

# MainConcept TotalCode Studio v5.2

## Release Notes

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### Installation Notes

To use TotalCode Studio 5.2, you must have an officially supported compatible Windows operating system and configuration.

#### Supported Operating Systems:

- Microsoft® Windows 10 (64-bit)

#### Minimum System Memory:

- 8 GB

#### Minimum Requirements for Hardware (GPU) Encoding:

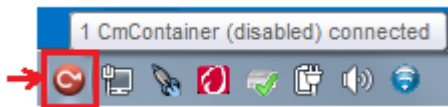
- Intel Quick Sync Video: 26.20.100.7584
- NVIDIA NVENC: Driver version R450 (457.09)

To make full use of Intel Quick Sync Video and NVIDIA's NVENC hardware encoding (including Hybrid and Driven modes), we highly recommend keeping the Intel and NVIDIA drivers up-to-date. Some older versions might have issues that affect quality and conformance when GPU hardware encoding.

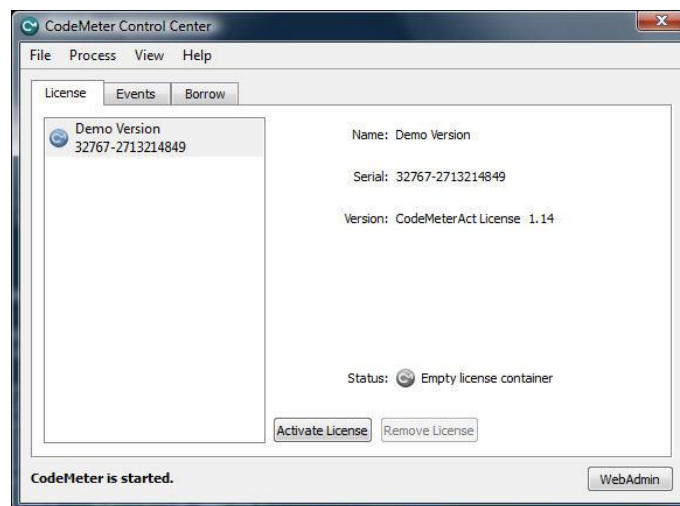
### Installation and Activation

To install and activate TotalCode Studio on your system, please follow the steps below.

1. Run the "TotalCode Studio.exe" setup file.
2. Activation requires Codemeter, a technology that provides secure protection and effective license management of software and digital content such as encoding technologies. It should not be necessary to manually setup the CodeMeter Runtime, the TotalCode Studio installer will automatically install it.
3. After a successful installation of **CodeMeter Runtime** you will find the CodeMeter icon in your taskbar:



4. Double click on the icon to open **CodeMeter Control Center** and drag the 'TotalCode\_Studio\_Win.wbb' file into the License section.



Activate your license online. You will need a Ticket ID as provided by your sales contact person. The Ticket ID is a link and will look like the example below:

<http://licensecentral.mainconcept.com/ticket/C2TLS-5RRVK-AALNP-P59QE-36NDV>



#### NOTE:

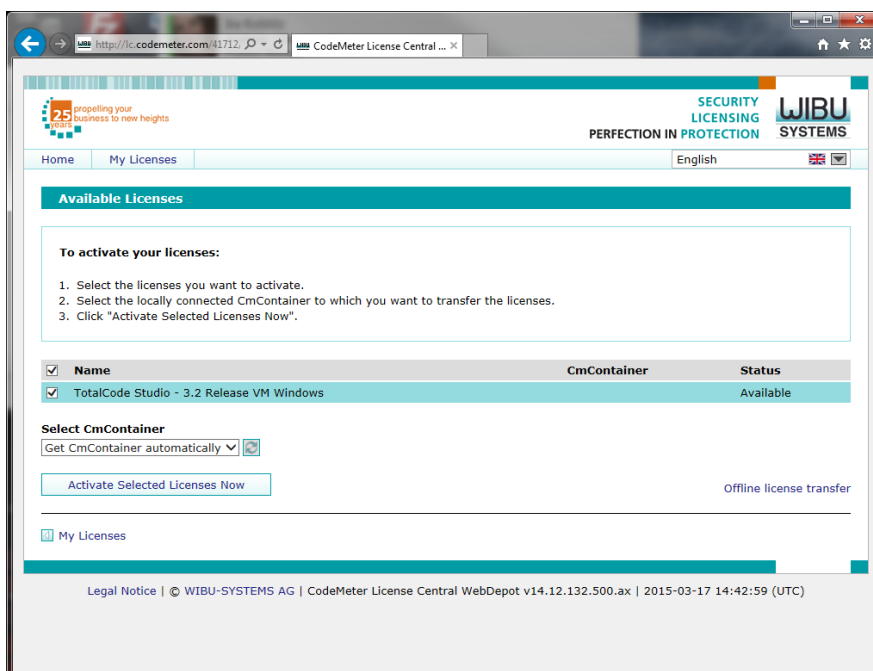
During setup, TotalCode Studio tries to register DirectShow filters for importing streams. If this hasn't done automatically when installing the application, you can also start the registration process manually. In the bin folder, there are batch files to register and unregister DirectShow filters (optional but recommended if you want to use DirectShow). You need to run these as administrator.

