

# PIXFIX Versa

## Industry's First All-in-one Video Processor



### For All-in-one IP Video work flow solutions

PIXFIX Versa the All-in-one Software defined video processor can effectively Encode, Transcode, Decode, Store, Stream, Multiplex, Mix, Play etc., The highly Versatile and ultra-flexible product fits and morphs in to required IP work flow dynamically. Embedded with RiverSilica's PIXABIT™, PIXMAX™ technologies based on state of the art video algorithms, the product delivers both broadcast and OTT solutions under the same hood.

Capable of taking multiple inputs and multiple formats - Versa delivers simultaneous processing of video assets across Live and File, archives and streams as an all-in-one solution. The single pipeline feature offers the customer an end to end solution for integrated IP work flow. It is flexible enough to configure for an intended work flow today and to adapt to another workflow later- Versa adapts as you wish. With PIXFIX Versa, you are sure to be on the right path of fastest ROI and lowest TCO.

### APPLICATIONS

PIXFIX Versa provides All-in-one infrastructure for an integrated solution right from Encoding, Transcoding- all the way up to archiving and streaming from a unified standpoint. Pick and choose the work flow, may it be ENCODE, TRANSCODE, STORE, STREAM, MULTIPLEX, MIX and PLAY, PIXFIX Versa adapts to it due to Versatility and software defined video processing. It can be reconfigured for any combination of the work flow based on one's needs.

PIXFIX Versa in the **BROADCAST** and **TELCO** market delivers both Broadcast and OTT class video and additionally multiplexes as well with in the same infrastructure. It can additionally store for further monitoring purposes. This vastly reduces the rack space and helps in integrating multiple services in to a singular work flow.

PIXFIX Versa is a straight fit in to **EDUCATION, CORPORATE, FAITH and GOVERNMENT** for field encoding, streaming market with its All-in-one integrated approach. This approach gives highly cost effective rack friendly single box solution which can ENCODE/TRANSCODE, DECODE, STORE and STREAM.

PIXFIX Versa scales from multi interface single input field encoding, all the way up to sixteen inputs dense encoding/transcoding that can be mixed and muxed to be directly packaged in to a deliverable stream that is Multi screen ready. Includes simultaneous storage in desired formats and can convert file formats that is OTT friendly.

Currently available on PIXFIX Mini Chassis SB Series, PIXFIX EL, and HE Series in 1RU, 2RU form factors respectively help in scaling the channel density and storage challenges.

### FEATURES AND BENEFITS

- Highly Versatile, Ultra flexible and configurable All-in-one functionality through state of the art software defined video processing and acceleration using RAFT™, SAND™ and HELM™
- Unified work flow pipeline from RAW video input to streaming format output like HLS, HDS, RTMP etc., which helps in optimizing the rack needs.
- Flexibility for Broadcast and OTT Multi Screen delivery by processing multiple video inputs across IP, ASI, HDMI, SDI and COMPOSITE inputs and IP, ASI and SDI outputs simultaneously
- Multiplexing multiple inputs for broadcast delivery
- Intermixing of input video for studio needs
- MPEG2, H264, HEVC support along with multiple streaming formats for both LIVE and OFFLINE needs
- Support for multiple CDNs
- Express configurability for field encoding applications for single channel needs
- Dynamic parameter management without Encoder stoppage
- Multibit rate and dynamic bitrate management through PIXABIT™
- Control and safety through PIXFIX Visor product line
- Up to 6TB storage availability with multi format capability
- PIXFIX Versa is available on RiverSilica's PIXFIX™ EL, HE series chassis based on COTS Intel™ platform.



### PRODUCT AT A GLANCE

Entry and Enterprise grade All-in-one video processing PIXFIX Versa running on EL/HE Hardware infrastructure delivers the desired performance for multifunctional IP Video work flow needs.

Capable of ingesting from 1 to 16 inputs or more based on the various interfaces across its PIXFIX™ HW infrastructure, gives the customer the most flexible input and output options.

