



Application note



Final Cut Pro
4K/5K Video Editing with
PegasusPro R16



Version:1.0
Date:2020/08/26



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1. Scope

This document highlights the performance of PROMISE PegasusPro R16, Thunderbolt™ 3 DAS and 10G NAS fusion system designed for maximum workflow efficiency in collaborative production of digital media. The PegasusPro Series enables multiple team members to connect directly to PegasusPro via Thunderbolt™ 3 on 4K productions, while simultaneously sharing their work with other team contributors over 10G NAS.

The application specific data focuses on the 10G NAS interface.

About PegasusPro R16

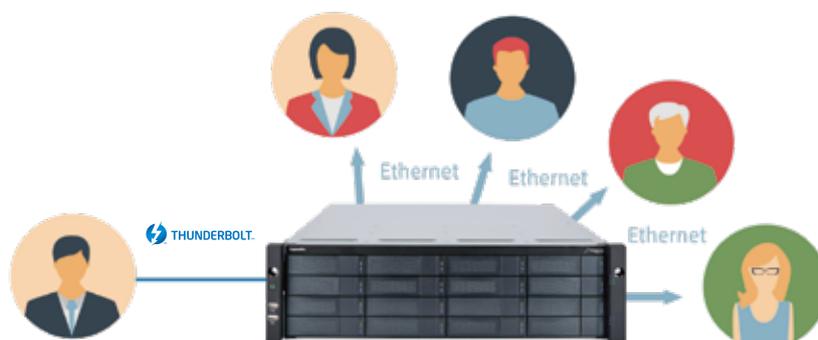
The R16 is recommended for medium to large editing teams. The system supports up to five 4K editors and sharing with up to twenty NAS users with dual Thunderbolt™ 3 ports and 10G Ethernet switch. The system can be upgraded and adapted to fit future needs, such as 8K definition with Thunderbolt™ 4 technology support. Extremely large storage capacity is possible with 12G SAS JBOD expansion. The system includes PROMISE RAID safety and fault tolerance, and support for high performance SSD.



PegasusPro R16

2.Executive Summary

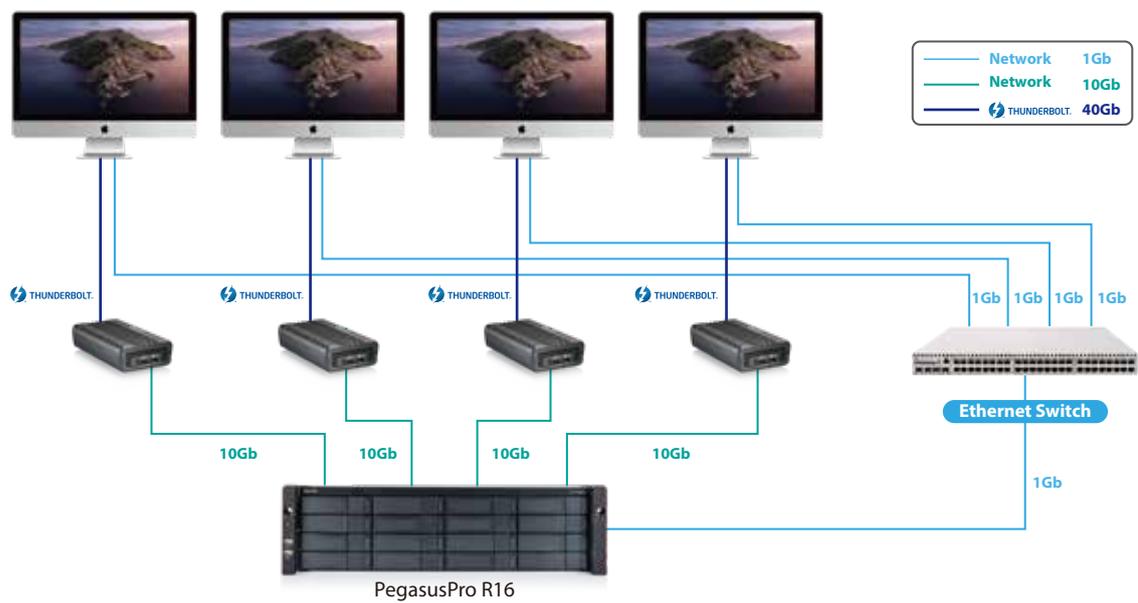
PegasusPro R16 user can edit the ingested data from 4/5K cameras while connected via the Thunderbolt™ 3 interface. The edited content can be shared for further editorial production via 10G Ethernet NAS.