To activate a license, please proceed with the following steps:

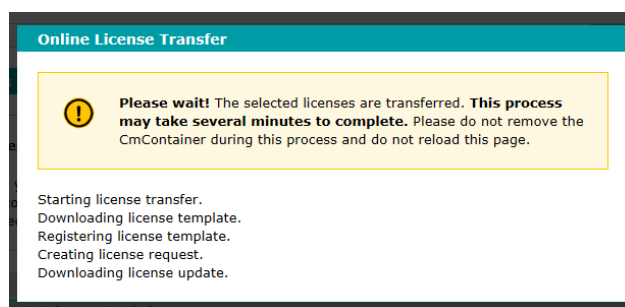
- Click or copy & paste the link provided by your sales representative or via our webshop into your browser.



The following website will appear on the screen. You should leave the default settings, so TotalCode Studio will **Get CmContainer automatically**. Simply click the **Activate Select Licenses Now** button.



TotalCode Studio will connect to the License Server and try to activate the application:



- After some seconds the status will change to **Activated**.
- The license is now activated and can be used.

# MainConcept TotalCode Studio 5.2

## Release Notes

- If you open **CodeMeter Control Center** you will also see the last activated product as confirmation. The status will change to **License activated**.



- You will also notice that the **CodeMeter** icon in your task bar has turned from red into green:



In case you have activated more than one license you will get a more detailed overview in **WebAdmin**.



**WebAdmin** will open as a browser window. By choosing **Content/Licenses** you will get an overview about all installed licenses:



### NOTE:

There might be the risk of losing the WIBU license when upgrading Windows 10 to a major new version such as the Windows 10 Anniversary Edition. These updates replace the current operating system with a new one and transfers user data. CmActLicenses (WIBU licenses) can become invalid after the update if the installed CodeMeter version is 6.30c or older. Updating

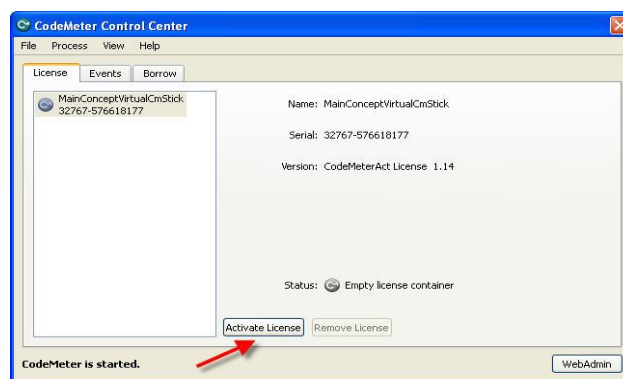
*CodeMeter to the latest version generally repairs invalid licenses so that they can be used again. It is recommended however to update CodeMeter to the latest version before installing the Windows 10 Anniversary Update. The latest CodeMeter runtime can be downloaded directly from WIBU Systems: <http://codemeter.de/us/service/downloads.html>, or installed by installing the latest version of TotalCode Studio.*

### Remote License Activation

How to activate a License on a PC without internet connectivity

To activate the license, please proceed with following steps:

- Open the CodeMeter Control Center and press the Activate License button.



- Confirm the Welcome screen with Next.
- Tick the option Create license request and confirm with Next.



- Select a file name. The dialog will make a suggestion. However, you can enter your own. Please note that the suffix ".WibuCmRaC" is required.
- Transfer the stored file to a PC with internet connectivity (e.g. using an USB stick).
- During the purchasing process you received a License Ticket ID.

- Click or copy and paste the provided link into your browser.

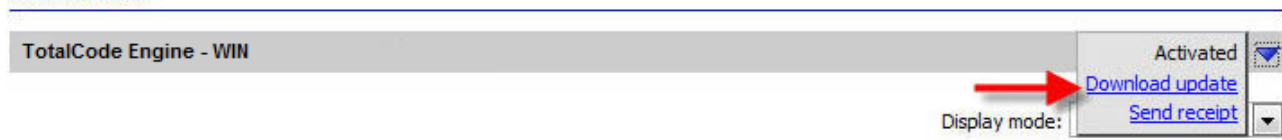


- The browser will access the MainConcept License Center where the product will automatically show up.
- Tick Remote in the Programming type section.
- Pick the context file (license request) you have created before on your target system.
- Press Activate now.

