

Release date
2017-06-20

Product	Document type	Release #	SAP/Doc number
DIVAR AN 3000/5000	Release notes	V2.4.0 (2017-05-23)	

Video Recorder DIVAR AN 3000 and DIVAR AN 5000 families

1 DIVAR AN 3000/5000 firmware version 2.4.0 (date 2017-05-23)

File name: DVR.V2.4.0.R.20170523.bin

This release includes the following bug fixes:

- In this release the mechanism to detect “bad video signals” has been improved. This firmware improves DSP stability and has a better way of recovery when an DSP issue occurs.
- Firmware has been modified to prevent writing invalid data to the HDD in case of bad video signals which could lead to a loss of HDD capacity.
- Issue where PTZ cameras connected via a Bilinx converter keep panning has been solved in this release. A setting in the Local UI menu has been added to select if PTZ cameras are connected via a Bilinx converter or not (default).
- An open port which was not used, has been closed for security reasons.
- The usage of GMAIL as an email server has been improved.
- It is now possible to do DNS and time-server synchronisation through DHCP protocol.
- The customer logo in the WEB client which disappeared in FW 2.3.6. is correctly displayed again.
- Several improvements have been made to support a smoother interaction with the remote viewing client BVC version 1.7.6 available on the Bosch website.

Bosch strongly recommends upgrading to this firmware version to improve security, functionality and performance.

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Known limitations / system behavior:

- It is not possible to upgrade FW 1.4 or earlier to FW 2.2.0 or later directly. The process is to first upgrade FW 1.4 or earlier to an intermediate version (FW v2.1.0) and then upgrade it to the desired version. The intermediate version v2.1.0 is also available on the Bosch web site.
- More smooth video display on Monitor B has been implemented in firmware v2.4.1 which can be requested from support. Side effect of this improvement is that on some monitor types a black bar is shown. This black bar is not present in this firmware v2.4.0.
- Web clients are not supporting full screen of only video (no control buttons) on a 2nd PC monitor.
- With the release of Firefox version 52, the support of plugins has been ended by Mozilla Firefox. To be able to use Firefox web client in this and previous firmware releases a Firefox version lower than version 52 must be used to be able to load the plugin. Or check recommendations of Mozilla support that might enable continued operation alternatively: https://support.mozilla.org/en-US/kb/npapi-plugins?as=u&utm_source=inproduct
- We strongly advise to export the user configuration before upgrading/downgrading the firmware to always be able to reconfigure the DIVAR to the desired state. Downgrading the firmware may result in some settings to reset to default. Importing the configuration file again restores the original configuration.
- It is not possible to export video crosses over from one month to another month.
- Time line of recorded alarm video in the Bosch player is green instead of red when this is recorded via the Scheduled Backup feature.
- SMB backup function in schedule backup does not support ',' (comma) in the password.
- The usage of eSata is limited to 2TB for export.
- Snapshot images of multi-screen live mode will not contain the cameo overlay information, because this is not burned into the video.
- 64 remote connections are now possible, but bandwidth limited remote connections are still limited to 4. The reason is the extra processor load required to limit the bandwidth traffic.
- If a customer uses port 5000 as TCP-port (possible with FW 2.1 and later) and then downgrades to FW 2.0 or lower, then remote login is no longer possible.
- In firmware v2.1 and later, it is possible to export more than one video channel. However playback of the export from a memory device on the local unit is only possible for the first exported video channel. With the present Export player you can play all exported video channels simultaneously via a PC.
- The features 'Protect overwrite' and 'Restricted playback' are intended to lock small portions of a video (max. 1 to 2 hours). If a user locks larger portions of a video this will affect the performance of the system. We strongly advise to only export large portions of important video to a DVD or a memory device instead of locking it on the DVR.
- The Export player is not able to play the second hour in DST. Playback is only possible via the export player when the second hour has been exported. Playback is possible on the local unit for the first and second hour.

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- Import of a configuration is only possible when the configuration export is made on a unit with the same number of channels.
- When exporting files to a DVD+RW, the system will first format the DVD and then write the exported file to the disk. A warning describes how the format process will delete all files on the disk.
- PC administrator rights are required to initially load Web Client software. After installation, the Web Client is not restricted for other users.
- PIC (Picture) recording mode is disabled because it was not working as specified.

Recommended BVC version:

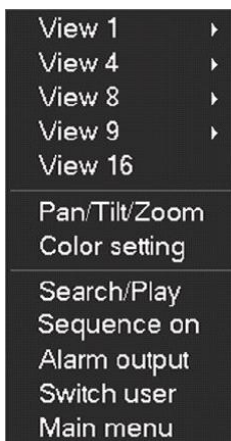
- Bosch Video Client v1.7.6 is recommended for this firmware release.

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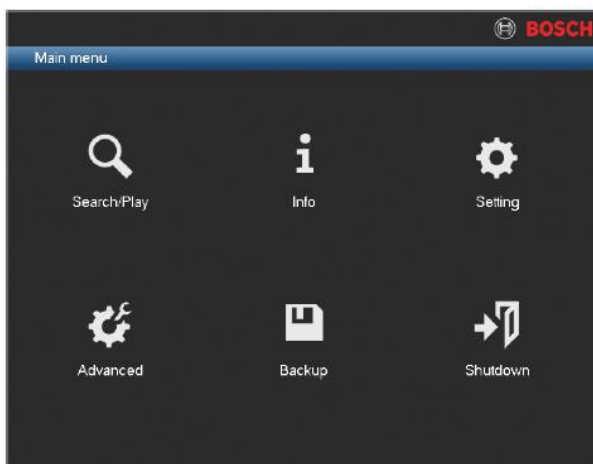
2 Update procedure

To update the DIVAR AN 3000/5000 to the latest firmware, please refer to the Operator manual ('Version' menu) or follow the instructions below:

1. Load firmware v2.4.0. via a PC onto a USB memory stick (file name: DVR.V2.4.0.R.20170523.bin).
2. Log on as "ADMINISTRATOR" in the local unit.
3. Access the Main menu by right-clicking the mouse for the Quick menu, and select 'Main menu'.

