Brand Assets, Vocabulary and Terminology

2020

ATTO Visual & Content Guidelines
The Power Behind the Storage

Rev 06/12/20
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Section 1

ATTO BRAND

This section addresses the basics of preserving the ATTO brand including how to always write or reference the company name and the language of the ATTO top-level narrative in the form of boiler plates and pitches.
About ATTO, Boiler Plate and Corporate Pitch

Company Name
In general use, the following rules regarding the ATTO company name must be applied:

• ATTO must always appear in all upper case.
• The first mention of ATTO in a document or a section of a document should be complete: “ATTO Technology, Inc.” Refer to the section on Trademarks for additional guidelines.

Referencing ATTO
When writing about ATTO, several common phrases are acceptable, such as:

• ATTO Technology, Inc. headquartered in Amherst, New York, is a global leader of storage connectivity and infrastructure solutions for data-intensive computing environments.
• When referencing ATTO as a company or ATTO product names it is important not to use the word “the” in front of ATTO.

Incorrect: The ATTO solution to help customers
Correct: ATTO provides solutions that help customers

Boiler Plate
For over 30 years, ATTO Technology, Inc. has been a global leader across the IT and media & entertainment markets, specializing in network and storage connectivity and infrastructure solutions for the most data-intensive computing environments. ATTO works with partners to deliver end-to-end solutions to better store, manage and deliver data. Working as an extension of customers’ design teams, ATTO manufactures host bus adapters, network adapters, intelligent bridges, Thunderbolt™ adapters, and software. ATTO solutions provide high level connectivity to all storage interfaces, including Fibre Channel, SAS/SATA, iSCSI, Ethernet, NVMe, NVMe over Fabrics and Thunderbolt. ATTO is the Power Behind the Storage.

All trademarks, trade names, service marks and logos referenced herein belong to their respective companies.

M&E Elevator Pitch
For over 30 years, ATTO Technology has been a global leader in developing storage connectivity and infrastructure solutions for data-intensive computing environments. The ATTO end-to-end solutions enable fast, efficient and reliable data transfers at each workflow step, including ingest, edit, finishing, distribution and archive. With a product lineup encompassing 32Gb and 16Gb Fibre Channel, 10/25/40/50/100Gb Ethernet, and 12Gb and 6Gb SAS, along with Thunderbolt™ adapters for desktop and mobile workstation connectivity, ATTO products deliver accelerated access for I/O-demanding applications including 8K and 4K editing, 3D/stereoscopic and virtual reality.

IT Elevator Pitch
ATTO provides a wide range of end-to-end connectivity solutions to help customers better store, manage and deliver their data. With experience in engineering advanced technology into real-world product solutions, ATTO provides customers with competitive advantages in data acceleration and protection. Long-established in the media and entertainment industries, ATTO solutions also play strongly in emerging IT markets including medical imaging, oil and gas, enterprise-scale databases, business intelligence, finance, cloud computing and media asset management. The ATTO IT portfolio includes intelligent bridges, support for all-flash arrays, software defined storage (SDS), and adapters with support for Fibre Channel, Ethernet, SAS/SATA and NVMe.
Section 2

VISUAL SYSTEMS

This section contains information on the importance of maintaining consistency of the ATTO brand and how it should be represented visually.
ATTO Logo

Our logo represents ATTO as a company. There are two versions of the primary logo (Stacked and Linear) with corresponding black and white options.

Our primary logo is white lettering over gray with a red border and the tagline, “The Power Behind the Storage”.

The ATTO tagline should be written as follows:

**The Power Behind the Storage**

Do not translate the tagline into other languages.

The logo can be downloaded from the ATTO website at the following location:

https://www.atto.com/resources/

Secondary Logo without Tagline

Proper logo usage

The logo must have appropriate white space around it at all times. The minimum border around the logo is half the height of the red ATTO rectangle.
What not to do

Do Not

- Alter the logo in any way
- Redesign, redraw, modify, distort, or alter the proportions
- Rotate or render three-dimensionally
- Add words, images, or any other new elements to the logo
- Replace the approved typeface with any other typeface
- Enclose the shape or combine it with other design elements or effects
- Modify the size or position relationship of any elements within the logo
- Add additional copy
Graphic Identity, Logo usage

### Corporate Colors

The primary color scheme used by ATTO is Pantone 485 C (“ATTO Red”) and Warm Gray 8 C. Vendor production colors need to be converted into CMYK format. Web and digital images should be converted into RGB format.

<table>
<thead>
<tr>
<th>Color</th>
<th>Spot</th>
<th>CMYK</th>
<th>RGB</th>
<th>HEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTO Red</td>
<td>Pantone 485C</td>
<td>6/98/100/0</td>
<td>225/39/39</td>
<td>e12727</td>
</tr>
<tr>
<td>Gray</td>
<td>Pantone Warm Gray 8C</td>
<td>46/43/48/8</td>
<td>141/130/121</td>
<td>8d8279</td>
</tr>
</tbody>
</table>

### Secondary Colors

When creating topologies, ATTO has a set of colors representing the various protocols connecting products. These colors can also be used as accent colors in imagery related to specific products or protocols.