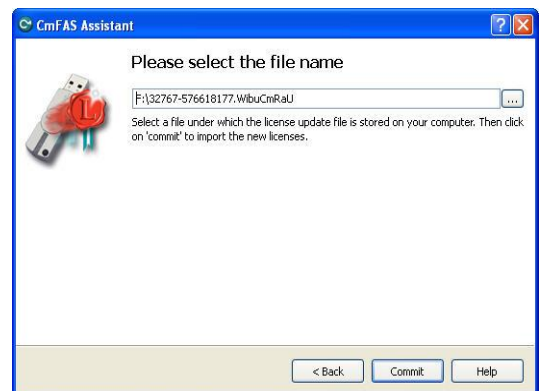
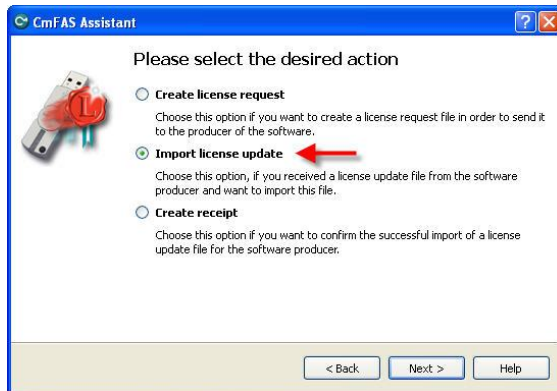
### Get License

- Confirm the activation process. After a few seconds the status will change to Activated and a new file with the extension “.WibuCmRaU” is created.
- Save this file and transfer it to your target system where TotalCode Studio is installed on.
- In case of browser problems such as pop-up blocker or extended security settings, please go to the activated item and press Download update in the drop-down menu. Now you should be able to save the file.

### Your licenses



- After transferring the activation file (“context file”) to your target system, open the Control Center again, go to Activate License and pick Import license update this time, selecting the file you have saved before. Confirming with Commit will activate the license.



- The license is now activated.
- For more detailed information about all activated licenses check the WebAdmin as described in the chapter License Online Activation.

## Features

### New Features in TotalCode Studio 5.2:

- New ready-to-use presets for AS-11 UK DPP SD (MPEG-2) and HD (AVC/H.264), including metadata processing and optional XML sidecar generation.
- Ingest of Sony XAVC V2.0 (XAVC HS) streams.
- Encoding to HEVC/H.265 4:2:2 Chroma Sampling for broadcast workflows (Broadcast Pack).
- Update to latest libraries from Codec SDK 11.3.
- Update to latest libraries from HEVC SDK 12.1.
- Update to latest libraries from Decoder SDK for Apple ProRes 2.0.
- Select file extension for encodings into MPEG-2 Transport Stream, e.g. \*.ts, \*.mpg or \*.m2ts.
- Updated CodeMeter to version 7.10.

### New Features in TotalCode Studio 5.1:

- GPU-accelerated HEVC/H.265 encoding modes (Full, Hybrid & Driven) on supported NVIDIA RTX, GTX and Quadro boards for significantly increased performance while providing a similar quality than the MainConcept software encoder.
- 2-pass HEVC/H.265 encoding option for the highest visual quality in file-based conversion.
- PQ / HDR-10 (ITU-R BT.2100-1 / SMPTE ST 2086) to HLG (ITU-R BT.2100-1) and vice versa HDR conversion.
- PQ / HDR-10 and HLG to SDR conversion allowing content creation that is compliant with non-HDR devices.
- Apple HLS Master Playlist generation tool.
- MPEG-DASH Manifest file generation tool.
- Updated CodeMeter to version 7.0.

### New Features in TotalCode Studio 5.0:

- Update to Codec SDK 10.6 and HEVC SDK 10.1.
- Native Apple ProRes ingest using the MainConcept Decoder for Apple ProRes.
- PQ (BT.2100 / SMPTE ST 2084) and HDR-10 (SMPTE ST.2086) HDR Encoding in HD / 4K.
- HLG (ITU-R BT.2100-1) HDR support.
- Encoding of Apple HLS media segments using HEVC in fMP4, compliant with the latest updates to iOS and macOS for enhanced resolution at lower bitrates.
- Updated HLS Presets with support for MPEG-2 TS and fMP4 segments, compliant with Apple's latest encoding recommendations and specs.
- Hardware AVC/H.264 Encoding via Intel® Quick Sync Video.
- Hardware HEVC/H.265 Encoding via Intel® Quick Sync Video.
- Hardware HEVC/H.265 Encoding via NVIDIA® NVENC.
- Ready-to-use encoding presets for Panasonic P2 AVC-Intra Class 200 and 2K/4K.
- Ready-to-use encoding presets for Panasonic P2 AVC LongG.
- Ready-to-use encoding presets for Sony XAVC Long GOP in MXF.
- Ready-to-use encoding preset for Sony XAVC-S in MP4 (AVC video and LPCM audio).
- Updated bitrates and new 720p level profile for DASH-265 Main 10 presets.
- Ingest of VC-3 compliant Avid DNxHD and DNxHR streams.