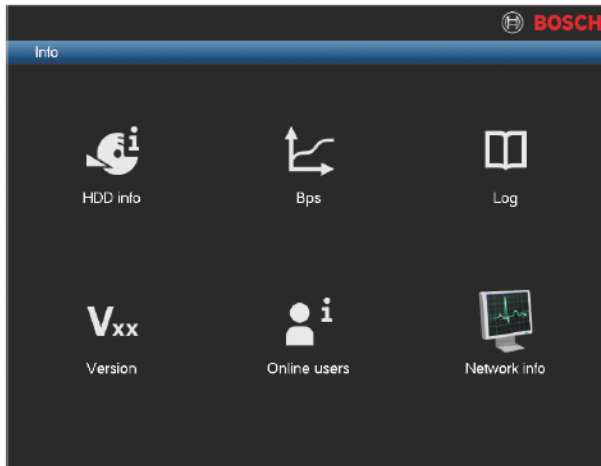


4. Select the 'Info' menu.

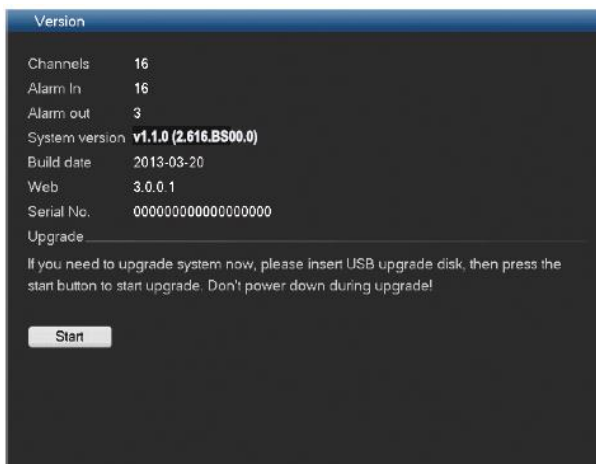


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5. Select the 'Version' menu.



6. Press the Start button.



7. Update the current firmware as follows:
- Insert a USB stick with a preloaded update file into the USB connector on the front of the DVR.
 - Press 'Refresh' to detect the USB and see the data (when needed press a few times)
 - Select the update file DVR.V2.4.0.R.20170523.bin
 - Click <Start> to begin the update.
 - Wait until the update is complete and the system is restarted.

Alternatively, use the Web Client for a firmware upgrade.

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3 Divar 3000/5000 firmware version history

3.1 Version 1.0.0

File name: DVR.V1.0.0.R.20130923.bin

Version 1.0.0 is the Initial firmware release

DIVAR3000/5000 supports the following PC software, mobile APPs and Web browsers:

- BVC v1.4 SR4
- iPhone APP 'DIVAR Viewer' v1.0 supports live viewing and is available on Apple Store
- Android APP 'DIVAR Viewer' v1.0 supports live viewing and is available on Play Store
- iPad APP 'DVR Client' v3.01 supports DVR400/600/700/3000/5000
 - o In this version no playback is supported for DIVAR 3000/5000
- Web browser support for Safari, Chrome, Firefox (QuickTime required; no playback supported) and Internet Explorer 9 (including playback)

Important behavior / known issues:

- No Daylight Saving Time (DST) support in first release of DIVAR3000/5000 on local unit and BVC. Our advice is to select 'Display local time of device' in BVC user settings when the PC time is not synchronized with the device time.
- Pre-alarm recordings are not visible on the timeline.
- There is no alarm/motion icon shown during playback of alarm/motion recordings.
- Exporting video with one or more gaps will result in one solid video track.
- No text search supported on ATM/POS recordings.
- Intukey keyboard 'search', 'freeze' and 'play' functions are not supported.
- The default for the recording schedule is set for regular recording for all inputs. This means that all inputs are recorded, even when no camera is connected, and you may use up extra recording space. You can avoid this by disabling the recording schedule for a camera that is not available or not connected.
- The 'File Association' setting in Archive player is disabled in this release.
- The Archive Player will not be downloaded from the DVR when archiving is performed via Web Client. Use the Archive Player available on the Bosch website (and on the product CD), or download it by performing a local archive.
- The DVR records to different video package files. During continuous recording, you can set the duration for every package ('Pack Duration' setting). This means you can later choose in the 'Search/Playback' screen to search for a video via the time line, or from a list of all recorded files where video packages for Regular (R), Motion (M) or Alarm (A) recordings are indicated. You can simply click on the required file to view this recording, or you select one or more files for archiving.

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3.2 Version 1.1.0

File name: DVR.V1.1.0.LB.R.20131112.bin (date 2013-11-12)

This release includes the following new features/improvements:

- Supports a full bandwidth control. This means that, when the bandwidth limitation is active, all DVR network communication will be limited to the selected bandwidth setting.
- Bandwidth limit can be set to off (default), 256 kbps, 512 kbps and higher. For example, when the bandwidth limitation is set to 256 kbps, than the network traffic will not exceed the 256 kbps.
- In this version the bandwidth limitation can be set active via a BVC site.xml connection. Therefore BVC will inform DVR if it should stream with or without bandwidth limit.
- Second encoding stream will be configured automatically to accommodate the selected bandwidth limit. For example if bandwidth limit is set to 256 kbps than encoding settings of all cameras will be set to 64 kbps for the 2nd stream to optimize viewing of four cameras.
- BVC playback, under low bandwidth control, streams I-Frame only to save bandwidth.
- BVC export, under low bandwidth control, streams all I- and P-Frames. Even though this is a slow process, no frames will be dropped.
- BVC software version 1.4 SR5 (v1.4.464) is supporting this firmware v1.1.0

Important behavior:

- Remote playback under bandwidth control:
 - o Recordings with 30FPS – 4CIF resolution could leads to a situation where playback is quite difficult to stream in single speed I-Frames with bandwidth limit set to 256 kbps. This because some I-Frames, especially with a lot of motion, are already bigger than the 256 kbps.
In this release this is solved to start BVC playback with half-speed when the recorder is under bandwidth control. This is the default playback speed and can be changed by the user by pressing FWD so that playback goes to single speed.
- Remote live viewing under bandwidth control:
 - o Lowest bandwidth limit can be set to 256 kbps. For live display the 2nd stream is automatically set to 64 kbps per camera. For single view the live picture quality can be improved to select 256 kbps per camera.