The protocols and respective colors are as follows:

<table>
<thead>
<tr>
<th>Protocol</th>
<th>CMYK</th>
<th>RGB</th>
<th>HEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibre Channel</td>
<td>0/79/100/0</td>
<td>241/93/34</td>
<td>f15d22</td>
</tr>
<tr>
<td>iSCSI</td>
<td>100/0/0/0</td>
<td>0/174/239</td>
<td>00aeef</td>
</tr>
<tr>
<td>SAS/SATA</td>
<td>46/100/0/0</td>
<td>153/37/143</td>
<td>99258f</td>
</tr>
<tr>
<td>Ethernet</td>
<td>100/90/10/0</td>
<td>37/64/143</td>
<td>25408f</td>
</tr>
<tr>
<td>ThunderLink</td>
<td>78/5/100/0</td>
<td>65/173/73</td>
<td>41ad49</td>
</tr>
</tbody>
</table>
The Importance of Typography

Consistent use of fonts is important for branding. When used effectively, the right font commands attention, draws emotions, and above all creates a voice. It’s why typography is such an essential component of our brand’s visual identity.

Legibility

Legibility is the ease with which a reader can recognize individual characters in text.

Readability

Readability is the ease with which a reader can understand written text. Higher readability eases reading effort and speed for any reader.

Suitability

Consider the design intent of the typeface. It is ideal to use a typeface that can be applicable for signage, or packaging while at the same time be contextually appropriate for documentation and body text.

Myriad Pro

The standard font for all ATTO collateral is Myriad Pro. Standard body copy uses the “regular” font style at 10pt size, with 14pt leading and metric/auto kerning. Body copy should have 7pt of space above and below each paragraph. The color of body copy is normally CMYK Black.

Document titles and headlines are “Bold” and 16pt size or larger, depending on the context and medium. On a white background and when the text can be colored, the color of the headline should be ATTO red.

Italicized text can be used to highlight a piece of information or present a quote. Captions are also italicized and 75% CMYK Black.

Bold text can be used to emphasize a piece of information, but should be used sparingly.

The quick brown fox jumps over the lazy dog. THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. 1234567890

Myriad Pro Regular

The quick brown fox jumps over the lazy dog. THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. 1234567890

Myriad Pro Bold
Product Photos
When marketing materials are highlighting a specific product or set of products, product photos can be used to show the viewer the product. This can be a single image or a whole group of various ATTO products, depending on the context.

When selecting product photos, avoid using the same photo more than once in a single arrangement. Keep things lively and interesting by selecting from the different angles available.

Topologies
ATTO topologies consist of ATTO and partner products and iconography representing generic products and technologies. Unless otherwise specified, topology elements will default to either ATTO product photos or generic icons.

Connections between objects in a topology are made with straight lines with a colored coded legend.

Updated or customized topologies can be commissioned from the Marketing Department.

Image Profiles
Reproducing graphics in print media vs digital media are vastly different. When printing internally or outsourcing to an outside vendor files should be prepared with images at 300-350 PPI and in a CMYK color format.

Digital graphics used in social media, emails, web graphics or digital ads are generally 72 PPI with the exception of some Social Media platforms such as LinkedIn and Instagram. The color format for Digital media should always be RGB.
MARKETING TOOLS

As an International company, it is critical to maintain consistency and quality across all official ATTO materials. This section gives an example of the details involved in creating the proper look for an ATTO document and summarizes the templates available for various types of documents.
Higher storage latency does real-world performance, while server-based storage architectures depend on general-purpose processors to transfer data, manage storage and add services and features to storage. When services and features are added, the CPU has to process each command, in software which overall hinders latency. ATTO XstreamCORE features a low-latency architecture that separates data traffic from services, removing non-request data from the path to maintain a consistent level of latency and performance.

### ATTO X-CORE™ Hardware Data Acceleration

ATTO X-CORE™ hardware accelerator was developed to handle the majority of I/O operations in a hardware processing pipeline without software intervention. XCORE manages all I/O, command routing and decoding, buffer allocation, reservations, access controls and provides real-time data analysis. Any exception is off-routed to an Ethernet control engine to manage commands which do not require acceleration. XCORE technology enables XstreamCORE to achieve up to 1.1M 4K IOPS or 6GB/s throughput with a single controller per port.

### Management Tools

- **eCORE™ control engine** provides for command processing, path selection and state transitions for data transfer operations. eCORE™ provides server and enclosure management I/O signals and management functions. With direct access to hardware drivers and host mapping functions while managing all storage services and features.

### SAS Specifications

- Supports SAS and SATA devices
- Auto negotiates to 12Gb/6Gb/3Gb
- Supports SAS 2.0, SAS 3.0, SATA 2.0
- 802.1Q, 802.1p, 802.1Qau, 802.1Qaz, 802.1Qbb, 802.1Qcc, 802.1Qdd

### Power Supplies

- **800W** 12VDCx8 +5VDCx8 +12VDCx8
- **950W** 12VDCx8 +5VDCx8 +12VDCx8
- **1100W** 12VDCx8 +5VDCx8 +12VDCx8

### Data Routing Fabric Topology

- **Rear to front** for low I/O traffic density.
- **Front to back** for high I/O traffic density.
- **Centralized control** for high I/O traffic density.
- **Distributed control** for balanced I/O traffic density.

### About ATTO

ATTO Technology has been a global leader in the IT and multimedia environments, driving connectivity and infrastructure solutions for the most data-intensive computing environments. ATTO solutions are delivered to tens of thousands of customers including Fortune 500 companies, government agencies, research institutions and universities, including NASA, DOE and UCLA.

