



From

STDN/PRM

Product Management

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Nuremberg

06.12.2012

Release Letter

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| Products: | <i>H.264 Firmware for CPP-ENC Encoders: VJT X20/X40 XF-E VJT XTC XF</i> |
| Version: | <i>5.60.0054</i> |

This letter contains latest information about the above mentioned firmware version.

1 General

CPP-ENC H.264 firmware version 5.60.0054 is a maintenance release based on the former release 5.52.0015 for the VJT X20/X40 XF-E encoders and VJT XTC XF transcoder but is not applicable to other VIPX platform products.

The platforms have been renamed for a more generic recognition to "Common Product Platform", short CPP, followed by the architecture-related number or suffix.
CPP-ENC stands for "Common Product Platform for Encoders".
The filenames are adapted accordingly.

Note:

This firmware is not applicable to VIP X1600 XFM4 modules which remain at FW 5.52 as their final release.



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2 Applicable products:

- VJT X20 XF-E
- VJT X40 XF-E
- VJT XTC XF

3 New Features

- Support of new VJT XTC XF transcoder
- Estimation of available bandwidth for communication with the remote client.
- Support of router configuration for port forwarding if UPnP is enabled in router.
- Forensic Search on device to reduce data load on remote connection.
- Reworked PLAYBACK page to allow easy navigation between recordings, export functions and search results.
- Out-of-the-box support for Bosch Cloud-based Security & Services(CbS)
- Dynamic DNS extension to alternative providers no-ip.com and selfhost.de
- A JPEG thumbnail image is returned in auto-detect reply after network scan.
- Central URL <http://downloadstore.boschsecurity.com> where devices automatically check for new FW when Internet access is provided.
- ONVIF conformance to Profile S, validated with recent ONVIF test tool 12.06, with additional beta features of Profile G, like search service and replay service.

4 Changes

- RECORDINGS page renamed to PLAYBACK
- FTP name scheme changed to allow sorting by date, new scheme like snap_cx_YYYYMMDD_hhmmss.jpg
- Due to legal requirements, minimum retention time has been changed to maximum retention time for local recordings.
- To fully comply with the RFC '_' characters are replaced by '-' in the MIB file.



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5 Restrictions; Known Issues

- Mixture between video standards, e.g. PAL encoder connected to NTSC decoder, is not supported.
- In QCIF resolution, stamping is not available.
- After firmware upload while daylight saving time checkbox is activated the time zone must be adjusted.
- When filling an empty DST table and then update time zone too quickly, it may happen that time is shifted by 1 hour.
- After reboot, the system time re-synchronisation may be delayed up to 9 seconds for SNTP respectively up to 14 seconds for time server protocol.
- LUN size for local recording via "Direct iSCSI" is limited to 2 TB.
- VRM versions earlier than 2.0 will not be able to replay recordings from blocks that are recorded with FW 5.5x or higher.
- Numbering of the recorded files on the replay page is not always contiguous. If snippets across block borders belong together, like pre-alarm and alarm recording, the snippets become logically united and only the lower file number is presented in the list.
- VJT-X20XF-E and VJT-X40XF-E only provide MOTION+ without tamper detection.
- Dual recording of all four channels of a VJT-X40XF-E may exceed CF card performance and lead to recording gaps. Error messages are then shown in the logs on the LIVEPAGE.
- A printout was added to telnet when sending an e-mail failed. A more detailed printout was added for the three error cases 'could not connect to server', 'authentication failed' and 'recipient not accepted'.
- With GOP structure set to IBP and IBBP the I-frame distance may not exactly correspond with the set value.
- Installation of Autoload Decoder fails if more than one NIC is installed in a PC.
- Replay using Autoload Decoder may be jerky when a device is close to or in an overload situation.
- In Firefox, no audio is audible on the Audio Settings page.
- Opera mini for mobile devices can not work in Intranets because it gets all pages through an opera proxy in the Internet. If there is no Internet connection no content is provided.
- When changing GUI language, the browser cache may have to be deleted and the web browser be reloaded before the language will be selected correctly.
- QoS values are set according to group Video/Audio/Control for UDP packets, but for TCP packets only the QoS value for Video is inserted.
- With quad-view on LIVEPAGE of VJT-X20/X40XF-E using encryption, sometimes not all 4 video streams might displayed.
- Using profile 'Original' for replay via transcoder in Web browser may cause jerky video due to bandwidth limitation, just like with normal HD replay.



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- If a WLAN camera is configured for recording the best recording profile is chosen which might lead to congestion on the WLAN. The profile needs to be manually configured in the camera to not exceed the available WLAN bandwidth.
- Audio back-channel is not supported via SSL connections.
- Cameras to be used with transcoder VJT-XTCXF need minimum FW 5.52 and must record on the transcoder's CF card for the transcoder being able to replay from camera recordings.
- Cameras to be used with transcoder VJT-XTCXF and recording onto own local storage medium need minimum FW 5.60 for the transcoder being able to replay from camera recordings.
- The function "Configure Router" on the transcoder setup page requires UPnP enabled on the router. The resulting settings might not be persistent in the router during a power cycle. It is recommended to manually configure port forwarding in the router.

Note:

- Encoding bit rate for Baseline Profile plus (BP+) is limited to maximum 2.5 Mbps, regardless of any other setting in the encoder profile.

