

# PIXFIX Flex

## Ultra Flexible Solution for LIVE Video Delivery



### Encoders/Transcoders for LIVE-OTT solutions

If the need is for **live on premise entry** level or Enterprise class Encoding/Transcoding, PIXFIX Flex comes with enough power for **Broadcast, CDN/TELCO, Education and Corporate markets**, by delivering the industry's **Ultra flexible and best in class cost per stream** infrastructure for **multiscreen applications**. These **Encoders/Transcoders** have RiverSilica's patented RAFT™, SAND™ and HELM™ algorithms, which provide intelligent video optimization and flexible live work flow for quality conscious customers. PIXFIX Flex derives its flexibility from its state of the art software defined video processing.

Capable of taking multiple types of inputs and multiple formats- PIXFIX Flex delivers live Multi bit rate video with popular CDN support, for quality conscious customers. PIXFIX Flex can power from entry level enterprise to dense juggernaut needs with its flexible SB, EL and HE Chassis. In combination with **PIXFIX Streama**, the solution delivers OTT work flow with mezzanine formats and DRM integration for the customers for their monetization needs.

### APPLICATIONS

For **BROADCASTERS** who are looking for most optimal solution to deliver live IP Video for multiple screens, look no further. **PIXFIX Flex** is capable of delivering live Multi screen, Multi format with plethora of bit rates and monetizable features. May it be low or dense channel count, with host of pre-processing and post-processing features, PIXFIX Flex packs a lot of punch for non-stop video delivery with heavy hitting capabilities and redundancy at all levels.

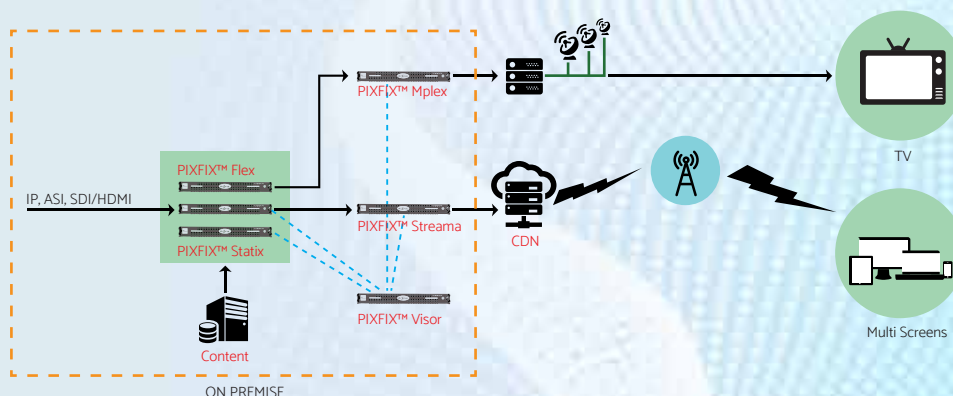
For non-stop enterprise class live OTT Encoding/Transcoding needs for the **EDUCATION, CORPORATE** markets and consolidating direct inputs from cameras in **SURVEILLANCE market**, PIXFIX Flex helps in building most optimal solution for OTT work flow requirements.

Capable of delivering enterprise class features across the board from single channel live all the way up to sixteen channels live input, with PIXFIX Flex you can be assured of a best in class optimized quality and the fastest ROI.

PIXFIX Flex can deliver end to end OTT solutions with **PIXFIX Streama** for streaming needs and **PIXFIX Local** for archival, CMS solutions.

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 challenges.

### PIXFIX™ in BROADCAST OTT WORK FLOW



# General specifications for



## INPUT INTERFACES

- o Multiple Gigabit IP interface, ASI, SD/HD SDI with raw & 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, Webm
- o Signal generator
- o H.264 elementary-Annex B MPEG2 PS, MPEG TS
- o MOV, MP4, MXF, Apple Prores, FLV, MKV

## 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 HEVC, Apple Prores, VC1, MJPEG, 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 Y& 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 and Subpicture

## 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 Watch-folder configuration

## STREAMING SERVER PROTOCOL

- o Apple HLS, Adobe HDS
- o Microsoft Smooth Streaming
- o Mpeg DASH, Adobe RTMP, RTSP
- o HLS with SCTE Cue Tones
- 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 SPECS