- Ingest of interlaced and progressive 10-bit 4:2:2 XF-HEVC recordings from Canon's latest XF 705 professional camcorders.
- Removed a few legacy presets. Additionally, some presets have been renamed:
  - The 'HEVC Main' preset is now called 'HEVC Main SD'.
  - The original HLS presets are now called 'HLS-264'.

### New Features in TotalCode Studio 3.5:

- TotalCode Studio allows import of HEVC 10-bit files in MPEG-2 TS and MP4, or as ES.
- Update to the latest HEVC Encoder and Decoder from HEVC SDK 5.0, including High Tier and BT.2020 support.
- Improved handling of input streams that contain variable frame rates, including A/V synchronization optimizations.
- TotalCode Studio can now import and create 8K RAW streams.

### New Features in TotalCode Studio 3.3:

- TotalCode Studio is now a native 64-bit application, with improved 4K HEVC and HEVC SABET transcoding performance.
- HEVC Main 10 profiles for 10-bit encoding up to 4K.
- Preview of DASH-265 Main 10 profiles.
- Support for 10-bit Apple ProRes source files, including Apple ProRes 4:2:2 and 4:4:4.
- Export HEVC to MPEG Transport Stream
- Support for the latest version of DTS Encoder, incl. 7.1 surround.
- Import of VC-1 Blu-ray compliant Transport Streams.
- Ready-to-use Apple HLS presets.
- Enabled basic command-line functionality in TotalCode Studio.

### New Features in TotalCode Studio 3.2:

- Support for creation of DASH-HEVC/265 and DASH-AVC/264 presets
- Support for the latest version of Dolby Digital and Dolby Digital Plus, including metadata support of transcoding between Dolby streams.
- TotalCode Studio now supports real time HEVC encoding at 1080p.
- Support for Fraunhofer AAC metadata.
- Support for Fraunhofer AAC segmenting for DASH.

### New Features in TotalCode Studio 3.1:

- Support for HEVC encoding, including presets for 720p, 1080p and 4K.
- HEVC presets can be created (via TotalCode Studio) with user selectable Performance Encoding Modes (Performance vs. Quality).
- HEVC video can be muxed into an MP4 container. The container can include and various audio formats, such as AAC and DTS.
- Support for up to 59.94p DF for XAVC-Intra in NTSC.
- H.264 can now be encoded in resolutions up to 4K at 59.94p.
- RAW video import has been made easier with the addition of more common resolutions up to 4096x2160.

### Resolved Issues

#### Resolved issues in TotalCode Studio 5.2:

- **[TCS-1383/TSDK-1233]** To create Blu-ray UHD compliant streams, support for chroma sample location adjustment fields in VUI have been added to the HEVC encoder.
- **[TCS-1391]** TotalCode Studio by default only offers those GPU modes that are supported by the selected Nvidia board.
- **[TCS-1398/TSDK-1276]** For some professional camcorder presets such as Sony XAVC- Intra HD CBG Class 100 or Panasonic P2 AVC-Intra 50, you are now able to set all resolutions that are supported by the official specifications.
- **[TCS-1409]** DTS encoding works again after an issue prevented it functioning from January 3, 2021.
- **[TSDK-1113]** The correct picture size limit is now used when using Intel Quick Sync Video for AVC/H.264.
- **[TSDK-1168]** Average bitrate error tolerance is not exceeded anymore when encoding to Apple HLS AVC using Intel Quick Sync Video.
- **[TSDK-1183]** The H264\_MAIN preset initializes the correct height for PAL and NTSC again.
- **[TSDK-1196]** Fixed an issue so that all video variants and renditions now have segment boundaries at the same point in time to pass Apple's HLS validation tests.
- **[TSDK-1241]** No "level\_id" errors from the AVC/H.264 encoder anymore when using high frame rates for Sony XAVC and Panasonic P2 AVC-Intra presets.
- **[TSDK-1258]** You can now set the AVC/H.264 Encoder to Level 5.0 for HLS AVC, which allows the creation of 4x3 (1920x1440) content.
- **[TSDK-1263/MCC-10752]** Preset "#125: Sony XAVC-S Long GOP HD (XAVC\_S\_LONGGOP\_HD\_M4)" does not freeze anymore when transcoding to MP4 files without audio.
- **[TSDK-1265]** The XDCAM and XAVC preset names are now displayed with "Sony" in front of them so they can directly be identified by manufacturer, similar to the other professional camcorder presets.
- **[TSDK-1277]** The names of several Sony XAVC Intra presets have been changed to correspond to the official Sony specifications.
- **[TSDK-1278]** The Sony XAVC Intra HD Class 200 preset has been removed because there is no Sony product available supporting this.
- **[TSDK-1279/MCC-10904]** Fixed SAR values so that Panasonic P2 AVC-Intra 50 streams play back properly on a Panasonic P2 PD500 deck.

