

THE IP-READY BROADCAST SOLUTION





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EASY-IP is a comprehensive package that integrates BLADE//runner and manifold CLOUD hardware and software, delivering a unified solution for video and audio routing, multiviewing, and processing. This tested and certified design by arkona and manifold ensures a smooth transition to a flexible, future-proof IP infrastructure.

3RD PARTY BROADCAST CONTROL SYSTEM

DIRECTLY ATTACHED CONTROL PANELS



UNIFIED CONTROL THROUGH REST API/NMOS/EMBER+

BLADE//Runner

High Density SDI I/O
16k x 12k Audio Router
Video Delay & FS
Audio Delay and SRC
Clip Player/Grabber



BLADE//Runner

Downstream Keying
Video Mixing
Audio Mixing +DSP
Color Correction
HDR-SDR Conversion
JPEG XS

manifold CLOUD

Multiviewer
Up/Down/Cross Conversion
HTML5 Graphics Insertion

EASY-IP features a unified control interface that simplifies integration with existing broadcast facilities using industry-standard control protocols and a central control point. Additionally, EASY-IP can be configured with high-capacity switches and hardware control panels to provide a complete turnkey solution upon request.



EASY-IP

Core Featureset

HIGH CAPACITY ROUTING WITH CLEAN AND QUIET SWITCHING

The heart of the EASY-IP solution is the BLADE//runner AT300 Programmable Acceleration Card (PAC), a networked media processor that delivers dual 100GE network interfaces and 16x16 UHD-capable SDI I/O. Audio and video switching are managed through a centralized control interface, ensuring switching is fast, clean and quiet. EASY-IP's distributed architecture scales linearly with your needs, allowing you to add I/O flexibly and in any quantity. High-capacity 100GE or 400GE switches from certified vendors can be bundled and pre-configured for straightforward commissioning and installation.

THE MOST POWERFUL LIVE PRODUCTION MULTIVIEWER

EASY-IP incorporates manifold CLOUD, the industry's most powerful ultra-low-latency multiviewer. Capable of processing up to 1.6Tbps in a single RU, manifold CLOUD operates on COTS FPGA accelerators and the BLADE//runner AT300. Its unique distributed architecture allows any source to be displayed on any output in any size, with virtually no limitations and guaranteed sub-frame latency end-to-end. Additionally, every UHD source processed by the multiviewer generates a high-quality 1080p proxy, which is available as a discrete ST2110 source within the system.

AUTOMATIC AUDIO/VIDEO ALIGNMENT

With EASY-IP, lip-sync issues become a thing of the past. Its built-in audio/video alignment feature continuously monitors processing delays and automatically ensures perfect audio and video synchronization, eliminating the need for manual adjustments. Additionally, video frame sync and audio sample-rate conversion are standard for all I/O.

BEST-IN-CLASS AUDIO FEATURESET

For advanced audio processing, EASY-IP integrates the BLADE//runner IPA APP, offering a dedicated 16,000 x 12,000 mono audio router for any-to-any mono routing, along with dedicated mono, stereo, and mix-minus mixing instances. The EASY-IP solution can be enhanced with the optional DSP feature set, which includes dynamic compressors, equalizers, and true peak and loudness metering.



EASY-IP

Add-on Features

In addition to routing, multiviewing, and synchronization, EASY-IP solutions can be complemented with additional processing capabilities. These features integrate seamlessly as pooled resources, available for on-demand use.



JPEG-XS ENCODE/DECODE

For low-latency high-quality video compression, it's possible to add JPEG-XS encode and decode instances to every EASY-IP solution.



PROC-AMP, COLOR CORRECTION AND HDR-SDR CONVERSION

For shading and color-space conversion, add instances of broadcast quality YUV/RGB color correction and HDR-SDR colorspace conversion with user loadable custom 3D LUTs to any EASY-IP solution.



UP/DOWN/CROSS CONVERSION

Broadcast quality Up, Down and Cross-conversion is easily added through software licenses in manifold CLOUD. Each license provides one path capable of converting to/from any combination of SD, HD, 3G and UHD.