### Table of Contents

- **Introduction**
- **Product Overview**
- **Architecture Latency**
- **Output Connectors**
- **Ethernet Connections**
- **SAS Specifications**
- **Power Supplies**
- **Data Routing Fabric Topology**
- **About ATTO**

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**Product Dimensions**

- **Height:** 1.735”
- **Width:** 9.90”
- **Depth:** 17.31”
- **Weight:** 7.5 kg (16 lbs)

**Input Specifications**

- **Power:** 100-240VAC, 1.0A 50-60 Hz
- **Temperature:** 0 to 40°C
- **Humidity:** 5 to 95% non-condensing

**Electromagnetic Compatibility (EMC)**

- **International Standards:**
  - **FCC Part 15 Class A**
  - **CE**
  - **Bharat spec. 099
  - **NOM**

**Agency Approvals and Compliance**

- **Safety:**
  - **UL 60950-1/EN60950-1
  - **CSA 60950-1**
  - **EMC:**
    - **DIN EN 55022 Class A
    - **IEC 61000-3-2, 3, 4**

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  - **UL 60950-1/EN60950-1
  - **CSA 60950-1**
  - **EMC:**
    - **DIN EN 55022 Class A
    - **IEC 61000-3-2, 3, 4**
ATTO press releases follow a traditional formal press release structure:

- Company logo justified top left, “PRESS RELEASE” bold justified top right with press contact information below this
- “FOR IMMEDIATE RELEASE” bold, justified left (optionally replaced by “EMBARGOED UNTIL”)
- Headline bold center justified
- Optional sub-head (not bold) center justified
- City, state (date) bold justified left
- Body copy justified left
- Call to action justified left
- How to buy ATTO justified left
- Social media call-out justified left
- Medium boilerplate justified left
- End with ###

Templates are available from MarCom via request.

Topics need to be news-worthy and of relatively high interest to the industry and/or end-users.

A press release should cover one topic only. There may be more than one subject (ie. ATTO and Apple) so long as the subjects directly relate to the single topic.

**Example:**

**Single subject, single topic:**

ATTO Announces the Release of ATTO XstreamCORE 9500

**Dual subject, single topic:**

ATTO and Apple Team Together to Provide NVMe Storage Solution

ATTO press releases should be written as efficiently as possible, keeping in mind that the more superfluous detail given in a press release the less effective it is. Writing segments need to be kept within the 400 word limit. It is important to keep the topics clear and concise with no ambiguation and absolutely no “filler” content.

FOR IMMEDIATE RELEASE

ATTO Announces macOS® Driver Support for 10/25/40/50/100GbE NICs

Industry first macOS driver for ATTO FastFrame™ 3 Ethernet Adapters

Amherst, NY (May 29, 2019) – ATTO Technology, Inc., a global leader of storage, network connectivity and infrastructure solutions for data-intensive computing environments, has announced macOS® driver support for the latest generation of ATTO FastFrame™ 3 10/25/40/50/100Gb Ethernet network adapters.

The new ATTO FastFrame 3 driver is the industry’s first macOS driver to support the latest 25/50/100GbE standard. This release continues ATTO’s long standing relationship with Apple by providing products that offer users premium performance and maximum usability.

ATTO worked with partner ELEMENTS, a manufacturer of high-performance media storage and server systems for creative workflows, to test and validate the newest driver. "The addition of this driver allows us to support our macOS customers with the latest and greatest interconnects and helps bring our partners into the future of Ethernet-based storage technology," said Nicolas Fischer, Chief Operating Officer at ELEMENTS.

Supporting speeds up to 100GbE and with latency as low as one microsecond (µs), and end-to-end quality of service, and congestion control, ATTO FastFrame 3 NICs are ideal for end-users that require the latest macOS driver support for their ATTO FastFrame 3 NICs.

ATTO FastFrame 3 products that now support macOS® include:

**Contact:**

Susannah Boutet
ATTO Technology, Inc.
sboutet@atto.com
Phone: +1 (716) 691-1999
Fax: +1 (716) 691-9353

All ATTO press releases, without exception, are to be proof-read and approved by MarCom before being deployed.

All ATTO press releases, without exception, are to be issued only by MarCom.
Corporate Emails
This section refers to emails sent by MarCom from ATTO as a company and not individual emails sent out as a function of day-to-day business.

Structure

Official ATTO company emails adhere to the following structure:

1. Subject line
2. Image (750x260 @ 72dpi) typically with copy to support the headline (Under certain circumstances, an image might not be necessary or appropriate, for example for software or driver updates, or disaster communications.)
3. Headline
4. Body
5. “Visit our homepage to discover all of the ways ATTO powers connectivity: www.atto.com” with active link
6. “Purchase ATTO products through leading Value Added Resellers, System Integrators and the ATTO Web Store. Learn more: www.atto.com/howtobuy” with active link
7. “Follow ATTO on Twitter, LinkedIn, Instagram and Facebook (@ATTOTechnology).” Bold with active links
8. Medium boilerplate

Templates are available from MarCom via request.

Content

Topics need to be of relatively high interest to the industry and/or end-users.

An email should cover one topic only. There may be more than one subject (i.e. ATTO and Apple) so long as the subjects directly relate to the single topic.

Example:

Single subject, single topic:
ATTO Announces the Release of ATTO XstreamCORE 9500

Dual subject, single topic:
ATTO and Apple Team Together to Provide NVMe Storage Solution

ATTO emails should be written as efficiently as possible, keeping in mind that the more superfluous detail given in an email the less effective it is. The writing needs to be clear and concise with no ambiguity and absolutely no “filler” content.

Deployment

All ATTO company emails, without exception, are to be proof-read and approved by MarCom before being deployed.

All ATTO company emails, without exception, are to be issued only by MarCom.
Personal Accounts

This section refers to social media that represents marketing, press or public relations communications from ATTO as a company and not personal employee accounts.