# General Specifications for PIXIFIX Flex

## INPUT INTERFACES

- o Multiple Gigabit IP interface, ASI, SD/HD SDI with raw and compressed audio, HDMI with Embedded Audio, Composite, Component, S-Video, DVI, Webcam

## INPUT STREAM

- o TS/UDP (Unicast and multicast SPTS and MPTS)
- o TS/RTP (Unicast and multicast SPTS and MPTS)
- o TS/HTTP-SPTS and MPTS
- o RTMP, RTSP, HLS
- o Webm
- o Signal generator
- o H.264 elementary-Annex B MPEG2 PS, MPEG TS, MKV
- o MOV, MP4, MXF, Apple Prores, FLV

## INPUT VIDEO CODECS

- o MPEG2-ML/HL 4:2:2
- o MPEG4 SP/ASP
- o H.264 - BP/MP/HP - 4:2:2 10Bit
- o Apple Prores
- o HEVC
- o VC1
- o MJPEG
- o VPx
- o Fixed and variable frame rate
- o Standard and non-standard resolution
- o 1080p@60 up to 25Mbps for live delivery
- o Error resilience and concealment for erroneous input
- o Input video frame skip detection
- o Video pass through

## INPUT AUDIO CODECS

- o MPEG1 Layer2 & Layer3
- o Dolby™-AC3, AAC-MPEG2
- o MPEG4 (LC, HEAAC, HEAACv2), MPEG4 ALS
- o LPCM, WMA
- o Up to 8 channels 24 bit, 96KHz audio
- o Up to 96KHz sampling frequency
- o Audio pass through

## METADATA

- o CEA608/708 Closed captioning
- o SCTE 35/104 Cue-points
- o WSS & AFD metadata
- o DVB subtitles

## INPUT HANDLING

- o Input stream switching- manual/failure driven
- o Input file looping & ROI selection
- o Input archiving with slicing
- o Auto sensing of incoming media, media info
- o Input stream view on web console
- o Input stream capture
- o Watchfolder configuration

## STREAMING SERVER PROTOCOL

- o Apple HLS, Adobe HDS
- o Microsoft Smooth Streaming
- o Mpeg DASH, Adobe RTMP, RTSP
- o HLS with SCTE cues
- o Multi DRM Support
- o AES 128 encryption for HLS
- o Deferred live streaming
- o nDVR simultaneous storage for VOD

## CONTROL & MONITORING

- o Thumbnails preview on web console
- o Tile based preview for monitoring
- o Web based UI
- o Express Job Settings
- o Pre and post job scripts
- o Jobs scheduling and Prioritization
- o Dynamic parameter changing while job is running
- o System configuration backup and restore

## PLATFORM SPECIFICATIONS

- o Runs on COTS Intel™ Platform
- o CentOS
- o Based on Mini, 1RU, 2RU chassis
- o Optional RPS and RAID
- o Upto 6 Gigabit ports, 6 GB storage space

## OUTPUT INTERFACES

- o SD/HD-SDI, HDMI, ASI, Multiple Gigabit IP interface with redundancy, Composite, Component

## OUTPUT STREAM

- o TS/UDP & TS/RTP Unicast and multicast - SPTS
- o TS/UDP & TS/RTP Unicast and multicast - MPTS
- o RTMP uplink to popular CDNs
- o MPEG2, H.264 elementary Annex B TS, MP4, MOV, FLV, MKV

## OUTPUT VIDEO CODECS

- o H.264
- o HEVC

## OUTPUT AUDIO CODECS

- o MPEG 1 Layer2/3
- o AC3 (pass through), EAC3 (pass through), Dolby™-E (pass through)
- o AAC-MPEG2
- o AAC-MPEG4 (LC, HEAAC, HEAACv2)
- o MPEG4 ALS
- o Up to 8 channel, 24 bit audio
- o Up to 96 KHz sampling frequency
- o Loudness Control
- o Multi-channel audio coding in single channel

## PRE-PROCESSING

- o Hue, Contrast, brightness, saturation and gamma correction
- o De interlacing through BOB, Motion adaptive, IVTC modes
- o Perceptual quality based video scaler
- o Standard and non-standard resolution
- o Multiple alpha blended logo overlay
- o Static/scrolling text overlay
- o Clock/Time code overlay
- o Cropping/Letter boxing
- o Audio equalizer and volume control
- o Audio channel, sample rate and bit conversion

## ENCODING FEATURES

- o Look ahead based encoding
- o Low latency encoding & sub-second Glass to Glass delay
- o Deblocking filter
- o CBR, VBR and constrained VB streams
- o Scene change detection & characteristics based encoding
- o Encode, Transcode acceleration through RAFT™, HELM™, SAND™ algorithms
- o Configurable display aspect ratio and preserving DAR during scaling
- o Multi language/track audio coding in a single program
- o Upto 8 channel, 24 bit audio encoding

## METADATA

- o CEA 608/708 pass through
- o SCTE cues for TS and RTMP output (YouTube™)
- o DVB subtitles pass through

