files, but now correctly exports a single AVI file
- It is now possible to change the password of the user which is currently logged in through the WEB client as well
- The DIVAR Mobile Viewer now retrieves the camera names from the recorder each time it connects. It is also possible to update the camera names inside the DIVAR Mobile Viewer and send them back to the recorder.
- The playback time of recordings in the web client is now continuously updated, rather than only on login.
- Frame sizes of the web client now correctly re-scale when the browser is being resized.
- In the web client, after adding an item in the export list, it is automatically selected for download.
- The recorder can only make 1 export (locally or remotely) at the same time. When multiple exports are attempted simultaneously an error message is now correctly provided to describe this situation.
- Switching between recording modes on events to show for example a higher quality image, can now correctly load different bit rate and frame rate values and continue streaming on the new settings without any stream interruptions.
- PTZ cameras are now automatically detected automatically as movable cameras, which means they don't have to be configured manually to enable the PTZ functionality.
- The time and the time-zone / DST offset in specific in alarm email notifications has been improved so that it will be more compatible with common e-mail servers like g-mail. If the recorder and the receiver are in different time-zones, the e-mail should therefore show the correct time in most cases now.
- An issue in the web client which did not allow to use spaces when configuring the channel names has been fixed
- A problem in the web client where the browser does not properly scale when displayed on a 4K monitor has been resolved.
- The DDNS network now no longer polls the DDNS servers periodically if the DDNS service is not enabled at all
- A small improvement has been made to the schedule interface so that the <ALL> mode now correctly displays the actual configuration instead of the default regular recording configuration.
- Switching cameras using the IntuiKeyboard could have the commands missing sometimes, which lead to an action not executed and having to be repeated. This problem has been resolved.
- A problem where users that did not have rights to create snapshots, could still make a snapshot in playback has been resolved. This is now no longer possible.
- Exports made in our native DAV format now also contains pre-alarm recorded video in case this is enabled and part of the selected export time.
- An issue where the 2$^{nd}$ MAC address could be incorrect and even change on each restart of the system has been addressed.
- A problem where the Bosch DDNS account could not be configured through the WEB client , but could be configured through the local interface has been addressed. It's now also possible to register the free DDNS account directly from the WEB client.

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## 3.8   Version 3.0.0 (2019-07-09)

File name: DIVAR_network_V3.0.0.R.20190709.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000 recorder 32 IP channels with no or 16PoE
- DIVAR network 5000 recorder 32 IP channels with no or 16PoE

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- BMVS 9.0
- Bosch camera FW 7.10
- iPhone phone APP DIVAR Mobile Viewer v3.0.0
- Android phone APP DIVAR Mobile Viewer v3.0.0
- Bosch player v3.50.0
- Browser support: IE11

**This release includes the following new features/improvements:**

**Remote commissioning**
- Remote commissioning for Bosch FLEXIDOME 8000i cameras is integrated in the local UI. This way, all cameras can be mounted first and then be installed and commissioned through the local interface in the recorder.

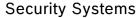  The remote commissioning supports the following options:
  o "Clicking in the video" to position and focus the camera for that location
  o Drawing an area to position, focus and zoom the camera on
  o Manual control to pan / tilt / roll the camera
  o Focus the camera on a predefined area
  o Calibration of the motors through a default action

**Dewarping**
- Dewarping of Bosch panoramic IP cameras is possible with the new firmware. For an extensive explanation of this feature, please read the operator manual.

  A summary of the keypoints are:
  o 2 channel local simultaneous dewarping is supported for the DIVAR network.
  o Dewarping is available in live and playback mode
  o Dewarping position is stored and re-loaded for live and playback mode
  o Dewarping is available in the local interface, web client and Bosch player

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- o It is also possible to stream a dewarped stream from the camera if supported
- o The following modes are supported for panoramic cameras:

| | 360° - WALL | 360° - CEILING | 180° - WALL | 180° - CEILING |
|---|---|---|---|---|
| Fisheye overview | ✓ | ✓ | ✓ | ✓ |
| PTZ | ✓ | ✓ | ✓ | ✓ |
| Panoramic | ✓ | ✓ | ✓ | - |
| Double panoramic | - | ✓ | - | - |
| Corridor | - | ✓ | - | ✓ |
| Quad | ✓ | ✓ | ✓ | ✓ |
| | | | | |
| Dewarping by camera | ✓ | ✓ | ✓ | ✓ |
| E-PTZ by camera | ✓ | ✓ | ✓ | ✓ |