We encourage employees to use their personal social media accounts to promote ATTO. Please remember that when promoting ATTO with your personal account, what is posted does reflect on ATTO. We ask that you use professional judgement when creating your posts.

Structure

Each social media platform has its own guidelines for text, images, videos and other content that can be posted there. Please search for these guidelines and follow them as closely as possible. Be aware that certain platforms limit the number of characters and spaces (for example, Twitter limits each post to 280 total characters and spaces, including URLs).

Generally, for platforms that cater to both desktop, laptop and mobile platforms, one image in an approximately 16:9 aspect ratio can suffice for all. The resolution for the single image should be at least 1920x1080 @ 72dpi or higher.

For platforms that target mobile devices only (for example, Instagram), a square format of at least 1200x1200 @ 72dpi should suffice.

Content

Content for social media posts should always be informative, positive, or both. Professional judgement must always be applied to content issued from ATTO via social media. No swearing or attempts at humor that can be misconstrued.

A rule-of-thumb to follow is that if you have the slightest question whether the content might be misunderstood, then the content should not be posted.

Content should address a topic or subject as efficiently as possible. The reader of a social media post from ATTO should understand immediately the reason for the post. Unless circumstances dictate otherwise, the tone of most social media posts from ATTO can be “fun”, “light”, “interesting”, etc. so long as the point of the post is clear.

Deployment

All ATTO company social media, without exception, is to be proof-read and approved by MarCom before being deployed.

All ATTO company social media, without exception, is to be issued only by MarCom.
Preset Documents

To maintain a consistent look and feel across all ATTO collateral, a number of templates have been created for various document types, including but not limited to:

- ATTO Powerpoint Presentations
- ATTO Internal Memorandums
- ATTO Official Letterhead
- Microsoft Word Doc
- Microsoft Excel Spreadsheet
- Microsoft Visio

All ATTO templates are available in the Standard Forms database on Notes.

Font, Color and Style

The standard font for all ATTO collateral is Myriad Pro. Standard body copy uses the “regular” font style at 10pt.

Document titles and headlines are “Bold” and 16pt size or larger, depending on the context and medium. On a white background the primary color scheme used by ATTO is Pantone 485 C (“ATTO Red”) and Warm Gray 8 C.

Paragraph text should be in typeset in Black. Using ATTO Red or Bolding text can be used to draw emphasis on key words or phrases as well as in headlines or subheads but should be used sparingly.

Italicized text can be used to highlight a piece of information or present a quote.
The company and product names are assets of the ATTO brand. As an asset, they must be protected and trademarking helps to do that. The following section provides details on trademarks and how to properly honor them – not only for ATTO, but for our partners and industry colleagues as well.
Trademark, Registered Trademark – How they Apply to ATTO

About Trademarks

Trademarks help protect a company’s brand as well as their assets. There are different types of Trademarks and different levels of protection.

You have the option of using a word, phrase or logo as a trademark to identify your company as the source of specific products or services without applying to register a trademark.

What’s the difference between TM & R?

The TM symbol can generally be used by any person or business to indicate that a particular word, phrase or logo is intended to serve as an identifier for the source of that product or service. You do not have to have registered a trademark to use it and many companies will opt to use the TM symbol for new goods or services in advance of and during the application process.

The R symbol indicates that this word, phrase or logo is a registered trademark for the product or service. It must only be used in the case of registered trademarks and by the owner or licensee. It also must only be used in the regions in which you possess a valid trademark registration.

Proper Usage with ATTO

ATTO utilizes both variations of trademark as a method of branding as well as for marketing strategy. It is not always necessary to register all trademarks. While a registered trademark holds a particular value some times the usage can be unfit or just not allowable.

Use of the TM symbol in cases where you don’t wish to or cannot obtain a registration can be a strategic decision. For example, where your mark or brand is not registrable due to descriptiveness, consistent use of the brand can eventually lead you to acquire distinctiveness which might permit registration. In this case, using the TM symbol alongside the brand over a period of time potentially allows you to illustrate that you have been using this brand as a trademark over an extended period of time and it has become recognizable in the marketplace as serving as a distinct identifier for your business.

It should also be recognized that a registered trademark holds an undisclosed value outside of the obvious brand protection. It can represent reliability and stability. For potential investors, this can be a critical factor in the decision making process. While an unregistered brand name may have some value, it is not comparable with the asset potential of a registered brand.

(See page 20 For a list of ATTO trademarks)

How to Use Trademarks

Never use a trademark in the possessive.

- Incorrect: ATTO FibreBridge’s® features give you the winning edge.
- Correct: ATTO FibreBridge® connectivity features give you the winning edge.

Never use a trademark as a plural.

- Incorrect: ISPs are choosing ATTO FibreBridges® for increased performance.
- Correct: ISPs choose ATTO FibreBridge® for the best performance available.

Never use a trademark as a verb.

- Incorrect: ATTO-izing

Never include a trademarked term in a hyphenated phrase.

- Incorrect: ADS™-based
- Correct: ADS™ Technology

Do not abbreviate a trademarked term unless the abbreviation is also a trademarked term.

- Incorrect: XC® (XstreamCORE)
- Correct: XstreamCORE®
# Product Names

The proper naming convention and first reference for every ATTO product begins with “ATTO” and must include trademarks or registration after product names.

Second and thereafter references to product names do not need to be prefaced with ATTO or followed by a trademark.

**Example:**

ATTO XstreamCORE® FC 7600 protocol bridge is first mentioned in this example here. In following statements, XstreamCORE does not require ATTO to preface it.

# Referencing ATTO Products

Apostrophe “s” should not be added when ATTO shows possessive properties.

