From			Nuremberg
BT-VS/MKP-XPT	Product Management		20.04.2023

Release Letter

Product:	***VIDEOJET decoder 7000*** *VJD-7513*
Version:	*Firmware **10.40**.0055*

This letter contains latest information about the above-mentioned product.

1. General

This firmware release 10.40.0055 is a feature release based on FW 10.31.0005.

Changes since last release FW 10.31.0005 are marked in blue.

VIDEOJET decoder 7000 uses robust, fan-less technology designed for ambitious environmental conditions while providing maximum performance on minimum space in a nicely designed industrial housing.

VIDEOJET decoder 7000 displays video from Standard Definition (SD), High Definition (HD), 4K Ultra High Definition (UHD), and Megapixel (MP) cameras and encoders using H.265, H.264 or MPEG-4 encoding at up to 60 frames per second over IP networks.

VIDEOJET decoder 7000 is the successor of VIDEOJET decoder 8000 (VJD-8000, VJD-8000-N). It is using the same housing but comes with different video output interfaces and provides improved performance and functionality.

Notes:

- Firmware update may take several minutes due to a large cumulative Microsoft patch.
- This firmware includes OpenSSL.

From			Nuremberg
BT-VS/MKP-XPT	Product Management		20.04.2023

2. Applicable products

- VIDEOJET decoder 7000, VJD-7513

3. New Features

- SRTP for encrypted multicast traffic is supported. This allows fully secured communication with and video streaming from CPP13 and CPP14 cameras in multicast environments.
- SNMPv3 trap service has been added, including the support of SNMP-related RCP+ commands for configuration.
- A JPEG snapshot is now possible from each of the displays, including JPEG quality settings parameter.
- Display order can be re-arranged in case Windows display detection differs from mechanical order.
- The default layout is depending on the display number to simplify the identification of display order. The number of video windows per display increases as square of the display number.
- The web interface of the decoder has been updated to the latest style guide and re-structured to ease usage for installation, licensing, and integration purposes.
    - The new web pages provide links to documentation and include a live preview.
    - Maintenance log file creation and download is supported by a workflow mechanism.
    - A keyboard emulator supports initial setup for IP Matrix even without keyboard connected.

From BT-VS/MKP-XPT	Product Management		Nuremberg 20.04.2023

4. Changes

- The Video SDK as one of the core components for the decoder firmware has been updated to latest version 6.40, providing a great number of improvements and fixes, mainly around ONVIF and RTSP support, increasing the overall robustness.
- An issue is fixed for banner upload when banners are activated.
- An issue is fixed for zooming out in client dewarping mode of panoramic camera streams.
- An issue is fixed where client dewarping was not working on line 1 of a panoramic camera in onboard dewarping mode. Onboard dewarping is only available for lines 2 and higher, line 1 always provides the full warped image circle.
- An issue with DNS server configuration is fixed.
- An issue is fixed where CPP13 and CPP14 cameras were not correctly connected in camera sequences.
- Maintenance log file download is improved, supported by the new web interface structure.
- An issue is fixed where daylight saving time was incorrectly reflected in time zone offset calculation.

5. System Requirements

For configuration purposes:

- Configuration Manager 7.61 or newer

For operation purposes:

- Bosch Video Management System 12.0 or higher

  Note that not all features may be supported by BVMS yet.
  Please refer to BVMS release notes.