**Performance improvement:**
- In this release we improved the delay of showing live video from IP cameras connected to a DIVAR hybrid/network in a management system like BVMS. This improvement is especially noticeable for cameras configured under FW 2.0 with a large I-frame distance.
- Optimized the memory usage of systems when equipped with a high camera count, to prevent the system of running out of its memory capacity
- Improved the efficiency in handling incoming video traffic from cameras in conjunction with outgoing video to remote clients to ensure that the video from cameras will always be processed and recorded by the recorder
- The decoding performance of the DIVAR hybrid 3000/5000 and DIVAR network 5000 is shared between Mon.A (main monitor) and Mon.B (spot monitor). In previous releases the Mon.B monitor decodes 2x2, 1-4ch by default. This is at the expense of the total available decoding performance. Therefore in this release the default setting for Mon.B display has been disabled to give the total decoding performance to Mon.A if Mon.B is not used.

**Security improvements:**
- A number of vulnerabilities for DDoS attacks with NTP service have been solved.
- Support for TLS1.1 has been completely removed. All Bosch software will automatically communicate through TLS 1.2.
- All HTTP authentication will now only use digest authentication, though HTTPS is always preferred.
- For Bosch cameras with FW 6.40 and later, the username and password is set for a camera upon initial connect. Initially this was only done for the camera service account, but now this account info is also applied to the other accounts.

**Configuration:**
- Input alarm delay can now be configured from 0 to 300 seconds instead of 10 to 300 seconds.

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## 3.9    *Version 3.1.0 (2019-12-05)*

File name: DIVAR_network_V3.1.0.R.20191205.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000 recorder 32 IP channels with no or 16PoE
- DIVAR network 5000 recorder 32 IP channels with no or 16PoE

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- BMVS 10.0
- Bosch camera FW 7.5
- iPhone phone APP DIVAR Mobile Viewer v3.0.0 and v3.1.0
- Android phone APP DIVAR Mobile Viewer v3.0.0 and v3.1.0
- Bosch player v3.50.0
- Browser support: IE11

**This release includes the following new features/improvements:**
- An option to completely block HTTP basic authentication has been added to the firmware. In case the option 'Allow basic authentication' is not selected, please use the DIVAR Mobile Viewer APP version 3.1.0 or later. FW update through configuration manager is only possible with this option selected. The firmware can still be upgraded through the WEB client or LUI though.
- New resolution 1440x1440 in camera FW7.5x is now supported.
- A number of security improvements have been made in this release.

**This release includes the following bug fixes:**
- Resolved the issue where PTZ mode was no longer available when a dome camera was selected with an Intuikey keyboard. This issue was introduced with FW 3.0
- Sending e-mails with Gmail is possible again.
- The problem that sometimes the IP address was reset to default after importing a configuration file has been resolved.
- Camera FW 7.5x has increased its security standards and changed the default RSA key to 2048 bit. As a result, building up a HTTPS connection took a longer time. In this release a performance improvement has been made when working with high encryption standards.
- Sometimes the internal and external network could form a bridge and continue streaming after the connection was terminated on one of the network interfaces. This no longer happens.
- The issue that a toolbar is missing in the Android version of the DIVAR Mobile Viewer (running on OS10), has been corrected in a new version 3.1 DIVAR Mobile Viewer APP.

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| **DIVAR network 2000/3000/5000** | **Release notes** | V3.3.0 (2021-11-17) | AR18-21-B002 |

## *3.10  Version 3.1.1 (2020-04-27)*

File name: DIVAR_network_V3.1.1.R.20200427.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000/5000 recorder 32 IP channels with no or 16PoE

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- BMVS 10.0
- Bosch camera FW 7.5
- iPhone phone APP DIVAR Mobile Viewer v3.1.4
- Android phone APP DIVAR Mobile Viewer v3.1.1
- Bosch player v3.50.0
- Browser support: IE11

**General:**
- This firmware version 3.1.1 has the same features, improvements and bug fixes as the previous version 3.1.0, but the image size has been reduced. V3.1.0 image was too large to load on some DIVAR network units. In addition, this release does contain a number of security improvements.