- Incorrect: ATTO Technology’s [product line].
- Correct: ATTO Technology [product line].

When referencing ATTO as a company or ATTO product names it is important not to use the word “the” in front of ATTO.

- Incorrect: The ATTO ThunderLink®
- Correct: ATTO ThunderLink®

# ATTO Trademarks and Registered Products

<table>
<thead>
<tr>
<th>ATTO Trademarks and Registered Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTO®</td>
</tr>
<tr>
<td>ATTO 360™</td>
</tr>
<tr>
<td>ATTO Accelerate™ Partner Program</td>
</tr>
<tr>
<td>ATTO Access™ Partner Program</td>
</tr>
<tr>
<td>ATTO Adaptive Path Optimization™</td>
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<tr>
<td>ATTO Advanced Data Streaming (ADS™) Technology</td>
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<tr>
<td>ATTO CacheAssure Technology™</td>
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<td>ATTO Celerity™</td>
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<tr>
<td>ATTO ConfigTool™</td>
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<tr>
<td>ATTO Disk Benchmark Tool™</td>
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<td>ATTO Drive Map Director™</td>
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<td>ATTO DriveAssure™ Technology</td>
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<tr>
<td>ATTO eCORE™</td>
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<td>ATTO ExpressNAV™</td>
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<tr>
<td>ATTO ExpressSAS®</td>
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<tr>
<td>ATTO FastFrame™</td>
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<td>ATTO FibreBridge®</td>
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<tr>
<td>ATTO intelligent Bridging Architecture™</td>
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<tr>
<td>ATTO Latency Scout™</td>
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<tr>
<td>ATTO MultiPath Director™</td>
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<tr>
<td>ATTO PowerCenter Pro™</td>
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<tr>
<td>ATTO QuickNAV™</td>
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<td>ATTO Signal Integrity™</td>
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<td>ATTO SpeedWrite™</td>
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<td>ATTO ThunderLink®</td>
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<td>ATTO ThunderRack™</td>
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<td>ATTO vConfigTool™</td>
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<td>ATTO WriteStop™</td>
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<td>ATTO xCORE™</td>
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## Industry Trademarked/Registered Names and Products

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<td>EMC®</td>
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<tr>
<td>Adobe®</td>
<td>Final Cut®</td>
<td>Macintosh®</td>
</tr>
<tr>
<td>Adobe® Audition</td>
<td>Final Cut Pro®</td>
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<td>Adobe® Bridge</td>
<td>Final Cut Studio®</td>
<td>macOS®</td>
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<td>Adobe® Premiere®</td>
<td>Grass Valley®</td>
<td>Mac Pro®</td>
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<td>Adobe® Premiere® Pro</td>
<td>HP®</td>
<td>NetApp®</td>
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<td>Adobe® Premiere® Rush®</td>
<td>Illustrator®</td>
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<td>After Effects®</td>
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<td>Thunderbolt™</td>
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<td>Dell®</td>
<td>Mac®</td>
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</table>
The definitions and spellings of industry terms may vary depending on what source is used to verify them. The same is true for acronyms and abbreviations. ATTO employees should consider this section the definitive resource for industry terms when creating official ATTO documents, collateral and communications.
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>CapEx or CAPEX</td>
<td>Capital Expenditure</td>
</tr>
<tr>
<td>HBA*</td>
<td>Host Bus Adapter</td>
</tr>
<tr>
<td>HDD*</td>
<td>Hard Disk Drive</td>
</tr>
<tr>
<td>iSCSI</td>
<td>Internet Small Computer Systems Interface</td>
</tr>
<tr>
<td>LAN</td>
<td>Local Area Network</td>
</tr>
<tr>
<td>LUN</td>
<td>Logical Unit Number</td>
</tr>
<tr>
<td>NIC*</td>
<td>Network Interface Card</td>
</tr>
<tr>
<td>OpEx or OPEX</td>
<td>Operational Expenditure</td>
</tr>
<tr>
<td>RAID</td>
<td>Redundant Array of Independent Disk</td>
</tr>
<tr>
<td>RDMA*</td>
<td>Remore Direct Memory Access</td>
</tr>
<tr>
<td>RoCE*</td>
<td>Remote Direct Memory Access Over Converged Ethernet</td>
</tr>
<tr>
<td>SAN*</td>
<td>Storage Area Network</td>
</tr>
<tr>
<td>SAS</td>
<td>Serial-Attached SCSI</td>
</tr>
<tr>
<td>SATA</td>
<td>Serial Advanced Technology Attachment</td>
</tr>
<tr>
<td>SCSI</td>
<td>Small Computer System Interface</td>
</tr>
<tr>
<td>SDD</td>
<td>Software Design Description</td>
</tr>
<tr>
<td>SDS*</td>
<td>Software-Defined Storage</td>
</tr>
<tr>
<td>SMB</td>
<td>Small- to Medium-Sized Business</td>
</tr>
<tr>
<td>SSD*</td>
<td>Solid-State Drive</td>
</tr>
<tr>
<td>TCO*</td>
<td>Total Cost of Ownership</td>
</tr>
</tbody>
</table>

* Spell out first reference, abbreviate thereafter
Recommendations and Tips

- Avoid using an ampersand (&) in documentation unless it is a part of a specific name or it is trademarked (“media & entertainment” is not a proper name or title).

- Capitalize the first letter of each noun, pronoun, adjective, verb, adverb and/or subordinate conjunctions in a title, headline or subhead.

- Lowercase words in a title, headline or subhead should include “a, an, the” also coordinating conjunctions “and, but, or, for” and prepositions.

