Table 1 – Revision history

Revision	Date	Drafter	Comments
1	Oct 2023	AD/MS	Merge existing Streaming and Broadcast documents (rev2) Include revision & glossary Add table for channel types Update table with Aquila v7 changes
2	Dec 2023	AD	Premium updated to include BISS CA rotating key and Director v6
3	Jan 2024	AD	Clarification on licensing for redundancy

Table 2 - Glossary

Term	Definition
HDR	High Dynamic Range
CVQ	Constant Video Quality: MediaKind Rate Control Design
CBR	Constant Bit Rate
CAS	Conditional Access System
AES-128	Advanced Encryption Standard 128-bit length
FEC	Forward Error Correction
Up!, Up!+	MediaKind settings for the live encoder
ACT	AI compression Technology: MediaKind dynamic setting for the live encoder
SRT	Secure Reliable Transport
SPTS	Single Program Transport Stream
SW	Software
HW	Hardware

Aquila Broadcast, Aquila Streaming – Performance Level

The richness of a given input channel's performance level is defined by the license type and the channel type. The different channel types are SD, HD, UHD. The different license types are Foundation (former Standard), Advanced and Premium.

License types	Features included
Premium	Common processing: • HDR conversions • Live input switching (media composer), including Emergency Alert System (EAS) use case • JPEG-XS ingest (HD/UHD) Streaming: • Low Latency Broadcast: • CAS: AES-128, BISS CA, Director v6
Advanced	Common ingest and output: • SMPTE ST 2022-6 (SDI/IP) & SMPTE ST 2110 with NMOS IS-04 and IS-05 • Secure/reliable connection (SRT, ZIXI, RIST) & unicast only environment

	• MGP Common processing: • Dolby Vision • Metadata: Watermarking Nielsen, Parental Control • Image/slate blackout without scheduling • Automation for Media composing (logo, crawler, blackout) • Stream & Manifest conditioning for ad insertion (SCTE-35 / ESAM): POIS functionality can be purchased via PRISMA • SCTE-104/IP, Parental Control • 1+1 synchronisation between encoders • OCR based subtitles conversion Common Video encoding: • 1080p 50/60 encoding • UP!, UP!+, ACT presets. • HEVC for all resolutions. Streaming: • CVQ • Direct path • "DASH-IF CMAF ingest" at the output of the encoder • Packaging: no limits to number of outputs • Delivery: Channel routing, playlist election Broadcast: • Statmux • CAS: BISS 2 Fixed key, DVB CSA v1, DVB CSA v2, PeerSCS, PDG • In/Out: Missing PID provision, Dynamic input tracking, ProMPEG FEC
Foundation	Common ingest & processing: • IP, SDI ingests including video pre-processing • HDR pass-through • Secondary input source for redundancy Common Audio/Video encoding: • MPEG-2, H.264 encoding codecs • Standard, Extreme presets • CBR • All audio codecs • Split and shared encoding including encoder synchronization Streaming: • Encryption (Widevine, FairPlay, PlayReady) • HLS/TS, DASH, HLS/CMAF, HSS outputs • 48 Hour rolling buffer for catchup • Converged CMAF output • Packaging: up to 3 outputs* Broadcast: • Multiplexing: 1+1 device level redundancy, Service and Component level remux, PID replication, PSI/SI processing • CAS: BISS mode 0/1, Separate CA network • In/Out: Active/Active & Active Standby multiplexer outputs. VLAN

* "Up to 3 outputs" on Aquila Live Streaming is referring to HTTP Streaming Protocol outputs (e.g. HLS, HSS, DASH) plus specific DRM (e.g. Widevine, FairPlay, PlayReady). Therefore, you could have a channel with 5 or 9 ABR profiles, but HLS streaming with FairPlay DRM of all profiles is counted as one output. Since CBR IPTV channels don't require packaging, but are included in Aquila Live Streaming, each SPTS IPTV channel is also counted as one of the "outputs".

Aquila Broadcast, Aquila Streaming – Features by Resolution

Channel types	Description
SD	• Maximum encoding resolution is 720p or lower (height <= 720). Or audio only encoding (radio channel). • Include a maximum of 6 video encodings. • Include 10 Mbps Multiplexing in Aquila Live Broadcast. • Redundancy included (SW, not HW): n+m and 1+1 (same site)*
HD	• Maximum encoding resolution is HD or lower (height <= 1080). • Include a maximum of 10 video encodings. • Include 25 Mbps Multiplexing in Aquila Live Broadcast. • Redundancy included (SW, not HW): n+m and 1+1 (same site)
UHD	• No restriction on the encoding resolution (within the capacity of the product) • Include a maximum of 12 video encodings. • Include 40 Mbps Multiplexing in Aquila Live Broadcast. • Redundancy included (SW, not HW): n+m and 1+1 (same site)

* Redundancy and high availability are included (for the same site only) with subscription, and chargeable with discount for capex. Redundancy or high availability across sites is possible but will require additional licensing.