3.Use Scenario

This document focused on Mac OS X platform via 10G Ethernet connection using Apple Final Cut Pro. The performance data for the 10G interface includes playback, ingest and combined playback and ingest loads. In addition, the tested bandwidth data for the Thunderbolt™ 3 connection is presented.

3.1 Configuration and Topology



System configuration on Mac Platform

Product	PegasusPro R16 CPU: Intel® Core™ i7-8700 CPU@ 3.20GHz RAM: 64GB (16GB * 4)
Test Client Platform	Mac Pro with 3.5 G16Hz Intel Xeon E5 and 32 GB DDR3 * 4
Network	Sanlink2 10G SFP+, Enable jumbo frame, HP 5800 Ethernet 10 G SFP+ switch
Software	Firmware Version: 0.00.0000.31 Apple Final Cut Pro X – 10.4.4 Mac os. - Mojave 10.14.6. * 3 Mac os. – Catalina 10.15.2 * 1 MovieRecorder 4.3.4
Media Workload	Playback Ingest Ingest & playback mixed
Physcial Disk	SAS SSD S630DC-960 * 16

3.2 Test Procedure Summary

For split screen projects, the monitor screen space is split into two, four, sixteen or more screens. Multiple clips must be viewable simultaneously with ability to edit.

1.Import media and create a new sequence

Import clips from media browser and stack them into the sequence.

2.Add crop effect on clips one by one

Turn off other tracks and crop each track, adding effects and compositing multiple tracks.

3.Use crop effect on effects panel

Adjust the position and scale of the clips to fit into the screen.

4.Animate the split screen

Animate each clips on and off by keyframing the motion setting.



Interview-based and live-event productions often utilize multiple cameras and angles for segment recording. Multi-camera editing allows you to quickly sync and align footage, and select the angle for video plays.

1.Create a project and Import footage

Select open a new project and the files to import.

2.Create a multi-camera source sequence

Select assets and choose a sync method from the Create Multi-camera Source Sequence.

3.Create a multi-camera target sequence

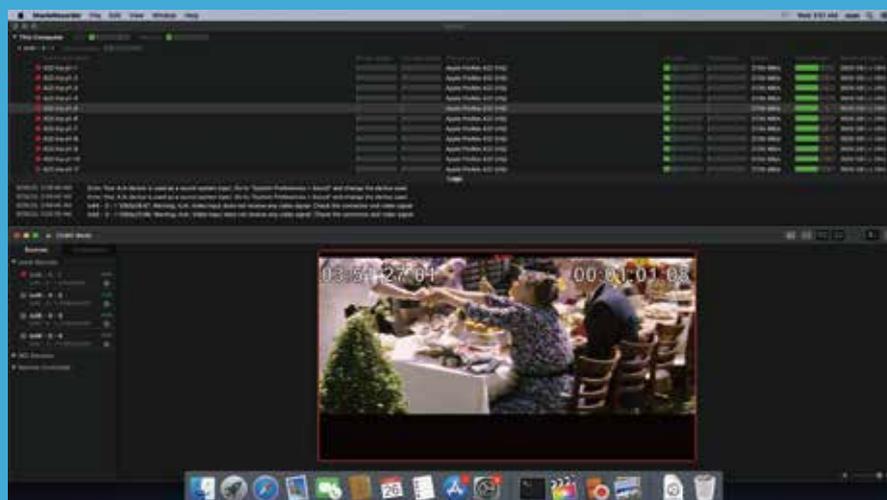
Create a multi-camera target sequence; open it in the Program Monitor and Timeline panel.

4.Enable and Edit the multi-camera sequence

View the footage of all cameras simultaneously and Edit the multi-camera source sequence.

5.Export the multi-camera sequence

Send the sequence to Encoder for encoding.