- Be aware of hyphens and capitalization: software-defined storage (no caps) and software-defined networking (no caps). See the Glossary of Industry Terms in this guide for correct hyphenation.

- Avoid unnecessary hyphenation, usually encountered in relation to product names.
  
  Correct: Thunderbolt™ adapter or Thunderbolt™ enabled
  Incorrect: Thunderbolt-enabled adapter

- Do not use ATTO in the possessive
  Incorrect: “ATTO’s”

- Higher speeds should be presented first in sequence (i.e. Thunderbolt™ 3 and 2; i.e. Celerity™ 32 Gb and 16Gb).

- Observe letter case in terminology and product names.
  
  Example 1: ThunderLink® adapter (no cap on “adapter”).
  Example 2: Thunderbolt™; ThunderLink®; XstreamCORE®

- XstreamCORE® 7600 storage controller (no caps on “storage controller” unless it’s being used in a title).

- Please note the difference between MB/s, Mb/s, GB/s and Gb/s (“B” = byte, “b” = bit).
Recommendations and Tips

- Avoid double-spacing after a period. Using a single-space post sentence creates a smoother composition.

- Always write out the word “percent” avoid using “%” (unless it’s a spacing issue in a headline).

- Use proper trademark symbols ™ (Alt+CTL+T). Avoid type the letters “TM” or placing a superscript on “TM”.

- Use proper registered symbols ® (Alt+CTL+R) for registered mark.

- Case matters in terminology and product names.

- Avoid using serial or Oxford commas (placing a comma before the word “and”).
  
  **Correct:** “The fireworks were red, white and blue.”
  
  **Incorrect:** “The fireworks were red, white, and blue.”

- Punctuation will generally fall outside of parenthesis.
  
  **Example 1:** Here, I have an example (with a parenthetical remark).

- Regarding capitalization of job titles: capitalize the job title when it comes immediately before the name. It is not typically capitalized if it comes after the person’s name, or “the” is used before the title. If the collateral is a collaboration with a partner, do not alter how the partner formats their job titles.
  
  **Correct:** President and CEO, Tim Klein
  
  **Incorrect:** Tim Klein, President and CEO
Routing and edits

During the routing process, proofs can be overseen by a large group of people often making similar changes to the same document. Proofreader marks are used to indicate and correct problems in a text. The symbols are integrated into the text to illustrate notations of correction. Using this guide to make corrections will streamline the editing process along with initialing your comments.

<table>
<thead>
<tr>
<th>Bold</th>
<th>SUMMARY OF ARGUMENT</th>
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<tbody>
<tr>
<td>Italic</td>
<td>N.Y. Times v. Sullivan</td>
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<td>Roman or lightface</td>
<td>You <em>can’t</em> be serious</td>
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<td>Close up</td>
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<td>Move</td>
<td>the assumption of risk</td>
</tr>
<tr>
<td>New paragraph</td>
<td>event, if the burden or</td>
</tr>
</tbody>
</table>
Popular Industry Terms

24 Frames Per Second
The international frame rate standard used when shooting film. The number of frames that are run through the gate of a camera, or projected, per second.

All-Flash Array
A data storage system that contains multiple flash memory drives in place of spinning hard disk drives, allowing for much faster data transfer rates and more efficient use of data center resources.

Aspect Ratio
Describes the proportional relationship between the width and height of an image. The most common aspect ratios used in film are 1.85:1 and 2.39:1. The two most common video aspect ratios are 4:3 and 16:9, which is the universal aspect ratio for high-definition television.

Bandwidth
The total amount of data that can be transferred at one time between CPU and storage. Generally, bandwidth refers to large block data transfers and is measured in MB/sec. For instance, the total bandwidth available on any given UltraSCSI bus is 40 MB/sec. Actual transfer rates are somewhat less than this.

Byte
One of the basic units for measuring digital information, especially relevant to understanding storage capacity on computer disks. 8 bits comprise a byte. Roughly 1000 bytes equals one kilobyte. 1000 kilobytes is one megabyte or meg. 1000 megabytes is a gigabyte. Byte uses a capital “B” (MB = MegaByte) in abbreviations whereas a bit is represented by a lower case “b” (Mb = Megabit).

Cache
Same technology as cache memory used in servers. Storage cache usually resides on RAID controllers and boosts performance because the CPU doesn’t have to wait for a disk head to spin. Data can be written to and read directly from cache.

CGI (Computer-Generated Imagery)
Refers to animating digital elements or creating 3D computer graphics that will eventually be composited into a scene to give the illusion as if the elements were a part of the original scene.

CODECs (Compressor / Decompressor)
Software that enables your devices (camera, editor, player) to perform video encoding and/or decoding. Codecs are used to compress raw footage to make it easier to manage since compressed footage requires less storage space and less throughput to stream.

Color Grading / Color Correction
The process of altering or enhancing the color of an image, usually done in what’s called a Digital Intermediate suite. This is one of the final creative processes of post-production, where the filmmaker is able to create the specific look of the finished film. Color correction is usually done using raw, uncompressed footage. This requires very high bandwidth and is a good use case for ATTO products.
Popular Industry Terms

**Color Space**
Refers to an abstract mathematical model that describes the way colors are represented to the human eye based on various defined color models. HDTV uses the Rec.709 color space. Digital Cinema uses the P3 color space.

**Compositing**
The process of combining visual elements from separate sources into single images, usually done through the method of green-screen, and most recently using "virtual sets" that are replaced by computer graphics programs.