#### Resolved issues in TotalCode Studio 5.1:

- **[TCS-1354/TSDK-998/TSDK-1041]** The Color Range setting is now set to "Clamped" for BD H.264 and AVCHD presets by default to generate Blu-ray Disc and AVCHD specification compliant streams.
- **[TCS-1369]** The multi-view input option has been removed from TotalCode Studio.
- **[TCS-1372]** TotalCode Studio now has its own entry as "MainConcept TotalCode Studio" in the Start menu due to changes made by Microsoft in Windows 10.
- **[TCS-1373/TSDK-1204]** Fixed warning messages after changing the framerate when using Sony XAVC CBG Intra and Panasonic P2 AVC-Intra presets.
- **[TCS-1376/TSDK-1214]** Fixed crash during transcoding caused by changing the HEVC/H.265 codec after selecting MPEG TS output.

- **[TCS-1378]** WAV/PCM file encoded to AAC/MP4, then decoded back to WAV/PCM has the correct length again.
- **[TCS-1384]** When using Watch Folders, the “Move it to” option now also works for input files larger than 21 GBs.
- **[TCS-1387]** It is now possible to manually add HDR-10 metadata when transcoding from a PQ stream.
- **[TCS-1388]** Removed error message (3010) after successfully installing Microsoft Visual Studio 2017 runtime.
- **[TCS-1390]** Color range is not expanded for XDCAM HD presets anymore.
- **[TSDK-1025]** Successful transcoding of specific Apple ProRes file with four audio tracks using MainConcept’s Decoder for Apple ProRes instead of Apple’s QuickTime-based importer.
- **[TSDK-1187/MCC-10283]** The Sony XAVC-S preset now creates valid output by adding the missing STTS atom to the MP4 container.
- **[TSDK-1198/MCC-10325]** Variable bitrate MP3 files are now imported correctly.

### Resolved issues in TotalCode Studio 5.0:

- **[TCS-1193/TCS-1307]** Export of target settings works correctly again.
- **[TCS-1246]** Fixed crash when encoding a RAW source file to H.264 High profile as Elementary Stream while enabling “Show encoded frames while transcoding” option.
- **[TCS-1343/TSDK-1003]** Several high resolution Apple ProRes files are imported with the correct full-size picture (no green frames anymore).
- **[TCS-1344]** If you change the “VBV Buffer target” in the AVC/H.264 Advanced Settings dialog, the settings are now applied correctly.
- **[TCS-1347]** Fixed some errors with HLS presets, e.g. removed duplicated HLS 1080p L9 and an “unknown” labelled layer.
- **[TCS-1352]** The default framerate for the HLS-H.264 1080p L8 preset is now always correctly set to 25 fps.
- **[TCS-1353]** Fixed issue where an exception appears after setting up multiple watch folders and add many files for transcoding in parallel.
- **[TCS-1358]** Users are now able to add additional audio tracks for HEVC/H.265 (and other codecs) in MPEG-2 Transport Streams.
- **[TCS-1361]** Starting a DASH transcoding a second time does not crash anymore.
- **[TCENG-230]** HLS validation with mediastreamvalidator now passes by setting the correct audio codec name for AAC HEv1 and AAC HEv2 in the playlist.
- **[TCENG-232]** Based on the HLS Authoring Specifications for Apple Devices, HLS for AVC now uses High Profile in preference to Main or Baseline Profile.
- **[TCENG-244]** IDR frames for chapter points are added at the correct position for DVD again.
- **[TSDK-82]** Transcoding to custom AVC/H.264 Baseline/Main/High with combination of muxer mpegpsmux, video codec bch264venc and audio codec mpegpcmenc works correctly again.
- **[TSDK-86]** Transcoding to "DVB SD/HD H.264" presets with codec combination of muxer mptsmux, video codec bch264venc and audio codec aacaenc works correctly again.
- **[TSDK-87]** Transcoding to DVB SD/HD presets with codec combination of muxer mptsmux, video codec mpegvenc and audio codec aacaenc works correctly again.
- **[TSDK-90]** Fixed M104:Audio/Video EB underflows that occurred when transcoding to VC-1 Advanced preset using TS muxing.
- **[TSDK-99]** Transcoding to "DVB SD/HD H.264" presets with codec combination of muxer mptsmux, video codec bch264venc and audio codec ddplusproaenc works correctly again.
- **[TSDK-114]** TotalCode Studio now returns the proper codec name for AC-3 audio codec when using DirectShow Import (ac3 or dolby) instead of something generic.