3.3 Version 1.2.0

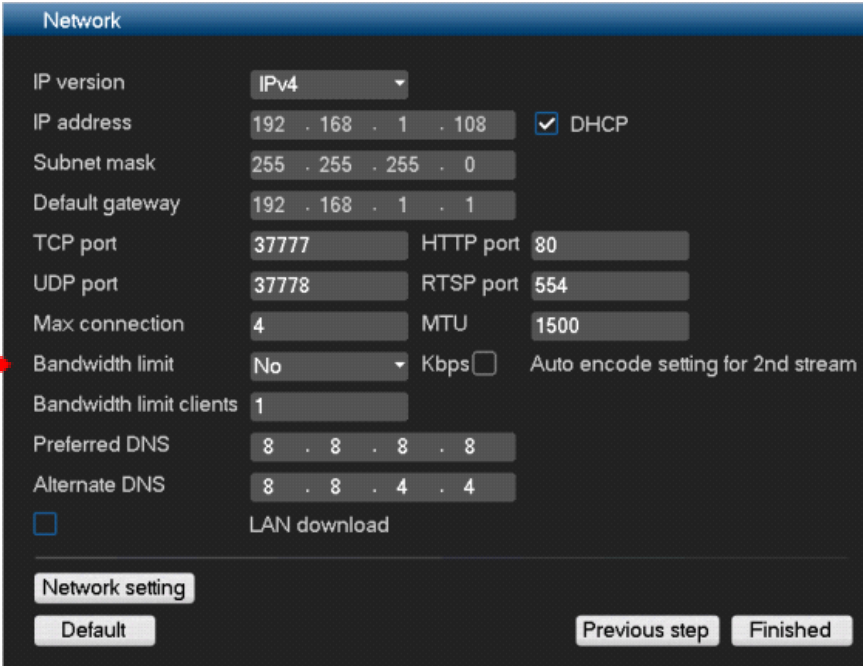
File name: DVR.V1.2.0.R.20140126.bin

This release includes the following new features:

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Bandwidth limit:

- To use this feature, firmware v1.2.0 must be installed in the DVR, and BVC software version 1.4 SR6 (v1.4.487) must be used.
- The bandwidth limit only applies to network connections outside the sub-net of the DVR (WAN). Bandwidth limit does NOT apply to network connection on the same sub-net as the DVR (LAN).
- The DVR will check automatically if a BVC or Web Client network connection request is sent from a PC located in the same sub-net as the DVR (no bandwidth limitation), or from outside its sub-net (bandwidth limitation).
- In the following Network screen, the bandwidth limits can be set to No (default), 256 Kbps, 512 Kbps, 1M, 2M, 5M or 10Mbps.



The screenshot shows the 'Network' configuration screen. The 'Bandwidth limit' dropdown menu is set to 'No', and a red arrow points to it. The 'Kbps' checkbox is unchecked. The 'Auto encode setting for 2nd stream' is also visible. At the bottom, there are buttons for 'Network setting', 'Default', 'Previous step', and 'Finished'.

- This new feature supports full bandwidth control. This means that, when the bandwidth limitation is active, all DVR network communication outside the sub-net will be limited to the selected bandwidth setting. For example, when the bandwidth limitation is set to 256 Kbps, then network traffic to connections outside the DVR sub-net will not exceed the 256 Kbps.
- When the bandwidth limit is set to a value, the encoding settings for the 2nd stream will be optimized to stream live video for the selected bandwidth value. For example if bandwidth limit is set to 256 Kbps then encoding settings for all cameras will be set to 64 Kbps for the

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2nd stream to optimize viewing of four cameras. For 512 Kbps this will be 128 Kbps for all cameras.

- Check the 'Auto encode setting for 2nd stream' box to enable automatic selection (the 2nd stream settings can always be manually changed).

Live display in BVC

- Under low bandwidth control, the BVC or Web Client will request the 2nd stream by default.
- Even when the operator on the BVC or Web client manually selects the main stream, the bandwidth consumption will never be higher than the selected value. This may delay streaming of the higher bit-rate of the main stream.

Playback in BVC

- During BVC playback under low bandwidth control, only I-Frames are streamed to save bandwidth. In full screen, an I-Frame will be streamed every second.
- In 2x2 playback, the system streams one I-Frame every 4 seconds.
- When the recorder is under bandwidth control, BVC playback starts at half-speed by default. Recordings with a high update rate and resolution could cause difficult playback streaming for single speed I-Frames when the bandwidth limit is set low (e.g. 256 Kbps). Some I-Frames, especially those with a lot of motion, are already bigger than the 256 Kbps. The default playback speed can be changed by the user pressing FWD so that playback goes to single speed.

Step-by-step playback in BVC

- When playback is paused, the P-Frames will also be loaded so that it is possible to step forward and backward through all recorded frames.
- Because of the low bandwidth setting, it may take a number of seconds to load all additional P-Frames. If immediate stepping is started after pausing, only I-Frames will be initially started. After a few seconds, the P-Frames will be loaded.

Export in BVC

- BVC export, under low bandwidth control, streams all I- and P-Frames. This is a slow process but no frames will be lost.

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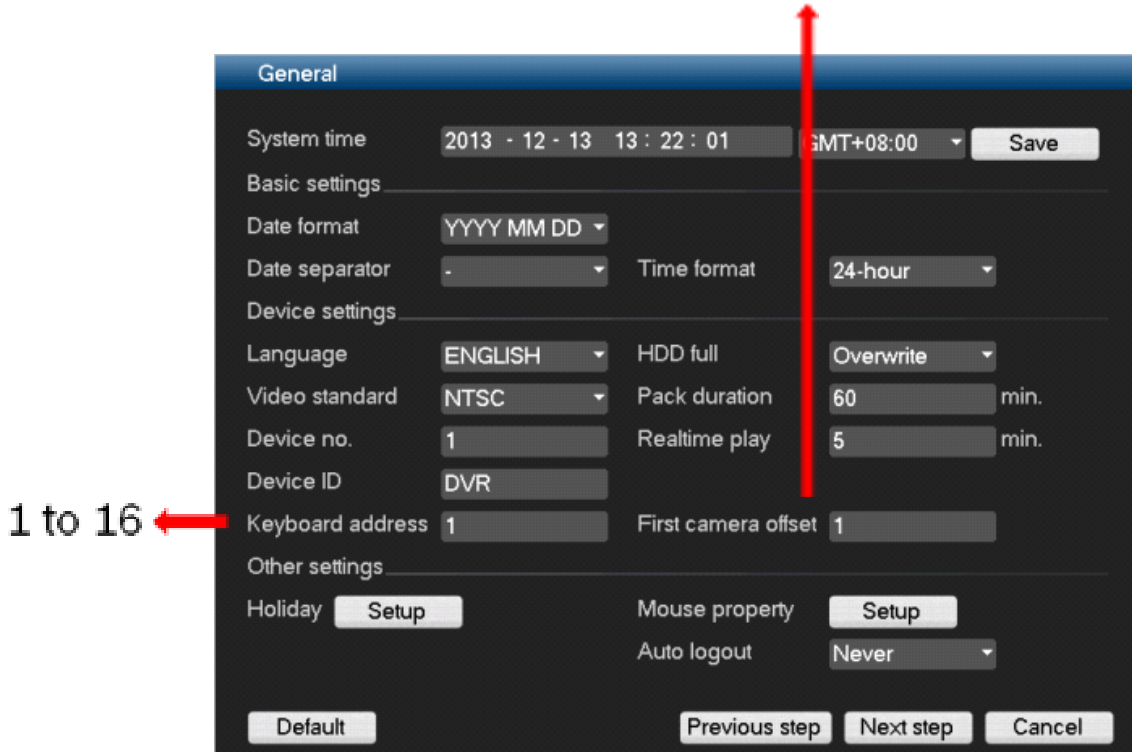
Intuikey keyboard connection

One Intuikey keyboard can communicate with a maximum 16 DIVAR 5000 units (not supported on the DIVAR 3000):

- Keyboard address must be set for every DIVAR 5000
- First camera offset must be set for every DIVAR 5000. Camera 1 of the DIVAR 5000 will be called on the keyboard by selecting the programmed 'First camera offset' number. For example, set the offset to 101 in the DVR so when you select 101, camera 1 is displayed in full screen on monitor A of that selected DVR. Press 112 to display camera 12 in full screen.



