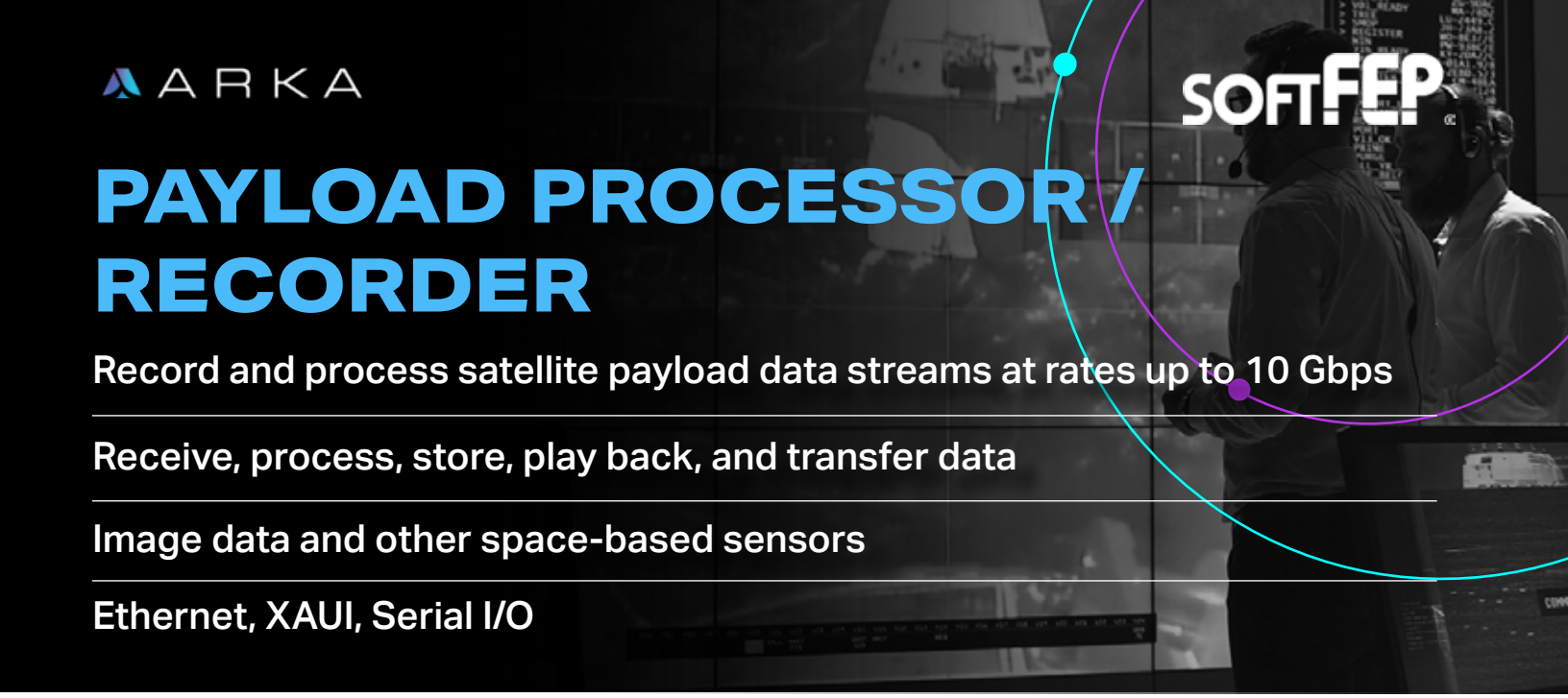

ARKA

SOFTFEP®

PAYLOAD PROCESSOR / RECORDER

Record and process satellite payload data streams at rates up to 10 Gbps

Receive, process, store, play back, and transfer data

Image data and other space-based sensors

Ethernet, XAUI, Serial I/O

FEATURES

HIGH-RATE DATA INPUTS:

The Payload Processor / Recorder receives one or more input channels as serial data streams (data/clock), via Ethernet (TCP/IP, UDP, or Raw Socket), or XAUI (XGMI Attachment Unit Interface).

