Manage Audio Across the Workflow

Loudness Measurement and Logging

The Videotek® line of loudness measurement and logging products includes the TVM9150PKG, TVM9100PKG, VTM4150PKG and VTM4100PKG measurement devices, CMN-LA loudness analyzer, LLM-1770 and LLM-1770-D loudness logger and monitor and MSA-100 and MSA-300 Series analyzers.

Contact Imagine Communications for the most recent updates that comply with the latest recommendation (ITU-R BS.1770-3) for measuring audio program loudness and true-peak audio levels.

DTS Neural Loudness Control, DTS Neural Surround MultiMerge, UpMix and DownMix

The Advanced audio processing technology from DTS Neural Technologies is incorporated within Imagine Communications facility signal processing products, including the Selenio™ MCP1 and MCP3 media convergence platform, Selenio 6800+™ core modular platform, the X50™/X85™ and new X100 1RU video/audio platforms.

Products with the option for real-time loudness control (using DTS Neural Loudness Control technology) provide signal handling for all worldwide recommendations for loudness measurement

Country	Recommendation	Target Loudness	Allowable Variance	Suggested Preset
US	ATSC A-85	-24	± 2	Ultra Light, Light
Europe	EBU.R.128	-23	± 1	Medium, Aggressive
Japan	ARIB TR B-32	-24	± 1	Medium, Aggressive

Audio Processing: VDS (Video Descriptive Service) and AD (Audio Description)

Real-time audio processing is a challenge today, and aside from Dolby® decoding and encoding and loudness control, there are requirements for the VDS and AD:

VDS (Video Descriptive Service)

If the VDS audio channel is present at the input of the audio processing device, it can be detected and passed through to the SAP (Secondary Audio Processing) channel. If it is missing, it is possible to provide a "Smart Substitution" by processing the program audio content for substitution on the SAP channel. Program audio can be detected as Dolby® encoded or stereo PCM and decoded, downmixed, summed (if necessary), loudness controlled and output on the SAP channel. The Selenio Intelligent FS Frame Sync and XD Conversion modules can be easily set up to substitute the VDS channel if it is not present.

AD (Audio Description)

AD is similar to VDS except that the audio content of the Audio Description has not yet been mixed with the program audio content. The APM6803+ provides a mixing (and voice-over) capability to mix the program content with the Audio Description, whether it is Dolby® encoded, surround sound or stereo content.

Audio Processing: EAS (Emergency Alert System)

In order for the EAS (Emergency Alert System) audio output to be sent into the distribution channel, the program audio and EAS audio are processed and switched according to a GPI (General Purpose Interface) input trigger when an emergency occurs. The Selenio signal management capability in the Intelligent FS Frame Sync and XD Conversion modules performs this function easily using the Custom GPI script feature (Rules Engine).

Dolby® Support

Dolby® codecs for Dolby® Digital (AC-3), Dolby® E and Dolby Digital Plus decoding for audio compression in file-based processing, monitoring, contribution and distribution applications are integrated into many Imagine Communications products.

Solutions	Advanced Audio Processing													Interface(s)					
Model	Loudness			Up/ Down Mix	Dolby®				AAC, AAC-HE	MPEG Audio	VDS	AD	EAS	IP	RF	ASI	SDI	AES	Analog Audio
	Measurement	Logging	Control		DolbyE	Digital	Digital Plus	Additional Formats											
TVM9150PKG	Opt				X	X	X	X								Opt	X	X	X
TVM9100PKG	Opt				X	X	X	X								Opt	X	X	X
VTM4150PKG	Opt				X	X	X	X								Opt	X	X	X
VTM4100PKG	Opt				X	X	X	X									X	X	X
CMN-LA	X	X			X	X	X	X									X	X	X
LLM-1770/D	X	X			X	X	X	X									X	X	X
MSA-100	Opt	X				X	X		X	X				X	X	Opt			
ICE® Broadcast System			X	X		X			X	X				X	X				
SelenioNext™			X	X		X			X	X				X					
SEL-1-ENC1			X		X				X	X				X		X	X	X	X
SEL-1-ENC2			X		X	X	X		X	X						X	X	X	X
SEL-1-DEC1					X	X	X		X	X				X		X	X	X	X
SEL-1-DEC2					X	X	X		X	X				X		X	X	X	X
SEL-2FS1			X	X	X	X					X	X	X				X	X	X
SEL-2XD1			X	X	X	X					X	X	X				X	X	X
APM6803+T			X	X	X	X					X	X	X				X	X	X
DAPM6802+D			X	X													X		X
MFD6800+T			X	X		X										X	X		
X50			X	X	X	X					X	X	X				X	X	X
X100			X	X	X	X					X	X	X				X	X	X