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

## OUTPUT INTERFACES

- o Multiple Gigabit IP interface with redundancy, ASI

## OUTPUT STREAM

- o TS/UDP & TS/RTP Unicast and multicast - SPTS
- o RTMP uplink to popular CDNs
- o TS, MP4, MOV, FLV, MKV

## OUTPUT VIDEO CODECS

- o H.264
- o HEVC

## OUTPUT AUDIO CODECS

- o MPEG 1 Layer2/3
- o AAC-MPEG4 (LC, HEAAC, HEAACv2)
- o MPEG4 ALS
- o Up to 8 channel, 24 bit audio
- o Up to 96 KHz sampling frequency

## PRE-PROCESSING

- o De interlacing through BOB, Motion adaptive
- 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

## 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, 24bit audio encoding

## METADATA

- o CEA 608/708 pass through
- o SCTE Cuetones for TS
- o DVB Subtitle and Subpicture pass through

## SYSTEMS

- o Express Job Settings
- o Jobs scheduling and Prioritization
- o Dynamic parameter changing while job is running
- o System configuration backup and restore
- o Remote File storage mount - NFS, CIFS
- o Auto restart of jobs in unrecoverable errors
- o Log and Notification alerts
- o Real time health statistics
- o Input stream available indicator
- o SNMP
- o System dashboard with realtime statistics of CPU, Network, Jobs, Memory etc
- o Device manager for autodetecting PnP devices
- o Complete network diagnostic involving DNS test, Speed test, Tracer etc



# PIXFIX™ Flex 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™ Flex	SB1000R11	MINI	SHORT	85W	✘	1 X 1 Gig	✘	128GB	✘	✓	1	✓
2	PIXFIX™ Flex	EL1000	1RU	HALF	350W	✘	1 X 1 Gig	✘	1TB	✘	✘	1	✘
3	PIXFIX™ Flex	EL1000R11	1RU	HALF	350W	✘	1 X 1 Gig	✘	1TB	✘	✓	1	✓
4	PIXFIX™ Flex	EL1720	1RU	HALF	600W	✘	2 X 1 Gig	✘	1TB	✘	✘	4	✘
5	PIXFIX™ Flex	EL1720R12	1RU	HALF	600W	✘	2 X 1 Gig	✘	1TB	2	✘	2	✓
6	PIXFIX™ Flex	EL1720R14	1RU	HALF	600W	✘	2 X 1 Gig	✘	1TB	4	✘	4	✓
7	PIXFIX™ Flex	EL1720M	1RU	HALF	600W	✘	2 X 1 Gig	✘	1TB	✘	✘	4	✘
8	PIXFIX™ Flex	EL1720MR14	1RU	HALF	600W	✘	2 X 1 Gig	✘	1TB	4	✘	4	✓
9	PIXFIX™ Flex	EL1720D	1RU	HALF	600W	✘	2 X 1 Gig	✘	1TB	✘	✘	4	✘
10	PIXFIX™ Flex	EL1720DR14	1RU	HALF	600W	✘	2 X 1 Gig	✘	1TB	4	✘	4	✓
11	PIXFIX™ Flex	HE3160	1RU	FULL	600W	✘	2 X 1 Gig	✘	1TB	✘	✘	8	✘
12	PIXFIX™ Flex	HE3160R18	1RU	FULL	600W	✘	2 X 1 Gig	✘	1TB	8	✘	8	✓
13	PIXFIX™ Flex	HE3160D	1RU	FULL	600W	✓	2 X 1 Gig	2 X 10 Gig	1TB	✘	✘	8	✘
14	PIXFIX™ Flex	HE3160R18D	1RU	FULL	600W	✓	2 X 1 Gig	2 X 10 Gig	1TB	8	✘	8	✓
15	PIXFIX™ Flex	HE5500C28	2RU	FULL	740W	✓	2 X 1 Gig	2 X 10 Gig	1TB	16	✘	16	COMP/IP

\* The input interface combination supports ASI, HDMI other than SDI. For any custom configuration, kindly consult with 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

## PRODUCT AT A GLANCE

Entry and Enterprise grade Network Encoding/Transcoding PIXFIX Flex running on SB/EL/HE Hardware infrastructure delivers the desired performance for LIVE OTT Encoding/Transcoding 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.