1 to 9999



General

System time 2013 - 12 - 13 13 : 22 : 01 GMT+08:00 Save

Basic settings

Date format YYYY MM DD

Date separator - Time format 24-hour

Device settings

Language ENGLISH HDD full Overwrite

Video standard NTSC Pack duration 60 min.

Device no. 1 Realtime play 5 min.

Device ID DVR

Keyboard address 1 First camera offset 1

Other settings

Holiday Setup Mouse property Setup

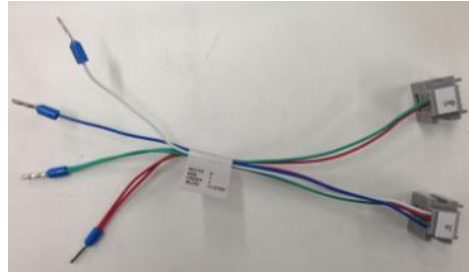
Auto logout Never

Default Previous step Next step Cancel

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New keyboard adapter

New RJ11 adapter with RJ11 adapter IN and OUT to loop-through the keyboard cable to multiple DIVAR 5000 recorders.



New configuration Tool

Separate Configuration Tool provided (see <http://IPAddress/?config>) – this makes it possible to use the Web Client to call a web page for configuration only.

This release includes the following new improvements/bug fixes:

- NTP timeserver changes for more than 10 minutes backwards will not be executed. This to prevent deleting of video by on incorrect large time change backwards.
- Certain passwords were not recognized within IE Web client. This is solved in v1.2.0.
- WAN connection issues with BVC 1.4 SR5 in combination with firmware 1.1.0 have been solved in firmware v1.2.0 and BVC 1.4 SR6.
- DVR Client iPad APP was not able to connect with DVRs running on firmware v1.1.0. This is solved in firmware v1.2.0.
- Rebooting of DVR could cause sometimes in switching from NTSC to PAL. This is fixed so that if DVR is set to NTSC it always stays in NTSC after reboot.
- Issue that timeline of BVC 1.4 SR5 was 1 hour ahead compared to time stamp in recorded video by using GMT -5 is solved in BVC 1.4 SR6 and firmware v1.2.0.

3.4 Version 1.3.0

File name: DVR.V1.3.0.R.20140325.bin

If used in combination with BVC, this firmware (v1.3.0) requires BVC v1.4 sr7 (v1.4.493) or higher.

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This release includes the following new features:

- Daylight Saving Time (DST) support on local unit
 - o BVC 1.4 sr7 or higher requires firmware v1.3 on every DIVAR AN 3000/5000
 - o Older BVC versions are not supporting firmware v1.3
- Warning window added in BVC 1.4 sr7 when connected to DIVAR AN 3000/5000 with older firmware than v1.3
- Common time zone names added in time zone setting
- User name is extended to a maximum of 16 characters

Bug fixes:

- Playback at higher speed in previous BVC versions has been improved.

Know issues:

- Downloading export player via web page using new button 'Player Backup' is sometimes causing IE to stop working. This will be corrected in the next release.

3.5 Version 1.4.0

File name: DVR.V1.4.0.R.20140527.bin

If used in combination with BVC, this firmware (v1.4.0) requires BVC v1.4 sr7 (v1.4.493) or higher.

This release includes the following new features:

- Quick start playback icon added in 'Search/Play' screen. When this icon is pressed, a dialog box will appear asking you to select date/time and camera(s) to be played. Press start, and the selected camera(s) will be played in a corresponding multi-screen.
- Automatic jump back to the previous (multi-)screen after an alarm camera was displayed on Mon. A
- Display multiple alarm cameras if they are simultaneously in alarm. For example, one camera in alarm is displayed in a full screen; 2 active alarms will be displayed in a Quad screen. If more than 4 cameras are in alarm, they will be displayed in a 3x3 or 4x4 multi-screen.
- It is possible to download the export player via the DIVAR web client using the new button 'Player Download'.
- HDD disk error message in left top of screen when one of the drives is in error. Recording continues on the working drive(s).
- PTZ in Pelco protocol allows simultaneous Zoom and Tilt/Pan.

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- GMT +4:30, GMT +5:45, GMT +6:30, GMT -4:30, and GMT -12:00 are removed from firmware, and common time zone names are added for appropriate time zone settings.

Bug fixes:

- Fixed unexpected time-zone jump to default +1 GMT after upgrade to v1.3
- Fixed the no-data reboot caused by abnormal signal input
- Corrected translations in Italian UI
- Other minor bug fixes and improvements

3.6 Version 1.5.0

File name: DVR.V1.5.0.T.20140903.bin

If used in combination with BVC, this firmware (v1.5.0) requires BVC v1.4 sr7 (v1.4.493) or higher.

This release includes the following new feature:

- The screen position for Mon. B can now also be adjusted with menu selection 'Main menu' > 'Advanced' > 'MON adjust'.

Bug fixes:

- Remote playback via the Web Client in firmware 1.4 was only possible when logged-on via the master ADMINISTRATOR account. Remote playback is now possible for other log-on accounts.
- A text error in the French local user interface meant that settings for motion recording could not be entered in the Encode menu. This has been corrected in this release.