**Compression Ratio**
The ratio between the video's original size and its compressed size. This allows us scale to the video down to a manageable size for the final product. Compression is a tradeoff between storage capacity / storage bandwidth needs and image quality (detail and color).

**Dailies**
Processed or shot footage that the director reviews to see the results of the previous day's shooting.

**Data rate**
An attribute assigned to a media file by a compression utility. It is a measure of the amount of digital information transmitted in a given unit of time—usually a second. Thus, a video could be encoded to play back at a rate of 500 kb/s.

**Digital Asset Management**
(Also known as Media Asset Management.) How you take in, handle and distribute media assets in digital form.

**Digital intermediate**
Creating a digital intermediate (DI) refers to the digitizing of motion picture data and manipulating the color and other image characteristics in one of the final stages of finishing the film in post-production. The process uses digital tools to color grade, and ultimately the DI will be used to create the digital master.

**DNxHD (digital nonlinear extensible high definition)**
A lossy high-definition video post-production codec engineered for multi-generation compositing with reduced storage and bandwidth requirements. It is an implementation of SMPTE VC-3 standard. The DNxHD codec was developed by Avid Technology.

**Edit decision list (EDL)**
Used in the post-production process of film and video editing. Contains an ordered list of reel and timecode data representing where each video clip can be obtained in order to conform the final cut.

**Failover**
The automatic substitution of a functionally equivalent system component for a failed one. The term failover is most often applied to intelligent controllers connected to the same storage devices and host computers. If one of the controllers fails, failover occurs and the survivor takes over its I/O load.
Popular Industry Terms

**Fibre Channel fabric**
A Fibre Channel fabric is created by a set of interconnected HBAs, bridges, storage devices and switch(es).
Note that a SAN installation often contains multiple fabrics for redundancy.

**Gamma**
A measurement of the level of midtones in an image.

**GPU (graphics processing unit)**
A specialized electronic circuit designed to rapidly manipulate and alter memory to accelerate the creation of images in a frame buffer intended for output to a display.

**HD (high definition)**
HD comes in three different formats, all in widescreen 16:9 aspect ratio. The first (720p) features 720 x 1280 pixel resolution with progressive scanning. The second high definition format (1080i) features greater resolution (1080 x 1920 pixels), but with interlaced scanning. The third (1080p) is currently the ultimate high definition format, with 1080 x 1920 pixel resolution and progressive scanning.

**Ingest**
Used for digitizing video. Can be done via decks, film scans (Cine), hard drives, solid state disks (ex. P2 media, XDCAM, RED One), satellite feeds, capture cards and breakout boxes.

**I/O**
Refers to data that is being sent from a CPU to any type of storage device or peripheral.

**IOPS**
Input/Output operations per second.

**IPTV (internet protocol TV)**
A system where a digital television service is delivered using internet protocol over a network infrastructure, which may include delivery by a broadband connection. Content, instead of being delivered through traditional broadcast and cable formats, is received by the viewer through the technologies used for computer networks. IPTV is typically supplied by a service provider using a closed network infrastructure. This closed network approach is in competition with the delivery of TV content over the public internet, called Internet Television.

**iSCSI**
Short for internet small computer system interface, an IP-based standard for linking data storage devices over a network and transferring data by carrying SCSI commands over IP networks. iSCSI supports an Ethernet interface at the physical layer, which allows systems supporting iSCSI interfaces to connect directly to standard Ethernet switches and/or IP routers.
Popular Industry Terms

**iSCSI initiator**
Software or hardware that enables a host computer to send data to an external iSCSI-based storage array through an Ethernet network adapter over a transmission control protocol (TCP)-based Internet Protocol (IP) network. The iSCSI initiator originates the input/output (I/O) command sequence to facilitate data transmission to the storage device, which is also known as an iSCSI target.

**JBOD**
Just a bunch of disks. Refers to drives that reside in their own enclosure external to the server, but contain no RAID intelligence. JBOD drives are dependent on the server for RAID functionality.

**JBOF**
Just a bunch of flash drives. Refers to solid state drives that reside in their own enclosure external to the server.

**Linear tape file system (LTFS)**
Refers to both the format of data recorded on magnetic tape media and the implementation of specific software that uses this data format to provide a file system interface to data stored on magnetic tape. The Linear Tape File System format is a self-describing tape format developed by IBM to address tape archive requirements. The LTFS Format specification, which was adopted by the LTO Technology Provider Companies, defines the organization of data and metadata on tape - files stored in a hierarchical directory structure. Data tapes written in the LTFS Format can be used independently of any external database or storage system allowing direct access to file content data and file metadata. This format makes it possible to implement software that presents a standard file system view of the data stored on the tape media. This file system view makes accessing files stored on the LTFS formatted media similar to accessing files stored on other forms of storage media such as disk or removable flash drives.

**LUN (logical unit number)**
A logical representation of physical storage. Users can determine whether a LUN is a disk drive, a number of disk drives, or a partition on a disk drive, depending on RAID configuration.

**Mirroring**
A form of storage array in which two or more identical copies of data are maintained on separate media. Also known as RAID 1, disk shadowing, real-time copy and t1 copy.

**Motion capture**
The process of filming an actor wearing special sensors in an artificial environment that will be used later during CGI and VFX.