**This release includes the following new features/improvements:**
- An option to completely block HTTP basic authentication has been added to the firmware. In case the option 'Allow basic authentication' is not selected, please use the DIVAR Mobile Viewer APP version 3.1.1 or later. FW update through configuration manager is only possible with this option selected. The firmware can still be upgraded through the WEB client or LUI though.
- New resolution 1440x1440 in camera FW7.5x is now supported.
- A number of security improvements have been made.

**This release includes the following bug fixes:**
- Resolved the issue where PTZ mode was no longer available when a dome camera was selected with an Intuikey keyboard. This issue was introduced with FW 3.0
- Sending e-mails with Gmail is possible again.
- The problem that sometimes the IP address was reset to default after importing a configuration file has been resolved.
- Camera FW 7.5x has increased its security standards and changed the default RSA key to 2048 bit. As a result, building up a HTTPS connection took a longer time. In this release a performance improvement has been made when working with high encryption standards.

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| **DIVAR network 2000/3000/5000** | **Release notes** | V3.3.0 (2021-11-17) | AR18-21-B002 | |

- Sometimes the internal and external network could form a bridge and continue streaming after the connection was terminated on one of the network interfaces. This no longer happens.

## 3.11  Version 3.1.2 (2020-07-09)

File name: DIVAR_network_V3.1.2.R.20200709.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000/5000 recorder 32 IP channels with no or 16PoE

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- BMVS 10.0
- Bosch camera FW 7.5
- iPhone phone APP DIVAR Mobile Viewer v3.1.4
- Android phone APP DIVAR Mobile Viewer v3.1.1
- Bosch player v3.50.0
- Browser support: IE11

**This release includes the following new features/improvements:**
- A number of security improvements have been made.

**This release includes the following bug fix:**
- Resolved the issue that aux commands and session IDs were lost when switching between multiple moving cameras.

## 3.12  Version 3.2.0 (2020-10-23)

File name: DIVAR_network_V3.2.0.R.20201023.bin

**Supported models:**
- DIVAR network 2000 recorder 16 IP channels with no, 8 or 16PoE
- DIVAR network 3000/5000 recorder 32 IP channels with no or 16PoE

**DIVAR network 2000/3000/5000 supports the following PC software, mobile APPs and Web browsers:**
- Bosch Video Client v1.7.6
- BMVS 10.0
- Bosch camera FW 7.70

| Product | Document type | Release # | SAP/Doc number | |
|---|---|---|---|---|
| **DIVAR network 2000/3000/5000** | **Release notes** | V3.3.0 (2021-11-17) | AR18-21-B002 | |

- o CPP13 (Inteox) cameras are not supported in this release
- iPhone phone APP DIVAR Mobile Viewer v3.1.4
- Android phone APP DIVAR Mobile Viewer v3.1.1
- Bosch player v3.50.0
- Browser support: IE11

## This release includes the following new features/improvements:
- Maximum duration of input alarm recording per day.
  - o A maximum number of minutes per day of input alarm recording can be configured per input alarm. Default setting is 1440 minutes (1 day).
- Configure password at the first login via Web.
  - o There is already a feature to configure the password at first login. This feature is now also available through the WEB client. For the web client, the administrator must configure an initial password though for security reasons. Once the user logs in remotely with this new username and password, it will be prompted immediately to specify a new password.
    Note: If the new settings do not show up in the web browser directly, please ensure to delete the cache settings.
- A number of security improvements have been made.

## This release includes the following bug fix:
- A change has been implemented to prevent that the IP settings get spontaneously reset to default.
- Resolved the issue that video with very high bandwidth (e.g. 33Mbps) couldn't be recorded.
- Two debug logfiles that were always generated during startup of the unit when a USB disk was present during startup, are now no longer being saved automatically.