6. Restrictions; Known Issues

- Connecting encrypted streams without proper signalling may result in crashing the software decoder instance, resulting in black video displayed.
- Alarms will not be signaled with a red border around the cameo if connection was established using CONNECT_PRIMITIVE.
- Using CONNECT_PRIMITIVE via TCP is not possible.
- CONNECT_PRIMITIVE does not support "first available" feature.
- Audio may remain audible despite layout change to other than single view.
- RCP+ command CONF_ALARM_CONNECT_TO_IP is not supported.
- Alarm connection does not support audio, nor does it include metadata.
- Maximum password length is 19 characters.
- With “Reconnect last devices” active camera connections are stored and automatically reconnected after reboot. To avoid deadlock in case of an overload situation the automatic reconnect will be deactivated after the decoder was forced into reboot for ten times within 10 minutes.
- Monitors may be swapped after update. Swap back is possible using Configuration Manager.
- IP Matrix pre-requisites for multi-decoder clustering:
  - Fixed IP addresses must be assigned; DHCP configuration is not functional.
  - Passwords for service level must be same on all clustered decoders.
  - Passwords for user level must be same on all clustered decoders.
- After removing a slave decoder from the IP Matrix master, both decoders must be restarted.
- Camera sequences are paused when picture-in-picture mode is activated.
- Time related settings may appear in Configuration Manager only with delay or after a reboot.
- Monitors connected to the Display Port via USB-C may not always be detected during booting. In this case, unplug and reconnect the adapter or cable to the monitor. If only one monitor is used it is recommended to connect to the direct HDMI output.
- Log file download stability may be affected by workload of decoder. As a workaround, the download may need to be repeated, or the workload of the decoder may need to be reduced (disconnect all camera streams).
- Time zone configuration is only supported via TIME_ZONE_STRING.
- The KBD-DIGITAL keyboard is locked automatically during start-up of the decoder, or with re-connect. It will be unlocked after entering the PIN but the lock screen will remain until the next action on the keyboard.
- Certificates used with the decoder must not have any Windows policies defined.
- ~~DNS resolution is not implemented yet, thus time server entry only works with IP addresses.~~
- ~~Dewarping zoom does not work correctly for panoramic cameras in on-board dewarping mode for camera line 1.~~
- Overload messages and traps may appear too sensitive in cases where display refresh rates are lower than video stream frame rates.

From			Nuremberg
BT-VS/MKP-XPT	Product Management		20.04.2023

7. Previous Revisions

7.1. New Features with 10.31.0005

- Support for HOST_NAME to get and set the device's hostname; only supported in extended configuration mode.
- Support for DNS_SERVER_IP_STRING to get and set primary and secondary DNS server IPv4 addresses.

7.2. Changes with 10.31.0005

- Optimized transparent data processing time to allow adequate transparent data pass-through for serial PTZ keyboard.
- An issue is fixed to apply e-PTZ presets correctly in camera sequences.
- Feature loss due to suppressing encrypted UDP multicast connections for Bosch IP cameras with firmware 8 and higher, and fall back to TCP, tunneled via HTTPS control connection. (This feature will be added again with FW 10.40.)

7.3. New Features with 10.30.0005

- The default setting for Automatic IPv4 address assignment is set to “DHCP plus Link-Local”.
  Though this might seem a small change, it may have an impact:
  The former default IP address 192.168.0.200 will virtually become obsolete.
  Instead, the camera will assign itself an auto-IP address out of the range 169.254.1.0 to 169.254.254.255 as long as there is no other IP address assigned by a DHCP server.
  (https://en.wikipedia.org/wiki/Link-local_address)
  The advantage is that there are no more duplicate IP addresses, which is considered prohibited in a network.
- Network authentication 802.1x with EAP/TLS has been added.
  Please note that the server certificate needs to get the usages ‘Trust’ and ‘EAP_TLS_Trusted’ assigned.
  The client certificate will get the necessary usages assigned automatically.
- The possibility of large banner overlays has been introduced.
  - Banners can be uploaded as images that can be displayed over three areas: top, center and bottom. The images are scaled to fill the area and cropped where necessary.
  - Banners can be sequenced with a configurable dwell time.
  - Configuration Manager 7.60 is supporting this with upload and banner sequence configuration, including banner previews.
- Set and recall prepositions for moving cameras (AUTODOME, MIC) as well as for ONVIF PTZ cameras via keyboard has been added to the IP Matrix functionality.
- Images can be uploaded to the decoder for two purposes, using Configuration Manager. The images shall be in JPG format and must be named as follows:
  - ‘monitor background’ image, shown as background of an empty video window: ‘Logo.jpg’
  - ‘’no camera’ image, shown on connection failure: ‘NoCamLogo.jpg’

7.4. Changes with 10.30.0005

- An issue was fixed where uploading a new video loss image did not break the software seal.

