From		Telephone	Nuremberg
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Release Letter

Products:	***H.264 Firmware for*** ***CPP-ENC Encoders, including:*** ***VIP X1600 XFM4*** ***VJT X20/X40 XF-E***
Version:	***5.52****.0009*

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

1 General

CPP-ENC H.264 firmware version 5.52.0009 is a maintenance release based on the former release 5.50.0057 for the VIP X1600 XFM4 encoder modules and VJT X20/X40 XF-E encoders but 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.

2 New Features

- 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.

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3 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.
- Ethernet daisy-chaining of VIP-X1600-XFB is limited to 3 units.
- 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
- When switching the encoding type while recording is active only the footage of the latest set encoding type can be replayed from this recording track.
- VIP X1600 XFM4 H.264 encoder modules only support grey colour for Privacy Masking areas.
- LACP, though mentioned in the documentation, is not supported by VIP X1600.
- For correct communication between the modules and the built-in switch in a VIP X1600, it must be ensured that the IP address 1.1.1.1 is not used elsewhere in the network.
- Due to limited computational power of the built-in switch in VIP X1600, IGMP Querying should only be activated in small network segments with no more than 3 VIP X1600 base systems respectively no more than 12 devices or modules.
  IGMP Querying in VIP X1600 must be deactivated if a network switch can take over this task.
- 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.
- VIP-X1600-XFM4 firmware files do not include Autoload Decoder due to size constraints. Autoload Decoder shall be downloaded from the product catalogue or MPEG-ActiveX be used instead.
- 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.

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- Installation of Autoload Decoder fails if more than one NICs are installed in a PC.
- Replay using Autoload Decoder may be jerky when a device is close to or in an overload situation.
- IVA and flow need at least 12.5 frames per second video input frame rate. If IVA or Flow are configured, minimum frame rate of 12.5 must be set.
- 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.

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.
  This is also valid for all earlier FW 4.x releases though not having been stated yet.

4 System Requirements

- Microsoft Internet Explorer 8.0 or higher
- Oracle Java Virtual Machine 1.6.0_26
- DirectX 9.0c
- MPEG-ActiveX 5.30 or newer
- Configuration Manager 4.35 or newer

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5 Previous Revisions

5.1 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.

5.2 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.

5.3 New Features with FW 5.50.0056

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

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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.

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().

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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.

5.4 Changes with FW 4.21.0015

- Improved speed of ONVIF command processing.
- For keep-alive reasons, the RTSP parameter GET_PARAMETER is now supported.
- RTSP authentication using VLC is now possible.
- Various improvements for recording and event handling.
- Improved Internet Explorer 9 compatibility.

5.5 Changes with FW 4.21.0006

- The motion-based toggle mode as described in firmware 4.10 release letter is no more available in this release. Target bit rate is not shown anymore on the graphical user interface.
- Alarm stamping has been removed for virtual alarms.

5.6 New Features with FW 4.21.0006

- IVA allows crowd level detection in a field.
- New IVA software framework for more reliable detection. This allows reduction of false alarms caused by shadows or windy elements, more stable object ID, pre-estimation of trajectory of an object, and improvement of the detection of small and slow objects.
- New IVA versions can be tested during a 30-day trial period, beginning with upgrading to a firmware including a new IVA version. This requires a special activation key which is available on request.
- Extended multi-connectivity by increasing RCP+ connections to 100 minimum.
- Temperature values (current and maximum) included in system overview.
- SNMP trap is sent when reaching internal temperature limit.

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