3.7 Version 2.1.0

File name: DVR.V2.1.0.R.20141106.bin

This release includes the following new features:

- Improved UX on the Search/Play screen
 - o 4 'time lines' are shown simultaneously
 - o Easy zoom in/out of timelines with scroll bar
 - o Select a region of the timeline for easy selection of export and restrict/protect playback windows

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- There is a new 'playback time' field to quickly and accurately start playback at a given time
- Playback settings (time/date/channel selection) can be modified while performing playback
- Improved UX on Export menu screen
 - Possible to export multiple channels in one export file. This file can be previewed in the new export player
 - Possible to create an export queue which will be executed sequentially
 - Before an export is started, the size of the export is calculated to ensure that the export will fit
- New export player
 - Allows simultaneous playback of archives with multiple channels
 - Allows authentication of video data
 - Allows export of smaller clips based on an existing export
- New Web Client
 - Provides improved support for browser compatibility for Safari, Chrome, Firefox and Internet Explorer
 - Contains enhancements to the playback screen, similar to the Local User Interface (LUI)
- Video clips can be protected for overwriting, and/or restricted for playback
 - This feature is only available for users with Administrator rights
 - If a video clip is restricted for playback then only the user with Administrator rights can view the video clip. Other users will see a black image with a lock symbol
 - If a video clip is protected, the video will not be overwritten when the recording space is full
 - Video clips with multiple channels can be selected with a start and end time
 - The actual start and end time of the selected clip is determined by the size of the recording files. For more details, see Quick Installation Guide section 4.5, ID 11 (Restrict/Protect)
 - Video clips that are protected for overwriting and/or restricted for playback can also be deleted. **Important:** If you set a protect/restrict start and end time that spans more recording files (or portions of files), then all of the files will be deleted which belong to the selected protected/restricted video (for more details, see previous point)
- A disclaimer can be implemented to be shown as a warning text before entering the playback screen
- Implemented SNMP Support
 - Can retrieve basic system health information
 - Can configure the system to send out traps for events such as system reboot, video loss, hard disk errors, etc.
 - MIB file can be downloaded via the Web Client in menu 'Setup' > 'Network' > 'SNMP'. Press the button 'Download MIB'
- Port 5000 is now available for user configuration
- Show the time and date of the earliest recording in the 'HDD info' screen
- Now possible to show/hide the 'File list' display in the Search/Play screen

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- Choose available export file format (DAV, ASF, or both)
- Textual changes in LUI
 - o 'Backup' is renamed to 'Export' in all windows
 - o 'Anti-dither' is renamed to 'De-bounce time'
 - o 'Real-time-play' is renamed to 'Instant Playback'
 - o Motion sensitive settings 1 to 6 are renamed to 'Minimum', 'Low', 'Standard', 'High', 'Very high' and 'Maximum'

Bug fixes:

- Fixed the issue where advanced user settings and network configuration were not exported/imported with a configuration
- Jitter is solved during live viewing using PTZ cameras
- WEB and LUI configuration export now share the same structure so they can be exported and imported in both LUI and via Web Client
- Fixed a bug where PTZ rights were required to double click a cameo in the case where a user is only allowed to monitor cameras

Known limitations:

- In firmware v2.1 it is possible to export more than one video channel. However playback of the export from a memory device on the local unit is only possible for the first exported video channel. With the new Export player you can play all exported video channels simultaneously via a PC
- The new features 'Protect overwrite' and 'Restricted playback' are intended to lock small portions of a video (max. 1 to 2 hours). If a user locks larger portions of a video this will affect the performance of the system. We strongly advise to only export large portions of important video to a DVD or a memory device instead of locking it on the DVR
- Some latency for PTZ cameras is shown using the Bosch Intui keyboard
- The 'Monitor adjust' feature does not fully adjust the margins over the whole screen on a monitor. However the complete camera picture is still viewable
- The Export player is not able to play the second hour in DST. Playback is only possible via the export player when the second hour has been exported. Playback is possible on the local unit for the first and second hour
- Import of a configuration is only possible when the export is made on a unit with the same number of channels
- In v2.1 it is possible to also import the network configuration. If DHCP is enabled the IP address is also copied. This leads to an IP conflict message. The IP address should not be copied when DHCP is enabled, or the message should be ignored
- Previously some jitter was seen in live mode when controlling PTZ cameras. This is solved in v2.1. Playback mode still shows minor jitter

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- When exporting files to a DVD RW, the system will first format the DVD and then write the exported file to the disk. A warning is shown before the format process starts deleting all files on the disk
- The format button gives a 'Format failed' message for certain DVD brands, however the format is still completed successfully in the background
- The new restrict and protect features are only available for users with Administrator rights
- PC administrator rights are required to initially load Web Client software. After installation, the Web Client is not restricted for other users
- Loading of the timelines in the Search/Play screen may take more time if a large number of recording files are loaded for the selected day
- New features in Local User Interface, Web Client and new Export player are still only available in English and Chinese.
- When an another language is selected in the LUI than English, then the Export player loaded together with an export file will be in default Chinese language. To select English, see following picture.



- Opening a very large file in the Export player may take a number of seconds
- If used in combination with BVC, this firmware (v2.1.0) requires BVC v1.4 sr7 (v1.4.493) or higher

Recommended BVC version:

- BVC v1.7 (expected end November, 2014) is recommended for this firmware release.

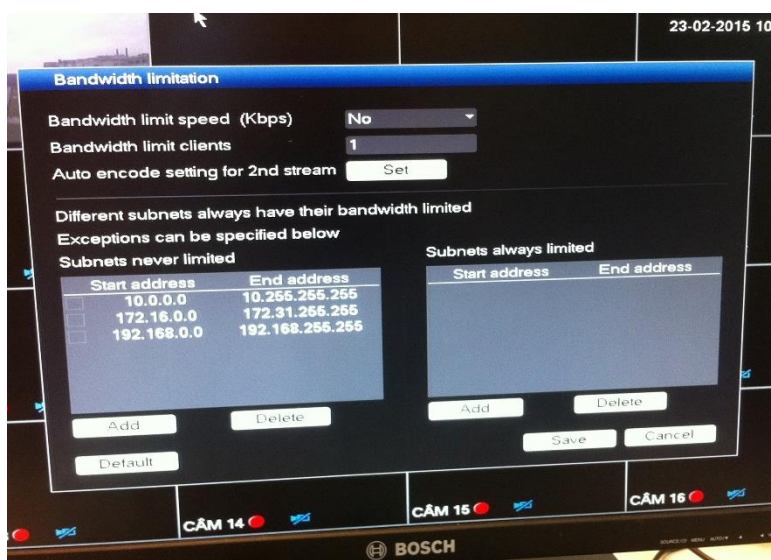
3.8 Version 2.2.0

File name: DVR.V2.2.0.T.20150211.bin

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This release includes the following new features:

- Improved low bandwidth feature
 - o It is now possible to define a list of IP ranges which always have their bandwidth limited and a list of IP ranges which will never have their bandwidth limited.
 - o These lists overrule the automatic detection of LAN and WAN subnets.