## MISC FEATURES

- o Lip Sync correction
- o Cross stream multiplexing - Video from one source and audio from another
- o Output file push to remote FTP/HTTP servers
- o Delayed stream push to CDN
- o Stream specific processing for different application (Ex: Different logo for each profile)
- o Raw output simultaneously during streaming
- o Multiple user management and role based access
- o Input/Output stream redundancy
- o REST APIs

## SYSTEMS

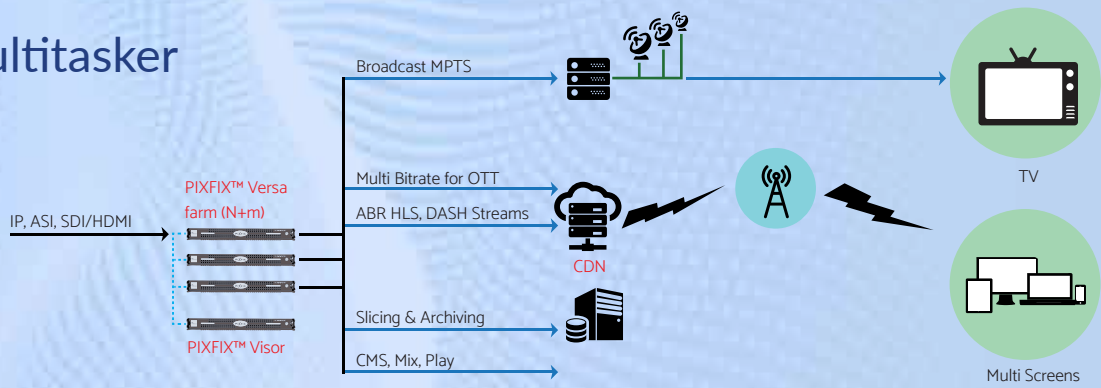
- o Remote Filestorage mount - NFS, CIFS
- o Active Passive Redundancy
- o Auto restart of jobs in unrecoverable errors
- o Logs and Notification alerts
- o Real time health statistics
- o Input stream available indicator
- o SNMP
- o Realtime stats of CPU, memory, network, Jobs on Dashboard
- o Fans and temperature monitoring
- o Device manager for autodetecting PnP devices
- o Complete network diagnostic involving DNS test, Speed test, Tracer etc

# PIXFIX™ Versa on PIXFIX™ HW platform configuration

S.NO	LICENSE	HW PLATFORM	CHASSIS	DEPTH	POWER	RPS	ENET	ENET	HDD	SDI	SDI/HDMI	IP and / or SDI	SDI/IP
		PART NO			SUPPLY			ADDL	SATA		INPUT	INPUT	INPUT
1	PIXFIX™ Versa	EL1000	1RU	HALF	350W	✗	1 X 1 Gig	✗	1TB	✗	✗	1	✗
2	PIXFIX™ Versa	EL1000R11	1RU	HALF	350W	✗	1 X 1 Gig	✗	1TB	✗	✓	1	✓
3	PIXFIX™ Versa	EL1720	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	✗	✗	4	✗
4	PIXFIX™ Versa	EL1720R12	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	2	✗	2	✓
5	PIXFIX™ Versa	EL1720R14	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	4	✗	4	✓
6	PIXFIX™ Versa	EL1720M	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	✗	✗	4	✗
7	PIXFIX™ Versa	EL1720MR14	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	4	✗	4	✓
8	PIXFIX™ Versa	EL1720D	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	✗	✗	4	✗
9	PIXFIX™ Versa	EL1720DR14	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	4	✗	4	✓
10	PIXFIX™ Versa	HE3160	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	✗	✗	8	✗
11	PIXFIX™ Versa	HE3160R18	1RU	FULL	600W	✗	2 X 1 Gig	✗	1TB	8	✗	8	✓
12	PIXFIX™ Versa	HE3160D	1RU	FULL	600W	YES	2 X 1 Gig	2 X 10 Gig	1TB	✗	✗	8	✗
13	PIXFIX™ Versa	HE3160R18D	1RU	FULL	600W	YES	2 X 1 Gig	2 X 10 Gig	1TB	8	✗	8	✓
14	PIXFIX™ Versa	HE5500C28	2RU	FULL	740W	YES	2 X 1 Gig	2 X 10 Gig	1TB	✗	✗	16	COMP/IP

- \* The input interface combination supports ASI, HDMI other than SDI. For any custom configuration, kindly contact RiverSilica
- \* Optional redundancy is possible in 1 + 1 combination with additional PIXFIX™ Visor license in the 1 + 1 box
- \* For additional storage beyond 1TB please contact RiverSilica
- \* For RPS models please contact RiverSilica

## PIXFIX™ Versatile Multitasker



## PIXFIX™ Education / Corporate market