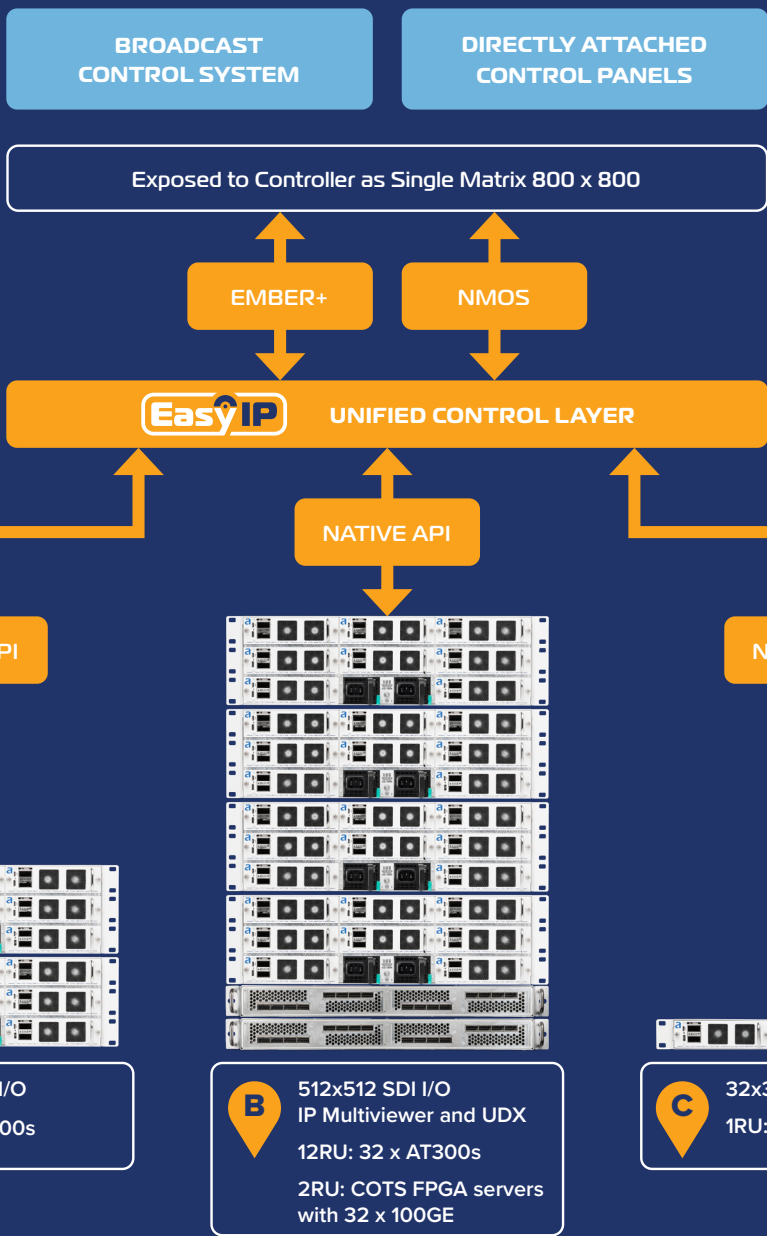


VIDEO MIXING AND DOWN-STREAM KEYING

Versioning and branding are easily achieved through pooled video mixing and DSK instances. Standard features include a still store, frame grabber, clip player, and recorder, all utilizing the extensive onboard memory of the BLADE//runner AT300 PAC.



EASY IP provides a highly integrated solution for routing/multiviewing and audio/video processing



EASY IP offers direct integration into 3rd party control panels from multiple vendors

EASY IP utilizes the BLADE//master service to expose a single interface to 3rd party broadcast controllers through established industry-standard control protocols.

Gateways and processing functions can be placed wherever they are needed while routing and processing functions are abstracted to look like a single system.

CONFIGURATION	PROCESSING HARDWARE	SWITCH FABRIC	SPACE REQUIREMENT
128 x 128 UHD discrete with MV	8xAT300 + 1 COTS FPGA SERVER	1 x 32-port 100GE	5 RU
128 x 128 UHD redundant with MV	16xAT300 + 2 COTS FPGA SERVERS	2 x 32-port 100GE	10 RU
384 x 384 UHD discrete with MV	24xAT300 + 3 COTS FPGA SERVERS	1 x 32-port 400GE	13 RU
512 x 512 UHD discrete with MV	32xAT300 + 4 COTS FPGA SERVERS	1 x 32-port 400GE	17 RU
1024 x 1024 UHD discrete with MV	64xAT300 + 8 COTS FPGA SERVERS	1 x 32-port 400GE	33 RU
1024 x 1024 UHD redundant with MV	128xAT300 + 16 COTS FPGA SERVERS	2 x 32-port 400GE	66 RU
2048 x 2048 3G redundant with MV	128xAT300 + 8 COTS FPGA SERVERS	2 x 32-port 400GE	58 RU



1.6 Tbs

processing per 1RU with the current generation COTS FPGA servers

16,000 x 12,000

mono audio routing capacity per AT300 with the IP Audio APP

52

seconds of video delay in each AT300 with the IPGR APP

1

Centralized control point for the entire solution

1024

amount of dynamic compressors in each AT300 with the IP Audio APP

UHD

included as standard on every I/O

512

max PIPs per multiviewer head output

350

seconds of audio delay in each AT300 with the IPGR APP