- o Default setting is same as the automatic detection of LAN and WAN subnets in previous releases.
- Support up to 64 remote connections
 - o In previous firmware releases the max. number of remote client connections was limited to 4. Now this limitation is extended to 64, however more than 4 remote clients can lead to performance limitations. Therefore Bosch strongly advice not using more than 4 connections simultaneously.
 - o If the maximum available bandwidth for streaming is used (60Mbit/s) – users can still login, but will not receive a video stream until bandwidth is available again.
- Customer logo support
 - o A customer can now show his own logo on the login screen and playback disclaimer of the LUI and WEB.
 - o The logo will be stored with the configuration file and can be exported/imported like other configuration settings.
 - o The logo file can have a maximum size of 500kb and the resolution has to be smaller than 260x150 with a format of 8/16-bits bmp.
- Restrict / Protect / Delete video – user right management
 - o User right management has now also be implemented for the restrict and protect features – as well as for deleting video.
 - o Each individual feature can have its user rights configured separately.
- ASF exports also now support audio playback with windows media player.
- DIVAR Viewer App – playback disclaimer support

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- The DIVAR Viewer mobile apps v3.1 now also supports the option to display playback disclaimers.
- CGI interface publicly available
 - External CGI command interface is available for IPP program members.
- Translations
 - Implemented translations for all languages of FW v2.1 features.
 - New FW v2.2 features are only available in English until FW v2.3 release.
- Mass remote firmware upgrade
 - The latest BVC / ConfigManager releases support upgrading the firmware of multiple DVR's at the same time.
 - We recommend using BVC v1.7.2. release with the included ConfigManager for this.

Bug fixes:

- Latency issues for PTZ cameras while using the Bosch Intui keyboard have been resolved.
- Hang in export menu due to the automatic file size calculation has been fixed. The size calculation is now done when pressing the add button instead.
- Default export player language is now the same as the current DVR language.
- Several performance and stability improvements in exporting to a DVD have been made.
- An error in the encryption algorithm has been resolved, which prevented the use of certain passwords because the encrypted password would lead to ASCII characters which were not allowed in HTTP communication.
- LUI exports can now be 4GB FAT32 size again instead of 2GB in FW 2.1
- Italian translations on the LUI are correct again. They were missing due to a bug in FW 2.1
- Multi-screen on monitor B is now correctly stored and will be restored after a reboot instead of defaulting back to 4x4 after a reboot.

Known limitations:

- 64 remote connections are now possible, but bandwidth limited remote connections are still limited to 4. The reason for this is the extra processor load required to limit the bandwidth traffic.
- If a customer uses port 5000 as TCP-port (possible with FW 2.1 and later) and he downgrades to FW 2.0 or lower, than remote login is no longer possible.
- In firmware v2.1 and later it is possible to export more than one video channel. However playback of the export from a memory device on the local unit is only possible for the first exported video channel. With the new Export player you can play all exported video channels simultaneously via a PC.
- The new features 'Protect overwrite' and 'Restricted playback' are intended to lock small portions of a video (max. 1 to 2 hours). If a user locks larger portions of a video this will affect the performance of the system. We strongly advise to only export large portions of important video to a DVD or a memory device instead of locking it on the DVR.

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- The 'Monitor adjust' feature does not fully adjust the margins over the whole screen on a monitor. However the complete camera picture is still viewable.
- The Export player is not able to play the second hour in DST. Playback is only possible via the export player when the second hour has been exported. Playback is possible on the local unit for the first and second hour.
- Import of a configuration is only possible when the configuration export is made on a unit with the same number of channels.
- When exporting files to a DVD+RW, the system will first format the DVD and then write the exported file to the disk. A warning is shown before the format process starts deleting all files on the disk.
- PC administrator rights are required to initially load Web Client software. After installation, the Web Client is not restricted for other users.
- Loading of the timelines in the Search/Play screen may take more time if a large number of recording files are loaded for the selected day.

3.9 Version 2.2.1 (date 2015-03-26)

File name: DVR.V2.2.1.R.20150326.bin

This release includes the following bug fixes:

- There was a very small chance that the DST offset would not properly switch during the DST transition in heavily burdened systems. This has been resolved.
- Sometimes the web login window was not in the center of screen. This has been fixed.
- Resolved the minor issue that after an export of a configuration file from DVR3000 to DVR5000 the setting of the baud rate of Keyboard was left empty.

Known limitations / system behavior:

- 64 remote connections are now possible, but bandwidth limited remote connections are still limited to 4. The reason for this is the extra processor load required to limit the bandwidth traffic.
- If a customer uses port 5000 as TCP-port (possible with FW 2.1 and later) and he downgrades to FW 2.0 or lower, than remote login is no longer possible.
- In firmware v2.1 and later it is possible to export more than one video channel. However playback of the export from a memory device on the local unit is only possible for the first exported video channel. With the new Export player you can play all exported video channels simultaneously via a PC.
- The new features 'Protect overwrite' and 'Restricted playback' are intended to lock small portions of a video (max. 1 to 2 hours). If a user locks larger portions of a video this will

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affect the performance of the system. We strongly advise to only export large portions of important video to a DVD or a memory device instead of locking it on the DVR.

- The 'Monitor adjust' feature does not fully adjust the margins over the whole screen on a monitor. However the complete camera picture is still viewable.
- The Export player is not able to play the second hour in DST. Playback is only possible via the export player when the second hour has been exported. Playback is possible on the local unit for the first and second hour.
- Import of a configuration is only possible when the configuration export is made on a unit with the same number of channels.
- When exporting files to a DVD+RW, the system will first format the DVD and then write the exported file to the disk. A warning is shown before the format process starts deleting all files on the disk.
- PC administrator rights are required to initially load Web Client software. After installation, the Web Client is not restricted for other users.
- Loading of the timelines in the Search/Play screen may take more time if a large number of recording files are loaded for the selected day.

Recommended BVC version:

- BVC v1.7.2 is recommended for this firmware release.

3.10 Version 2.3.1 (date 2015-10-23)

File name: DVR.V2.3.1.R.20151023.bin

This release includes the following new features/improvement:

General improvements:

- To ensure 100% reliable and viewable (recording of) video, we have added a detection mechanism to detect bad camera signals which might give a problem displaying the video. This feature will help the customer to identify weak signals and take appropriate actions to resolve the problem. The administrator can disable this warning mechanism at any time in the system events menu located under the advanced settings tab.

When a bad signal is detected, an error message will be shown in the top left of the screen indicating: "Error displaying camera X, bad signal".

