

Designed for what's next

The ProGrade Digital Gold and Cobalt CFexpress memory card families are based on proven, Solid State Drive (SSD), Quad-lane PCIe controller technology that offers both best-in-class value and performance options for imaging devices of the future. Non-Volatile Memory Express (NVMe) host controller interface in the CFexpress standard ensures that host and card performance are optimized for our leading edge CFexpress product lines. All ProGrade Digital CFexpress cards are compliant with the CompactFlash Association, CFexpress 2.0 and 4.0 specifications—including PCIe and NVMe interoperability compliance.

For mainstream imaging applications, our Gold label cards support burst write speeds up to 3000MB/second – ideal for DSLR and Mirrorless, full frame burst, shooting. In our Gold label cards, the sustained write speed across the entire volume ensures uninterrupted recording for a broad range of compressed video modes. In addition, our 256GB, 512GB, 1TB, and 2TB Gold cards have a sustained write speed of 850MB/s and 1500MB/s respectively, which allow capture of RAW 4K & 6K video across their entire density. Finally, our Cobalt label card has a sustained write speed of 2100MB/s which allow capture of RAW 6K & 8K video across the entire volume. Both card families provide sequential read speeds of up to 3400MB/sec. ensuring that offload time is minimized, and workflow efficiency is greatly improved.

With specific focus on 4K video capture, one hour of raw 4K video requires a card write speed between 380 and 1,000MB/sec dependent on color depth and frame rate. As shown in the table below, ProGrade Digital offers cards that are capable of capturing even cinema-grade raw 4K video at up-to 12 bits of color depth, and up-to 60fps. 8K Raw video at up-to 30fps is also possible on our Cobalt class cards

Capture Performance

| | Broadcast ProRes422HQ* | | | Episodic ProRes4444* | | | Cinema Raw** | | |
|----|---------------------------|------------|--------------|-------------------------|------------|--------------|-----------------|------------|--------------|
| | Color Depth | Frames/sec | Write MB/sec | Color Depth | Frames/sec | Write MB/sec | Color Depth | Frames/sec | Write MB/sec |
| 4K | 10 | 30 | 78 | 10 | 30 | 176 | 10 | 24 | 265 |
| 4K | 10 | 60 | 236 | 10 | 60 | 353 | 10 | 60 | 664 |
| 6K | 10 | 24 | 212 | 10 | 24 | 318 | 10 | 24 | 597 |
| 6K | 10 | 60 | 530 | 10 | 60 | 795 | 10 | 30 | 746 |
| 8K | 10 | 24 | 377 | 10 | 24 | 565 | 10 | 24 | 1062 |
| 8K | 10 | 60 | 942 | 10 | 60 | 1414 | 10 | 30 | 1327 |

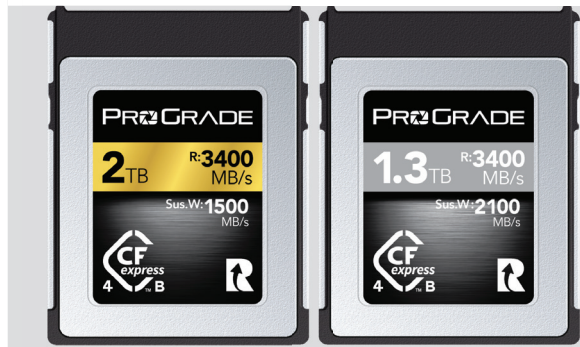
*From Apple ProRes white papers

Gold

Cobalt

**No oversampling included

From a workflow perspective, read speed in cards is essential in terms of minimizing delay for content ingest into the editing environment. ProGrade Digital Gold and Cobalt CFexpress 4.0 Type B cards provide nearly 2x the performance level of CFexpress Type B 2.0 cards - dramatically improving workflow efficiency.



ProGrade Digital CFexpress Type B Delivers:

| | Gold | | | | Cobalt |
|---|--|---|--|--|--|
| | 256GB | 512GB | 1TB | 2TB | 1.3TB |
| Densities and Performances | Max Read: 3400MB/s Max Write: 3000MB/s Sus Write: 850MB/s | Max Read: 3400MB/s Max Write: 3000MB/s Sus Write: 850MB/s | Max Read: 3400MB/s Max Write: 3000MB/s Sus Write: 1500MB/s | Max Read: 3400MB/s Max Write: 3000MB/s Sus Write: 1500MB/s | Max Read: 3400MB/s Max Write: 3000MB/s Sus Write: 2100MB/s |
| Interface | NVMe 1.4 c with PCIe Gen4 interconnect | | | | |
| Operating Voltage | +3.3V; Min = +3.0V, Max = +3.6V | | | | |
| Max Operating Current | 900mA for Gold & 1200mA for Cobalt | | | | |
| ECC Engine | LDPC | | | | |
| Power Management | Supports Power States (PS0, PS1, PS2, PS3, and PS4) with PS4 power consumption under 2mW | | | | |
| Storing Temperature | -20C to 85C | | | | |
| Operating Temperature | -10°C to 70°C | | | | |
| Operating & Storage Humidity | 95% or less (non-condensing) | | | | |
| Shock | 50G, 11ms duration | | | | |
| Vibration | 10Hz - 200Hz / 1.52mm displacement 10Hz - 2000Hz, 15G acceleration | | | | |
| Altitude | 2.26psi/Altitude:24384m | | | | |
| SMART & Sanitize | Yes | | | | |
| X-ray Proof | Yes | | | | |
| Dimensions | Type B: 29.6mm x 38.5mm x 3.8mm | | | | |
| Warranty | 3-year | | | | |

- Fully compliant with CompactFlash™ Association 4.0 specification and backwards compatible with 2.0 specification
- NVMe host interface with PCIe Gen4 X2 interconnect
- Low standby power through NVMe PS0 - PS4 support enabling extended battery life
- Metal enclosure/encasement to endure high temperatures while providing better thermal conductivity
- Built-in thermal throttling to protect your card and its content in the event of overheating
- Designed to provide peak performance for flagship cinema, video and photography cameras
- Optimized controllers specifically designed for use in professional-grade cameras
- Rigorous full card testing with serialized tracking of key components and manufacturing data for the highest quality control
- Component-level testing down to individual memory chips for optimal quality
- Refresh Pro™ enabled to quickly refresh card performance and monitor card health