6 System Requirements

- Web Browsers:
 - Microsoft Internet Explorer 9.0 or higher
 - Mozilla Firefox
- Oracle Java Virtual Machine 1.6.0_35
- DirectX 9.0c
- MPEG-ActiveX 5.60 or newer
- Configuration Manager 4.40 or newer



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7 Previous Revisions

7.1 Changes with FW 5.52.0015

- Number of simultaneous RTSP connections increased from 10 to 25.
- Type naming of VIP-X1600-XFM4 modules has been corrected to 'VIP-X1600-XFM4'.
- Bug fix for not saving DNS Server address in configuration when assigned via DHCP.

7.2 New Features with FW 5.52.0009

- For VIP-X1600-XFM4, progressive video is possible due to de-interlacing video before encoding. This results in better video quality at comparable interlaced video bit rate. A selection field has been added to the Installer Menu, default is off. The license is not required anymore but remains functional where installed.

7.3 New Features with FW 5.50.0057

- VIP-X1600-XFM4: progressive video option with built-in de-interlacing.

To allow progressive video a special Global License Activation Key must be entered via the License page in the Web browser or the Configuration Manager:

02-01.41.01-F02A80E8-7AF66FC4-5AFC276B-2F363FF4-41498CE6

To switch back to interlaced video again, a Global License Deactivation Key can be applied:

02-01.41.00-CA429DA7-E96811A0-BEEE334A-9DF6FEE3-B076EC5C

These Global License Keys are valid for applicable products only.

To avoid typing errors it is recommended to copy & paste the keys from this release letter.

7.4 Changes with FW 5.50.0056

- DHCP is enabled by default with new devices to achieve ONVIF Plug&Play compatibility. Settings remain untouched during firmware upgrade.
- Class D IP addresses are denied for standard address fields in Web browser.
- Unused pre-alarm buffer is released when changing the recording block.
- RTSP multicast connections need a retrigger to keep alive, initiated by the CGI parameter "mcRetrigger", which is set by default. It can be disabled by setting mcRetrigger=0 in the RTSP URL for environments where no keep-alive messages are sent. Otherwise the connection will time out after 1 minute.



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7.5 New Features with FW 5.50.0056

- Support of new H.264 encoders VJT-X20XF-E and VJT-X40-XF-E.

Encoder

- Predictable rate control for long term recording ensures that maximum bit rate is not exceeded by peaks due to high motion. This makes storage calculation more reliable.
- Basic Region of Interest
- Adaptive Bit Rate encoding is available in TCP mode for replay and live. This is activated as long as there is only a single client connected to the stream. With the second connection, the profile settings become active.
- Quality settings (QP settings) are harmonized over all products.

Network

- IPv6 support for Web browser access to product pages, including live view, control and replay, has been introduced.
- Quality of Service (QoS) allows setting different priorities for video, audio and control connections.
- IP Filtering allows defining two IP address ranges allowed to communicate with a device.
- Flexible path for FTP can be defined, using a built-in FTP explorer.
- HTTPS encryption using AES and 3DES ensures compatibility with latest Web browser generations like IE9.
- SNMP community names can be defined.
- HTTP streaming (server push) allows mobile clients to access video.
- MTU can be configured to adapt to network conditions.

Recording

- Continuous recording files can be exported to a FTP server.
- Pre-alarm recording for short time spans can be done in RAM.
- FTP login data can be verified during setup.
- Recording ID can be delivered with triggering a virtual alarm and stored within metadata.
- Filenames for FTP export can be defined more meaningful by using pre-defined variables in an Alarm Task Script.



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Alarm

- Alarm images, JPEGs attached to alarm emails, can be defined more meaningful by using pre-defined variables in an Alarm Task Script.
- Quality of Service (QoS) level for video can be set higher on alarm.
- True HTTP request is now possible in the Alarm Task Editor as an additional SendHTTPCommand().

VCA

- IVA 5.5 has been incorporated in firmware 5.50.
Please refer to the respective release letter for details.

Web browser interface

- Region of Interest (ROI) cut-out is possible on LIVEPAGE when using stream 2.
Pan, tilt and zoom functionality is available there to dynamically move the region of interest over the full video and control the size of the cut-out via the zoom factor.
ROI is disabled in case of recording of stream 2.
- The same ROI functionality is also available on the replay page.
- In addition, replay can be transcoded by selecting an appropriate encoder profile on the replay page. This allows to playback high bit rate recordings even over bandwidth-limited connections.
- Mobile device can access the devices via browsers and are forwarded to specific pages, optimized for viewing on mobile devices. These pages use HTML5 technology with HTTP streaming for the live stream and HTTP download of recording files in .mp4 format.
Apple devices support live view and playback of recordings.
Android and Windows Phone support live view only.
- Pixel Counter allows counting of pixels in respect to stream resolution, e.g. to check if number of pixels of object in view is sufficient for identification.
- I-Frame only stream can be configured to be shown on the LIVEPAGE.
- The expected frame rate for I-Frame only is indicated on recording page.
- Display of V-SDK overlay icons can be configured on the LIVEPAGE settings
- Preview images in settings pages can be expanded for more details, including 1:1 view.
- Buttons to reboot a camera remotely and to set all camera and encoder parameters to factory defaults have been added.

ONVIF

- ONVIF Profile S is supported.
- ONVIF PTZ commands are mapped onto Bilinx commands and PTZ instance is signalled available if a Bilinx camera is connected.



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Miscellaneous

- Debug logging has been enhanced to ease investigation during support cases.
- Holidays (Special Days) are updateable without stop/start recording.
- AAC is supported in addition to G.711 and L16 audio codecs and is selectable for recording. It provides higher audio quality than G.711 with 16 kHz sampling rate at significantly lower bit rate of approx. 48 kbps.
- Firmware files of all three platforms are combined into a common file that can be uploaded to any applicable product, regardless of the platform.
Other languages than English and German are available as separate firmware packages.