When this message is shown:

- o Check the camera connections and replace/tighten the connections if necessary.
Make sure no ground loops are present
- o Check the camera video signal and replace the camera if necessary

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- Added a setting to force a system to NTSC, PAL or auto-detect (default) to prevent the system from accidentally switching to a different mode in case of a bad camera signal.
- HTTPS/SSL has been implemented in the unit to make the communication more secure and to prevent 'man in the middle' attacks.
- A menu item has been added to the quick menu to directly logout a unit
- An option has been added to show/hide the timeline selection in playback
- A new option has been added to completely covert cameras. This option can hide all camera names, recording / alarm icons, etc. and will only show a black frame. This option works together with the live viewing rights of a camera.
- The account order of the login window can now be configured in the user account configuration page.
- New features are now also translated in different languages supported by this device

Improved snapshot functionality:

- It is now possible to easily make snapshots from all cameos:
 - o Single live view and instant playback by selecting the snapshot button in the cameo
 - o Multi-screen live view by selecting the snapshot button in the quick menu
 - o Playback view by selecting the snapshot button in the button bar. In playback, the snapshot will always be made of all cameos which are in the selected view
- The Snapshot can be exported to an email address, a USB memory device, and/or a DVD (a disclaimer screen may initially appear when you first select Snapshot)

Playback screen improvements:

- It's now easier to switch cameras in playback screen because of the following improvements:
 - o Selecting a view mode (i.e. 2x2) will toggle through the different view modes of the selected type
 - o A camera can be changed without the need to first select a cameo
- Playback now continues playing when views are switched instead of stopping the playback
- The mouse scroll button will now zoom in and out on the timeline
- The timeline can be dragged to the left and right to see the timeline information from earlier or later

Monitor B improvements:

- It's now possible to assign camera's to cameo's for the monitor B output. This can be done in the LUI of monitor A or with the help of the Intui-keyboard.
- PTZ of the cameras can be controlled for cameras on monitor B, together with the help of the Intui-keyboard.
- An option has been added to configure CVBS monitor B alignment similar to monitor A alignment

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Intui-Keyboard Search and Play functions added

- Support for the intuit-keyboard has been added to easily control the playback window:
 - o It's now possible to press search on the Intui-keyboard to search for a given time/date
 - o It's possible to select the cameos in playback by selecting the cameo numbers, or toggling the full-screen / quad-screen / multi-screen buttons on the intuit-keyboard
 - o It's now possible to control the playback (pause / play / FFWD etc) using the intuit-keyboard
 - o It's also possible to zoom in to cameras or change cameo selection assignments using the intuit-keyboard

Scheduled backup:

- It's now possible to automatically schedule a backup to external locations:
 - o eSata (only available on DIVAR AN 5000 units and limited to 2TB for export)
 - o SMB network file server
 - o FTP
- **Because a backup can drain system performance, always schedule a start time during a quiet period where features such as local playback/export are not required.**
- Normal exports can still only be done to USB/DVD

This release includes the following bug fixes:

- DivarAN3000/5000 Monitor B Date/time, OSD labels and grid lines are no longer blinking with random refresh rate.
- A user with a password of more than 12 characters no longer influences the user rights of other accounts (this could previously cause no authorization rights for other users).
- It's possible again to remotely change the password of all users
- An issue in the CGI API has been fixed (this did not allow the creation of new users due to a bug in the password encryption/decryption on the CGI interface).
- ASF files can be played in the windows media player
- WEB UI no longer automatically logs out a user performing an action with no rights
- Remote DST transitions (i.e. in BVC) now occur correctly when the option is "Last Sunday"
- It's now always possible to configure a logo through the WEB UI
- Exporting through the WEB UI now also works for DNS host names
- The send time of an email which is sent on an alarm is now also correctly present in the email headers.
- Text for all languages now fits correctly on the buttons and labels in the player.

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- A user can **no** longer change the user rights settings of their own account (this prevents administrators from accidentally removing access to the unit for themselves).
- Motion grids can now be correctly configured again in the WEB UI.
- The disclaimer window of the WEB UI now has the correct colors.
- Remote users with no export rights can now no longer export video in any way.
- Only a single email will now be sent when an alarm event is triggered, instead of 2 or 3.

Known limitations / system behavior:

- Downgrading the firmware on the unit sometimes sets the Account information to default. We strongly advice first to 'Export' the user configuration before you downgrade the firmware. After the downgrade the exported configuration file can imported if required.
- We strongly advice to export the user configuration before upgrading the firmware to always be able to reconfigure the DIVAR to the desired state.
- It is not possible to upgrade FW 1.4 or earlier to FW 2.2.0 or later directly. The work-around is to first upgrade FW 1.4 or earlier to an intermediate version (FW v2.1.0) and then upgrade it to the desired version. The intermediate version v2.1.0 is also available on the Bosch web site.
- The timeline record selection allows you to select if you want to see only video, only motion, only alarm or a combination of all three. In this release on the Local User Interface there is an issue that the selection change is not updated in the timeline until the calendar day is changed. This will be corrected in the next firmware release.
- Time line of recorded alarm video in the Bosch player is green instead of red when this is recorded via the Scheduled Backup feature.
- SMB backup function in schedule backup does not support ',' (comma) in the password.
- The usage of eSata is limited to 2TB for export.
- The HTTPS implementation currently only works for the WEB client. The improvements on the video client will be introduced with the next release of BVC.
- Snapshot images of multi-screen live mode will not contain the cameo overlay information, because this is not burned into the video.
- 64 remote connections are now possible, but bandwidth limited remote connections are still limited to 4. The reason is the extra processor load required to limit the bandwidth traffic.
- If a customer uses port 5000 as TCP-port (possible with FW 2.1 and later) and then downgrades to FW 2.0 or lower, then remote login is no longer possible.
- In firmware v2.1 and later, it is possible to export more than one video channel. However playback of the export from a memory device on the local unit is only possible for the first exported video channel. With the new Export player you can play all exported video channels simultaneously via a PC.
- The new features 'Protect overwrite' and 'Restricted playback' are intended to lock small portions of a video (max. 1 to 2 hours). If a user locks larger portions of a video this will

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affect the performance of the system. We strongly advise to only export large portions of important video to a DVD or a memory device instead of locking it on the DVR.

- The 'Monitor adjust' feature does not fully adjust the margins over the whole screen on a monitor. However the complete camera picture is still viewable.
- The Export player is not able to play the second hour in DST. Playback is only possible via the export player when the second hour has been exported. Playback is possible on the local unit for the first and second hour.
- Import of a configuration is only possible when the configuration export is made on a unit with the same number of channels.
- When exporting files to a DVD+RW, the system will first format the DVD and then write the exported file to the disk. A warning describes how the format process will delete all files on the disk.
- PC administrator rights are required to initially load Web Client software. After installation, the Web Client is not restricted for other users.
- Loading of timelines in the Search/Play screen may take longer if a large number of recording files are loaded for the selected day.