DATA BUFFERING:

The received data streams are queued (buffered) to protect against data overflow from the continuous, real-time inputs.

DATA PROCESSING:

Individual frame synchronizers lock on each input data stream to enable downstream processing. The sync strategy, sync patterns, and frame lengths are fully programmable. A full suite of CCSDS processing functions are available, including Reed-Solomon decoding, virtual channel sorting, data encapsulation, and packet assembly / sorting.

DATA RECORDING:

Recording of the payload data streams is an integral function. Recording occurs in parallel with the real-time processing. Both raw and processed data can be recorded.

WAN RATE BUFFERING:

The processed data is delivered over Local and Wide Area Networks (LANs/WANs) for additional downstream processing. The network transport protocols within the system ensure reliable delivery and can perform rate buffering if the network bandwidth is less than the downlink data rate.

WAN-EX FORWARD ERROR CORRECTION:

Adding WAN-EX network transport allows for the data streams to flow continuously across a WAN, while improving the underlying WAN's Quality of Service (QoS). Data transport rates at full 10 Gbps WAN rate are supported.

VHR COMPATIBLE:

The system pairs with multiple highrate modems, including the VHR-400, -600, -1200, -3200, and -6400 from ViaSat. VHR modems and Payload Processors have been delivered to multiple customers.

BUILT-IN BIT ERROR RATE TESTS:

The system generates test data streams that are looped back as inputs to the system. There are built-in BERTs for each data channel.

THE POWER OF SOFTLINK®

All of our systems are built on SOFTLINK, ARKA's flexible and configurable software-defined architecture. SOFTLINK leverages a vetted library of modular, scalable software applications (Apps) and services to tailor and evolve system capabilities with minimal risk and cost. SOFTLINK's open architecture and open API enable ARKA Apps to be truly "platform agnostic," meaning Apps can run on premise (our hardware or yours), on Virtual Machines (VMs), in containers, or natively in the Cloud.

SPECIFICATIONS

KEY FUNCTIONS	SPECIFICATIONS
System Configurations (Serial Inputs)	Scalable, up to 800 Mbps
System Configurations (Ethernet, XAUI)	Scalable, up to 20 Gbps
RAID5 Storage	Up to 20 TB Optional for external storage array
Data Processing	Programmable sync strategy Reed-Solomon decoding Full CCSDS AOS GFP frames VITA-49 Separate / merge data streams Build composite files Scheduling
Data Recording	Raw input recording Processed data recording
Data Playback	Serial outputs, Ethernet Individual streams or merged files
WAN Transport	FTP, NFS, WAN-EX
Other	Remote RESTful JSON interface Remote GEMS interface

INTERFACES	SPECIFICATIONS
Input Channels	ECL or LVDS Data / Clock, SMB or SMA 1 / 10 /100 Gb Ethernet 10G XAUI
Output Channels (Playback or Loopback)	ECL or LVDS Data / Clock, SMB or SMA 1 / 10 /100 Gb Ethernet 10G XAUI
VHR Compatibility	VHR-400, -600, -1200, -3200, -6400
Ethernet (10 / 100 / 1000)	RJ-45
Ethernet 10 GigE	SFP+ or QSFP
XAUI	QSFP
Network Protocols	UDP, TCP / IP, WAN-EX

PHYSICAL / ENVIRONMENTAL	SPECIFICATIONS
Dimensions	3.5" (H) x 30" (D) x 17.5" (W)
Power	120 VAC, 50 / 60 Hz, 750 Watts
Temperature	5-30° operating 0-35° non-operating
Humidity	< 90% non-condensing

FOR ADDITIONAL INFORMATION:

2315 Briargate Pkwy., Suite 100
Colorado Springs, CO 80920 USA

Tel: 719-522-2800 | Fax: 719-522-2810

arka-group-technologies www.arka.org

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