- **[TSDK-197]** Correct frame aspect value of 16:9 now is detected for MKV muxed AVC/H.264 streams now.
- **[TSDK-216]** Correct DAR (display frame aspect ratio) is now detected for several MKV files using mpegdec import plug-in.
- **[TSDK-239/MCC-6398]** Fixed crash in the ASF Demuxer when transcoding a specific WMV file. Now the correct media type is detected.
- **[TSDK-854/MCC-8373]** Audio only AVI files using MP3 audio can be opened.
- **[TSDK-871/MCC-8419]** The framerate is now detected correctly for some problematic MPEG-2 TS multiplexed AVC streams with no VUI parameters. This also caused A/V sync issues.
- **[TSDK-942]** 'flt32' audio is correctly handled by the QuickTime import plugin rather than producing corrupted audio.
- **[TSDK-971/MCC-8873]** TotalCode Studio now detects the audio information for MOV files with BGRA format video.
- **[TSDK-973/MCC-8890]** TotalCode Studio reports the correct number of audio channels for specific AS-11 files.
- **[TSDK-986/MCC-8937]** Fixed crash (64-bit) and incorrect audio stream detection (32-bit) when opening a specific XDCAM MXF file.
- **[TSDK-987/MCC-8961]** TotalCode Studio now opens MXF files containing an empty track.
- **[TSDK-1001]** When using XDCAM EX preset the resulting audio track has the correct duration.
- **[TSDK-1027]** TotalCode Studio now opens a specific DVCPRO MXF file with 32 audio tracks without crashing.
- **[TSDK-1036/MCC-9377]** Range checking added for VPS/SPS/PPS to improve robustness and prevent crashing importing a specific AVC/H.264 with an invalid seq\_parameter\_set\_id.
- **[TSDK-1037]** Fixed an exception that prevented correctly batch transcoding additional channels in a batch segment.
- **[TSDK-1038]** Fixed crash when opening certain HEVC streams in TS and MP4 containers due to an incorrect pps\_id.
- **[TSDK-1046]** E-AC-3 tracks in some streams are correctly detected again (instead of as AC-3).
- **[TSDK-1050]** TotalCode Studio now correctly imports 1080x1080 Apple ProRes MOV files again.
- **[TSDK-1053/MCC-9536]** MP4 streams from the Samsung Galaxy S8 that incorrectly have QuickTime 'meta' atoms can now be imported correctly.
- **[TSDK-1063]** TotalCode Studio accepts 10-bit and 16-bit 4:2:2 streams as input for AVC-Intra and XAVC-Intra presets again.
- **[TSDK-1071]** DirectShow importer now correctly detects audio in LXF files using LAV Splitter.
- **[TSDK-1096]** Fixed crash with MOV files containing DV video streams when trying to import it via the mpegdec module. These files will be imported correctly using the QuickTime Importer.
- **[TSDK-1104]** Fixed issue where specifying in/out points for P2 AVC-Intra input causes out of sync output.
- **[TSDK-1148]** Fixed memory leaks when transcoding multiple times for HLS with the 'MPEG Transport Stream' multiplexer.
- **[MCC-8081]** Fixed crash in WMA Encoder on Windows Server 2012 and Windows 10 64-bit.
- **[MCC-9273]** Improved performance in recognizing and opening AVC/H.264 Elementary Streams within TS files when the AVC/H.264 stream contains access unit delimiters (AUD).