Recommended BVC version:

- BVC v1.7.4 is recommended for this firmware release.
- bpossible, the DVR will perform a 1-time search during the first start-up after upgrading. This could result in a longer start-up period. A progress bar will be shown during this progress. After that, the search table will be maintained real-time and there will be no additional delays during start-ups.
- It is no longer possible for a dome controlled on monitor B to get stuck in continuous panning mode when operated by the IntuiKey keyboard.
- In FW 2.3.1. there was a bug introduced where remote export through the WEB is no longer possible cross subnets. This is fixed again with this FW.
- Restrict/Protect flags in BVC are now also visible in the timeline when the timeline scale is set to 6 hours or longer
- The timeline record selection allows you to select if you want to see only video, only motion, only alarm or a combination of all three. In this release on the Local User Interface there is an issue that the selection change is not updated in the timeline until the calendar day is changed. This will be corrected in one of the next firmware releases.

Known limitations / system behavior:

- Downgrading the firmware on the unit sometimes sets the Account information to default. We strongly advice first to 'Export' the user configuration before you downgrade the firmware. After the downgrade the exported configuration file can imported if required.

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- We strongly advice to export the user configuration before upgrading the firmware to always be able to reconfigure the DIVAR to the desired state.
- It is not possible to upgrade FW 1.4 or earlier to FW 2.2.0 or later directly. The work-around is to first upgrade FW 1.4 or earlier to an intermediate version (FW v2.1.0) and then upgrade it to the desired version. The intermediate version v2.1.0 is also available on the Bosch web site.
- Time line of recorded alarm video in the Bosch player is green instead of red when this is recorded via the Scheduled Backup feature.
- SMB backup function in schedule backup does not support ',' (comma) in the password.
- The usage of eSata is limited to 2TB for export.
- The HTTPS implementation currently only works for the WEB client. The improvements on the video client will be introduced with the next release of BVC.
- Snapshot images of multi-screen live mode will not contain the cameo overlay information, because this is not burned into the video.
- 64 remote connections are now possible, but bandwidth limited remote connections are still limited to 4. The reason is the extra processor load required to limit the bandwidth traffic.
- If a customer uses port 5000 as TCP-port (possible with FW 2.1 and later) and then downgrades to FW 2.0 or lower, then remote login is no longer possible.
- In firmware v2.1 and later, it is possible to export more than one video channel. However playback of the export from a memory device on the local unit is only possible for the first exported video channel. With the new Export player you can play all exported video channels simultaneously via a PC.
- The new features 'Protect overwrite' and 'Restricted playback' are intended to lock small portions of a video (max. 1 to 2 hours). If a user locks larger portions of a video this will affect the performance of the system. We strongly advise to only export large portions of important video to a DVD or a memory device instead of locking it on the DVR.
- The Export player is not able to play the second hour in DST. Playback is only possible via the export player when the second hour has been exported. Playback is possible on the local unit for the first and second hour.
- Import of a configuration is only possible when the configuration export is made on a unit with the same number of channels.
- When exporting files to a DVD+RW, the system will first format the DVD and then write the exported file to the disk. A warning describes how the format process will delete all files on the disk.
- PC administrator rights are required to initially load Web Client software. After installation, the Web Client is not restricted for other users.
- In this release the PIC (Picture) recording mode is disabled because it was not working as specified. This will be corrected in one of the next firmware releases.

Recommended BVC version:

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- BVC v1.7.4 is recommended for this firmware release.

3.11 Version 2.3.3

Firmware v2.3.3. has not been released to the market.

3.12 Version 2.3.4 (date 2016-04-21)

File name: DVR.V2.3.4.R.20160421.bin

This release includes the following bug fixes:

- The E-mail feature is now RFC compliant. If the user does not fill in a sender email, the system will use a hard-coded predefined sender: DVR@noreply.com to accomplish this compliance.
- The network configuration can be imported again through a configuration import. This issue was present in FW 2.3.2
- A minor issue has been resolved where the correct cameo would not be selected from the quick menu in case there were covert cameras with no viewing rights present.

Known limitations / system behavior:

- It is not possible to upgrade FW 1.4 or earlier to FW 2.2.0 or later directly. The work-around is to first upgrade FW 1.4 or earlier to an intermediate version (FW v2.1.0) and then upgrade it to the desired version. The intermediate version v2.1.0 is also available on the Bosch web site.
- Downgrading the firmware on the unit sometimes sets the Account information to default. We strongly advice first to 'Export' the user configuration before you downgrade the firmware. After the downgrade the exported configuration file can imported if required.
- We strongly advice to export the user configuration before upgrading the firmware to always be able to reconfigure the DIVAR to the desired state.
- Time line of recorded alarm video in the Bosch player is green instead of red when this is recorded via the Scheduled Backup feature.
- SMB backup function in schedule backup does not support ',' (comma) in the password.
- The usage of eSata is limited to 2TB for export.
- The HTTPS implementation currently only works for the WEB client. The improvements on the video client will be introduced with the next release of BVC.

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- Snapshot images of multi-screen live mode will not contain the cameo overlay information, because this is not burned into the video.
- 64 remote connections are now possible, but bandwidth limited remote connections are still limited to 4. The reason is the extra processor load required to limit the bandwidth traffic.
- If a customer uses port 5000 as TCP-port (possible with FW 2.1 and later) and then downgrades to FW 2.0 or lower, then remote login is no longer possible.
- In firmware v2.1 and later, it is possible to export more than one video channel. However playback of the export from a memory device on the local unit is only possible for the first exported video channel. With the new Export player you can play all exported video channels simultaneously via a PC.
- The new features 'Protect overwrite' and 'Restricted playback' are intended to lock small portions of a video (max. 1 to 2 hours). If a user locks larger portions of a video this will affect the performance of the system. We strongly advise to only export large portions of important video to a DVD or a memory device instead of locking it on the DVR.
- The Export player is not able to play the second hour in DST. Playback is only possible via the export player when the second hour has been exported. Playback is possible on the local unit for the first and second hour.
- Import of a configuration is only possible when the configuration export is made on a unit with the same number of channels.
- When exporting files to a DVD+RW, the system will first format the DVD and then write the exported file to the disk. A warning describes how the format process will delete all files on the disk.
- PC administrator rights are required to initially load Web Client software. After installation, the Web Client is not restricted for other users.
- In this release the PIC (Picture) recording mode is disabled because it was not working as specified. This will be corrected in one of the next firmware releases.

Recommended BVC version:

- BVC v1.7.4 is recommended for this firmware release.

3.13 Version 2.3.5

Firmware v2.3.5. has not official been released to the market.

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3.14 Version 2.3.6

File name: DVR.V2.3.6.R.20170324.bin

This critical firmware addresses an important security vulnerability. All new products are shipped with firmware version 2.3.6 or higher. This firmware is also available on our website in the product page of the DIVAR AN 3000 and 5000.