4. Test Results

Playback	Data Rate MBs	PegasusPro R16	D5000 Pool* 1, Ctrl*1	D5000 Pool* 2, Ctrl*2
Load				
ProRes4444 10bit QuadHD 3840x2160 @59.94fps.mov	290	8	4	8
ProRes4444 10bit QuadHD 3840x2160 @50fps.mov	242	10	6	12
ProRes4444 10bit QuadHD 3840x2160 @29.97fps.mov	145	18	10	20
ProRes4444 10bit QuadHD 3840x2160 @23.98fps.mov	116	22	13	26
ProRes4444 10bit QuadHD 5120x2160 @59.94fps.mov	602	4	2	4
ProRes4444 10bit QuadHD 5120x2160 @50fps.mov	504	4	2	4
ProRes4444 10bit QuadHD 5120x2160 @29.97fps.mov	306	8	4	8
ProRes4444 10bit QuadHD 5120x2160 @23.98fps.mov	244	10	6	12
uncompressed 10bit422 QuadHD 3840x2160 @29.97fps .mov	632.5	4	2	4
uncompressed 10bit422 QuadHD 3840x2160 @23.98fps .mov	506	4	2	4
uncompressed 10bit422 QuadHD 5120x2160 @29.97fps .mov	820	3	1	2
uncompressed 10bit422 QuadHD 5120x2160 @23.980fps .mov	687	4	2	4
ProRes 422 HQ (1080 @23.98fps) .mov	27.6	90	n/a	n/a

5. Conclusion

PegasusPro R16 delivers an All-in-one storage system specially engineered by the industry leader PROMISE for collaborative video post-production.

6. Product Specifications

	PegasusPro R16	PegasusPro R8
Model		
Form Factor	Rackmount	Tower
CPU	Intel CPU i7-8700. 3.2GHz. 12MB Cache.65W 6 Cores	Intel CPU i5-8500.3.0 GHz. 9MB Cache.65W.6 Cores
Memory	64GB up to 128GB	32GB up to 64GB
Memory Slot	4 x Long-DIMM DDR4, Best performance with 4 DIMM used	2 x Long-DIMM DDR4
Drive Bays	16 x 3.5-inch(Up to 112 Drives with JBOD Expansion)	8 x 3.5-inch
Drive Support	3.5" & 2.5" (SAS 12Gb/s; SATA 6Gb/s) HDD/SSD	3.5" & 2.5" SATA 6Gb/s HDD/SSD
Hot Swap	Yes	Yes
RAID Level	RAID 0, 1, 5, 6, 10, 50, 60	RAID 0, 1, 5, 6, 10, 50, 60
Interface		
Thunderbolt Port	Yes	Yes
Gigabit (RJ45)	2	2
LAN Port	4 port 10GbE Base-T/SFP (Optional)	4 port 10GbE Base-T/SFP (Optional)
USB Port	USB2.0*2 (Front) / USB3.2*4(Back)	USB2.0*2 & USB3.2*4
Graphic Port	HDMI*1;VGA*1	HDMI*1;VGA*1
Serial Port	Yes	N/A
System		
LED Indicator	Front Panel: Power Status, System Status, Global RAID Status, Global HDD Activity, System Heartbeat Drive carrier: Status and Activity	System Status and Thunderbolt Target Link Drive carrier: Status and activity
Power Button	Yes	Yes
Dimension(H x W x D)	131mm x 447 mm x 503mm	310 mm x 187 mm x 245 mm
Weight	34Kg (with HDD)	16Kg (with HDD)
Temperature Range	Operating: 5° ~ 40°C(non-operating:-40° ~ 60°C)	Operating: 5° ~ 35°C (non-operating: -40° ~ 60°C)
Acoustic Noise Levels	(with cable cover) level 10 : 39.7db (w/o cable cover) level 10 : 44db	level L0 : 37.7db
AC Input	(550W*1) 100 ~ 240V AC, 50 ~ 60Hz	(350W*1)100 ~ 240V AC, 47 ~ 63Hz
Power Consumption	110V, Power Consumption: 306W 230V, Power Consumption: 296W	110V, Power Consumption: 223W 230V, Power Consumption: 243W
Fan	System fan: 4500RPM.12V	System fan: 2700RPM.12V
PCIe Slot	2	2
SAS 12G HBA for JBOD Expansion	Optional	N/A
System Warning	Buzzer	Buzzer
Warranty and Support	3 years	3 years
Software Highlights		
Performance	One Master Host via high speed Thunderbolt 3™ DAS and multiple member accounts for file sharing via 10G Ethernet (with up to 6,000MB/s system throughput for R16).	
PROMISE Utility Pro	Easy of use, very fast DAS (Block) and NAS (File) bidirectional conversion with FileBoost™ between DAS Volume and Team Volume	
Application Ecosystem	Good match with Apple Final Cut Pro X, Adobe Premier Pro, DaVinci ..., Post Production Softwares	

*PegasusPro is compatible with a Thunderbolt™ 4 Windows PC except when it is connected behind a Thunderbolt™ 4 dock or Hub(Goshen Ridge based).



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