### Resolved issues in TotalCode Studio 3.5.1:

- **[TCS-1272/TSDK-898]** Updated the AAC Encoder's 7.1 channel layout, so that it now matches the widely used definition for 7.1 Back: FC-FL-FR-SL-SR-BL-BR-LFE.
- **[TCS-1322]** Transcoding preview shows the correct colors again.
- **[TCS-1324]** Documentation now correctly describes TotalCode Studio command-line usage.
- **[TCS-1326/TCS-1327/TSDK-864]** Fixed a color shift in transcoding output between Reference 2.5 compared to TotalCode Studio 3.5 when down scaling HD video to SD due to a problem converting the colorimetry from BT.709 to BT.601, and a red shift converting from RGB to YUV.
- **[TCS-1331]** Automatic version detection works correctly again, and now TotalCode Studio displays an alert when a new version is available.
- **[TCS-1332/TSDK-899]** Full range encoding now correctly sets the full range flag for AVC/H.264, HEVC/H.265 and MPEG-4 Part 2 video streams.
- **[TSDK-846/MCC-8352]** Reimport and decoding of generic HEVC Main files created with Transcoding SDK shows correct picture now.
- **[TSDK-863]** MP3 streams with variable frame rate can now be imported correctly via DirectShow again.
- **[TSDK-881]** Avid proprietary MXF files no longer cause a crash in iDShow.dll when using the LAV DirectShow filters.
- **[TSDK-885]** Fixed issue with truncated frames while decoding 4K Apple ProRes MOV file where codec\_fcc = "apch". Now the whole picture is decoded correctly again.
- **[TSDK-887]** AC-3 audio is now detected in Blu-ray Disc MPEG-2 Transport Streams that have VC-1 video.
- **[TSDK-919]** Scaling is now applied correctly when cropping a file without changing the resolution.
- **[TSDK-922]** Fixed an issue with DirectShow import where some incorrect audio streams were transcoded. Now all of the audio tracks are correctly mapped for transcoding.
- **[B-77284]** TotalCode Studio colorimetry handling has been improved, including converting the colorspace of video streams to the low level video encoder's native colorspace to avoid additional colorimetry transforms and also an issue that caused a red shift when converting some RGB sources to YUV before encoding.
- **[B-77770]** Input and output color range can now be configured for clamped (studio swing) and full range (full swing) where the decoders and encoders support this.
- **[MCC-8443]** Sony PDW-F800 Media is imported correctly with both audio and video now. Added support for 'xdh2' type (XDCAM HD in MOV).

### Resolved issues in TotalCode Studio 3.5:

- **[TCS-1290]** When reimporting an HEVC Main 10 4K stream created in TotalCode Studio, the preview looks correct now and the application does not crash when you move the slider.
- **[TCS-1303]** Channel mapping for MP3 works correctly now.
- **[TCS-1314/TSDK-815]** Removed excessive debug messages from TotalCode Studio's application log that are generated by the plug-in host for 32-bit components.
- **[TCENG-210]** HEVC streams are now created with the correct bitrate, so MPEG-2 TS containers are muxed with the correct duration.
- **[TCS-1319/TSDK-840]** When selecting a 4K uncompressed preset, TotalCode Studio now displays the correct file size and bitrate for the output.
- **[TSDK-801/MCC-8329]** Uncompressed AVI video created by TotalCode Studio can now be imported into the application without having to explicitly use the DirectShow import module.

### Resolved issues in TotalCode Studio 3.3:

- **[TCS-1271]** Audio plays back again if files are created using the Dolby Digital Plus audio encoder, MPEG-2 or AVC video encoder and multiplexed to MPEG as a Program Stream.
- **[TCS-1283]** Transcoding failed when trying to transcode Dolby Digital Plus audio into MPEG Program Stream. This is not allowed and is correctly prevented now.
- **[TCS-1285]** Fixed some issues in the UI with regards to DTS channel configuration.
- **[TCS-1301]** DTS channel mapping is now correctly displayed in the Channel Mapping dialog. The default output matches the input again.
- **[TCS-1310/TSDK-813]** 2-pass encoding works again when importing MPEG-2 Video and MPEG Audio file via DirectShow.

### Resolved issues in TotalCode Studio 3.2.1:

- **[TCS-1288]** When installing TotalCode Studio on a system that already has the application installed, the existing installation did not uninstall properly. This is fixed, though it is recommended to uninstall previous versions before initiating an install of the current version.

### Resolved issues in TotalCode Studio 3.2:

- **[TCS-1240]** Output file length is no longer shorter than input file for preset "XDCAM EX 1440 25Mbps CBR".
- **[TCS-1241]** Output file length is no longer shorter than input file for DV presets if set target as "MXF File Format".
- **[TCS-1265]** Output to MKV container format no longer fails to include a video stream.
- **[TCS-1270]** When selected MP4 files were opened, TotalCode Studio crashed. This issue has been fixed.