7.5. Changes with 10.23.0002

- A security vulnerability has been fixed where a crafted configuration packet sent by an authenticated administrative user can be used to execute arbitrary commands in system context (CVE-2021-23862).
  For more details refer to our Security Advisory BOSCH-SA-043434-BT, published at our Security Advisory web page
  https://www.boschsecurity.com/xc/en/support/product-security/security-advisories.html
  or visit our PSIRT website at https://psirt.bosch.com.

7.6. New Features with 10.22.0038

- APIPA (link-local address, Auto-IP) is used instead of a default IP address when DHCP is on and no DHCP server responded.
- Transparent data pass-through for serial PTZ keyboard (SERIAL_PORT_APP_VAL and TRANSFER_TRNSPARENT_DATA) has been added.
- Support of RCP+ via CGI (including WRITE commands) has been added.
- HTTP digest authentication is supported for RCP+ via CGI.
- Display orientation can be changed per line via RCP+.
- RCP+ WRITE command MONITOR_NAME now supported for custom monitor names.
- Updated RCP+ documentation is now available via the VIDEOJET decoder webpage.
- Download of screen and tile snapshots via snap.jpg is now supported (requires at least user privileges).
- Firmware update on-screen countdown dialog now shows a heartbeat whenever a single update step takes longer.
- Support of CONNECT_URL read queries to get current video connection details, including current digital and dewarping zoom settings, has been added.
- Support of various digital and dewarping zoom persistence modes (DIGITAL_ZOOM_PERSISTENCE_MODE) has been added.
- Support of SYSTEM_DATETIME_V2 to read/write UTC system time has been added.
- Support for new Sentinel RMS licenses has been added. Legacy licenses can now also be based on new installation code (lock code from Sentinel RMS).

From			Nuremberg
BT-VS/MKP-XPT	Product Management		20.04.2023

7.7. Changes with 10.22.0038

- IP Matrix initialization is now working also for camera lines larger than 1.
- RCP+ response for query on connected cameras is now working correctly.
- URL extension for camera configuration in IP Matrix is no longer truncated.
- An issue with an unexpected application restart has been fixed.
- The DECODER_GROUP command is no longer supported when decoder IP address is not static. This disables the whole IP matrix configuration pages in Configuration Manager until a static IP is configured in the decoder's network settings.
- Improvements were made for log export via webpage and via Configuration Manager.
- KBD-DIGITAL keyboard PIN is now used immediately without application restart.
- KBD-DIGITAL keyboard PIN is now required whenever keyboard is attached and at application start.
- Display orientation is now working for further monitor types.
- Support of further USB to serial COM port adapters for KBD-DIGITAL keyboard connectivity.
    - Current: Prolific PL2303 [hardware ID USB\VID_067B&PID_2303]
    - New: Prolific PL2303GT [hardware ID USB\VID_067B&PID_23C3]
    - New: ATEN UC232A [hardware ID USB\VID_0557&PID_2008]
    - New: Unitek Y-108 [hardware ID FTDIBUS\VID_0403+PID_6001]
    - CableCreation CD0489 (PL2303) [hardware ID USB\VID_067B&PID_2303] is compatible to the already supported Prolific PL2303 adapter.

  Please note that the KBD-DIGITAL keyboard connectivity requires continuous maintenance, since new or not listed USB-to-serial COM port adapters typically require the installation of a suitable driver on the VIDEOJET decoder and an adaption of the hardware ID filter in the keyboard detection software module. Newer USB adapters may require a firmware update to become supported.

From			Nuremberg
BT-VS/MKP-XPT	Product Management		20.04.2023

7.8. New Features with 10.01.0036

Security

- A protected configuration mode has been implemented, allowing to
  - enable SSD encryption (BitLocker) and to
  - disable USB ports, e.g. for installation of the decoder in public areas.
- The configuration of the decoder can be protected by Software Sealing, similar to IP cameras.
- The latest Microsoft Windows security updates have been included.

