

Prime Image's Pipeline III provides an audio/video delay solution for HD or SD signals for the purpose of ensuring that live programming meets FCC regulations regarding profanity content suppression. The Pipeline III has been successfully used world-wide by major broadcast and cable networks, local stations, and stadiums.

FEATURES

- Up to 6.25-seconds HD, 30.5-seconds SD
- Profanity Switching with alternate "safe" inputs
- 2 GPI control inputs
- Programmable reaction time
- Clean switching (NO clicks or pops)
- 20 total channels of audio delay (4 AES + 16 Emb)
- Audio embedder/de-embedder with channel mapping
- 10-bit video processing
- 24-bit audio processing
- Video test pattern / Audio tone generator

Audio/Video Delay

The Pipeline III provides variable delay of high definition and standard definition signals at the main SDI input. The delay is adjustable in video frame increments of up to 6.25 seconds at 1080i resolution, and 30.5 seconds in standard definition. All vertical ancillary data (VANC), including Closed Captions (CEA-608/708), are delayed equal to the video signal.

All 16 embedded audio channels are de-embedded and processed independent of the video. Four AES audio inputs are also processed separately for a total of 20 channels. The audio delay automatically follows the video delay and may be offset by up to +/-500ms to allow for lip-sync correction.

Switching Capabilities

Controls are provided to eliminate objectionable material by individually switching the video and each audio channel to alternate "safe" signals. The video may be switched to an auxiliary input (Aux SDI), one of four captured still images, a freeze frame, a test pattern, or black. Each audio channel may be individually configured to switch to an auxiliary input (Aux SDI or Aux AES), another delayed audio channel, one of four tone generators, or mute.

Switching is performed via 2 GPI control inputs. Each switch may be configured to control video, or audio, or both. These same switches may also be set to switch instantly when the GPI is engaged, or wait and follow the video delay with a programmable reaction time. The delayed configuration allows the user to view the original source input, and engage the GPI when something objectionable occurs. When the audio and video signals arrive at the delayed output, the switch will occur timed with the objectionable event. If the reaction time was set for one second then the switch will begin one second before the objectionable event.

Video and Audio Processing

The main SDI input, and the Aux SDI input each have a full frame audio/video synchronizer. Full proc amps are provided for each of the SDI inputs, allowing the video's brightness, contrast, saturation and hue to be adjusted.

20 channels of delayed audio, 18 channels of AUX audio inputs (16emb + 2 AES), and 4 tone generators are all available for mapping into any of the output AES or SDI embedded channels. Any source may be selected for any output channel, including one source feeding multiple output channels. The mapping function also provides individual level adjustment and phase control for all output channels.



SPECIFICATIONS

Time Reduction

Max Delay	Delay Adjust
1080i-60/59.94	6 sec 10 frames
1080i-50	7 sec 15 frames
1080i/24/23.98	7 sec 22 frames
720p-60/59.94	7 sec 8 frames
720p-50	8 sec 28 frames
SD 483i (NTSC)	30 sec 28 frames
SD 576i (PAL) 31	sec 5 frames

Video Processing

Signal	HD – 1.485Gb/s (SMPTE 292M) SD – 270Mb/s (SMPTE 259M)
Input	2 BNC, 75 Ω , 800 mVpp HD – Auto EQ to 100 meters (Belden 8281) SD – Auto EQ to 280 meters (Belden 8281)
Output	BNC, 75 Ω , 800 mVpp HD Timing Jitter < 0.3UI SD Timing Jitter < 0.2 UI
Formats	1080i – 60/59.94/50 1080PsF-24/23.98 720p – 60/59.94/50 483i – 29.97 576i – 25 Resolution 10 bit, 4:2:2

Audio Processing

Signal	Embedded, AES/EBU SD (SMPTE 272C) HD (SMPTE 299M)
Inputs	3 BNCs, 75 Ω , Transformer coupled
Outputs	2 BNCs, 75 Ω , Transformer coupled
Sample Rate	48KHz – synchronous
Resolution	24 bit

Genlock Reference

Signals	Bi-Lev (Black Burst), Tri-Level
Inputs	2 BNC loop, Hi-Z

Control

GPI	2 BNCs, internal pull-up, Activates on closure to ground
Remote	RJ-45 Ethernet

Environmental

Power Supply	100 - 240 VAC, 50/60Hz, Auto
Power Dissipation	25 Watts Max
Height	1 U, 1.75 inches (4.44 cm)
Length	19 inches (48.3 cm)
Depth	16 inches (40.4 cm)
Weight	6.5 lbs (3 kg)

All specifications subject to change without notice.