## Known Issues

- **[TCS-1291]** TotalCode Studio can crash if a subtitle is imported and the "encoding" option is changed from ASCII to any other option in the input window.
- **[TCS-1350]** PQ HDR and HDR-10 streams are displayed in TotalCode Studio's preview pane with dull and washed-out colors. This does not affect the final output files, which are transcoded correctly.
- **[TCS-1386]** The video Mode drop-down menu for switching between PAL and NTSC is currently disabled. If you need to change this, you can set the "Preferred Output Mode" in the Preferences and reselect the preset afterwards.
- **[TCS-1412]** It is currently not possible to do two consecutive transcodings for AS-11 UK DPP with the same metadata XML file because the program durations metadata is duplicated. You need to restart TotalCode Studio and load the XML metadata file again for transcoding.
- HDR metadata currently cannot be detected within an MXF container, which is common for DNxHD, DNxHR and sometimes for Apple ProRes streams. HDR metadata can only be detected in the actual video stream.
- Transcoding to files with DTS audio is currently not fully working in TotalCode Studio 5.2. Please stick to version 5.1 if you require muxed DTS output. However, encoding to DTS Elementary Streams still works in TotalCode Studio 5.2.



### Additional Notes

- Following NeuLion's sale of various DivX® assets in 2018, MainConcept is no longer licensed to use DivX technology in our components. As such, all DivX profiles and DivX Plus Streaming (DPS) Format related presets have been removed from our entire product line. The rest of the products' functionality remains unchanged as compared to previous releases.
- Hardware HEVC/H.265 Encoding via NVIDIA® NVENC is highly dependent on the version of the NVIDIA graphics card drivers. MainConcept has tested using version R450 (457.09) on Windows. Older versions of the drivers have various problems including no output, invalid bitstreams and inability to mux to MPEG-2 Transport Streams. See the NVIDIA [driver download page](#) for information about minimum system requirements. MainConcept has tested on a variety of GeForce GTX, GeForce RTX and Quadro boards, from the Pascal and Turing product families.
- TotalCode Studio will only show and allow the user to choose the Intel® Quick Sync Video or NVIDIA® NVENC encoders if the correct hardware and drivers are installed.
- NVIDIA drivers from 2015.7.21 cause a crash during TotalCode Studio startup. Please update to the latest available drivers dated 2020.8.18.
- Please note that all 32-bit DirectShow filters have been removed from the TotalCode Studio. If you used these filters with Windows Media Player to playback your output streams, you must explicitly use the 64-bit Windows Media Player (C:\Program Files\Windows Media Player\wmplayer.exe). Windows will normally open the 32-bit version from "Program Files (x86)", which cannot use 64-bit DirectShow filters.
- TotalCode Studio is a native 64-bit application and will only run on a 64-bit operating system.
- HEVC 8K encoding requires more than 12 GB of physical memory. For HEVC 8K encoding using NVIDIA Full mode, the GPU must additionally have a minimum of 8 GB RAM. If your board has less than 8 GB GPU RAM, you need to use the Driven or Hybrid modes for HEVC 8K encoding.
- TotalCode Studio now includes the latest MainConcept Decoder for Apple ProRes for importing Apple ProRes files. Moreover, other MainConcept libraries are used to import MOV files. If you still need to rely on Apple QuickTime for ingest under Windows 8.1 and Windows 10, the latest version must be installed. Please visit the "[QuickTime for Windows 10](#)" page to download QuickTime v7.7.9 that works under the latest Windows OS. Once installed you can import MOV and Apple ProRes files again.
- The MainConcept AAC Encoder uses the "7.1 Back" configuration when a 7.1 channel arrangement is selected, which is the most common arrangement for TotalCode Studio customers. This requires the MP4 Muxer to be configured with the correct Audio Specific Configuration (ASC) to avoid incorrect information at playback time from the MP4 Demuxer. When TotalCode Studio uses the MainConcept AAC Encoder, it correctly passes this information from the encoder to the muxer. The Fraunhofer AAC Encoder does not make the ASC information available and consequently TotalCode Studio cannot pass the ASC to the MP4 Muxer. The ASC information is optional in the muxed stream, and if it's not present then the demuxer will indicate "7.1 Front" at playback time. Therefore, the Fraunhofer AAC Encoder behaves differently to the MainConcept AAC Encoder when using the same presets with 7.1 channel output and uses the "7.1 Front" configuration.
- If you change the segment size for DASH and then switch to an HLS preset (or vice versa), TotalCode Studio does not reset to the default value again.

### Customer Care Link

For assistance with using the MainConcept TotalCode Studio, please contact our Customer Care team at: [apps.support@mainconcept.com](mailto:apps.support@mainconcept.com)

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# MainConcept TotalCode Studio 5.2

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Xerces

Xerces C++ XML Parser (<http://xerces.apache.org/xerces-c/>)

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*Edition: January 2021*