Miscellaneous

- A dewarped cutout from panoramic cameras can be defined with PTZ coordinates.
- A new way to control and integrate the decoder into a management system has been added by a JSON RPC API. This allows to send commands and retrieve status information via JSON remote procedure calls. The API documentation is added to the distribution package.
- A video output capture service (VOCS) has been implemented which could be activated via a license, applicable per display output. This service captures the memory of the video output and encodes it into a camera-like video stream, which can be recorded via Video Streaming Gateway (VSG) onto iSCSI storage.
- A time server can be added to synchronize the decoder.
- Decoder log file can be downloaded via Configuration Manager. This is especially recommended when download of the log file is not working correctly via web browser.

7.9. Changes with 10.01.0036

- Upload of background image and connection loss image to the decoder and reverting them to default is now also possible with service password set. The former restriction is obsolete.
- Various minor bug fixes.

7.10. New Features with 9.60.0017

IP Matrix enhancements

- KBD-DIGITAL is supported in addition to KBD-UNIVERSAL XF.
  This keyboard requires a serial-to-USB adapter to connect to the decoder.
  Both keyboards can be mixed in a clustered multi-decoder IP Matrix, one keyboard per decoder.
- Playback from local recording is supported.
  Permission is configured via Configuration Manager for the whole IP Matrix, valid for all users.
- Buttons for next and previous camera have been added to the KBD-UXF functions.
- Audio can be switched on or off via keyboard.
- Camera channels can be extended via license up to 64 cameras per decoder unit.

Note:

IP Matrix manual is now separated into

- One configuration manual for IP Matrix
- One operation manual for IP Matrix using KBD-UXF
- One operation manual for IP Matrix using KBD-DIGITAL

Security

- The latest Microsoft Windows security updates have been included.

Miscellaneous

- Background image and connection loss image can be uploaded to the decoder, replacing the default images. Reverting them to default is done by uploading an empty image.
  Note: Upload is only possible in conjunction with an empty service password.

7.11. Changes with 9.60.0017

- Temperature control margin increased to improve maximum performance at the specified maximum temperature, covering component tolerances, and to ensure that all products adhere fully to their specification.
- Various minor bug fixes.

7.12. Features with initial release 9.51

- VIDEOJET decoder 7000 displays video from Standard Definition (SD), High Definition (HD), 4K Ultra High Definition (UHD), and Megapixel (MP) cameras and encoders using H.264 or MPEG−4 encoding at up to 60 frames per second over IP networks.
- VIDEOJET decoder 7000 provides an HDMI and a DisplayPort (via USB-C connector) output, both capable of driving up to 4K UHD displays simultaneously.
- Display settings are automatically discovered and set for optimal display performance.
- Monitor layouts can be switched independently for each display.
- Upright monitors (portrait mode) are supported.
- Video window (cameo) aspect ratio can be set to 16:9, 9:16, 3:4, or 1:1.
- Active camera connections and layout are stored and automatically reconnected after reboot if configured.
  To avoid deadlock in case of an overload situation the automatic reconnect will be deactivated after VIDEOJET decoder 7000 was forced into reboot for 3 times within 10 minutes.
- Video smoothing can be configured.
- RTSP connections are supported, enabling connectivity to 3rd party and ONVIF cameras.
- Discovery port is configurable.
- Cameo distance is configurable.
- VIDEOJET decoder 7000 supports IP Matrix application as built-in feature.
- VIDEOJET decoder 7000 is able to display VCA metadata.
- VIDEOJET decoder 7000 provides bi-directional G.711 audio for the video stream shown in single view on the first monitor.
- Configuration is done using the Configuration Manager.
- The number of decoders presented in capabilities is configurable to regulate the consumption of VMS licenses. Default value is 30.
- System access is password-protected with two levels.
- The system firmware can be upgraded remotely.
- System API is compatible to predecessor VIDEOJET decoder 8000 for easy plug-and-play integration.
- Operating temperature is
  - 0 °C to +50 °C (+32 °F to +122 °F) ambient temperature, with airflow
  - 0 °C to +40 °C (+32 °F to +104 °F) ambient temperature, still air

For detailed functional description of inherited firmware features, please refer to the VIDEOJET decoder 8000 firmware 9.51 release notes.

For detailed technical specification, please refer to the datasheet.