**Multipathing**
Also called SAN multipathing or I/O multipathing, it is the establishment of multiple physical routes between a server and the storage device that supports it. In storage networking, the physical path between a server and the storage device that supports it can sometimes fail. When there's only one physical path between the two devices, there is a single point of failure (SPoF), which can be a problem if a cable breaks or someone accidentally unplugs the wrong cable. Because SAN multipathing establishes multiple routes between the hardware, if someone accidentally unplugged the wrong cable and one path failed, I/O would simply be routed through another path. In addition to being a useful failover tool, multipathing can assist with load balancing by spreading I/O across multiple paths to reduce latency.
**Material exchange format (MXF)**
An object-based file format that wraps video, audio, and other bitstreams ("essences"), optimized for content interchange or archiving by creators and/or distributors, and intended for implementation in devices ranging from cameras and video recorders to computer systems. In effect, the format bundles the essences and what amounts to an "edit decision list" (data used by audio-visual content editing systems) in an unambiguous way that is essence-agnostic and metadata-aware.

**Network-attached storage (NAS)**
An IP-based file-sharing device attached to a local area network. NAS serves a mix of clients and servers over an IP network. A NAS device uses its own operating system and integrated hardware and software components to meet a variety of file service needs.

**Network file system (NFS)**
A protocol that allows a user on a client computer to access files over a network in a manner similar to how they would access local storage. Benefits include cutting the need for users to have separate home directories on every network machine and lowering disk space on local workstations. NFS, like many other protocols, builds on the Open Network Computing Remote Procedure Call (ONC RPC) system.

**Nonlinear editing**
Nonlinear distinguishes editing operation from the "linear" methods used with tape. Nonlinear refers to not having to edit material in the sequence of the final program and does not involve copying to make edits. It allows any part of the program to be accessed and modified without having to recopy the material that is already edited. Nonlinear editing is also nondestructive, as it uses hard disks to play this material in the random access order the editor has selected rather than playing a linear videotape.

**Offline edit**
During post production, an offline edit is the process of cutting a project at a lower resolution in order to save money and time.

**Online edit**
Once an offline edit is completed, using an EDL, the sequence is then reassembled using high-resolution media for the final output.

**OTT (over-the-top)**
Refers to the delivery of audiovisual content streamed over the Internet without the involvement of an Internet service provider (ISP) in the control or distribution of the content. The ISP is neither responsible for, nor is able to control, the viewing abilities, copyrights, and/or other redistribution of the content, which arrives from a third party and is delivered to an end-user’s device. The ISP is only in the role of transporting IP packets. It’s often referred to as “over-the-top” because these services ride on top of the service you already get. OTT services don’t require any business or technology affiliations with the entity that controls or maintains the infrastructure through which the content is delivered to end-users.

**Pro Res/ QuickTime**
Apple’s post-production format offering uncompressed HD quality at SD file sizes. Typically used when working with non-native camera formats; or to preserve maximum quality for composites and demanding color grading work. Pro Res is an intermediate codec, primarily used for video editing and not end-user viewing. It retains higher quality than end-user codecs while still requiring smaller storage systems as compared to uncompressed video.
Popular Industry Terms

Progressive
Frame-scanning technology that processes each frame as one complete image, as opposed to two separate fields as with interlacing.

Redundant Array of Independent Disks (RAID)
A disk array in which part of the physical storage capacity is used to store redundant information about user data stored on the remainder of the storage capacity. The redundant information enables regeneration of user data in the event that one of the array’s member disks or the access path to it fails.

RAID controllers
RAID controllers are I/O devices that control the layout and format of the data. A RAID controller places data across multiple media or device type according to the RAID group specified.

Render
The act of processing and transcoding data.

SAN (storage area network)
A SAN is a configuration of computer and storage systems that incorporate dedicated Fibre Channel or Ethernet connectivity between the computer systems and storage. A SAN bypasses traditional network bottlenecks and supports direct high-speed data transfer between the servers and storage devices. SAN storage may consist of solid state drives, hard-disk drives, RAID Controllers and tape storage devices that are connected through switches and bridges to multiple servers.

Serial-attached SCSI (SAS)
A method used in accessing computer peripheral devices that employs a serial (one bit at a time) means of digital data transfer over thin cables. The method is specified in the American National Standard Institute (ANSI) standard called Serial-attached SCSI (Small Computer System Interface), also known as ANSI/INCITS 376-2003. In the business enterprise, serial-attached SCSI is especially of interest for access to mass storage devices, particularly external hard drives and magnetic tape drives.

Scale/Scalable/Scalability
In computer systems, to grow or support growth in such a way that all capabilities of the system remain in constant ratio to each other. For example, a storage subsystem where data transfer capacity increases by the addition of buses as its storage capacity increases by the addition of disks is said to be scalable.

Server (Video)
A storage system that provides audio and video storage for a network of clients. Aside from those used for video on demand (VOD), video servers are applied in three areas of television operation: transmission, post production and news. Compared to general purpose file servers, video servers must handle far more data, files are larger and must be continuously delivered.
Tape backup
In computers, tape backup is the ability to periodically copy the contents of all or a designated amount of data from its usual storage device to a tape cartridge device so that, in the event of a hard disk crash or comparable failure, the data will not be lost. Tape backup can be done manually or, with appropriate software, be programmed to happen automatically. Tape backup systems exist for needs ranging from backing up the hard disk on a personal computer to backing up large amounts of storage for archiving and disaster recovery purposes in a large enterprise as part of a storage area network (SAN), usually combining a hardware and software package. For enterprise tape backup, Linear Tape-Open (LTO) is an industry open standard from Hewlett-Packard, IBM, and Quantum.

Telecine
The process of scanning film in real-time and outputting to a tape-based or digital format.

Tiered storage
A lifecycle solution where your most critical and often-used data is kept most easily accessible, your aged and less critical information gets moved to secondary storage systems, and eventually ends up in longer-term archive systems – all to achieve a balance of protection, performance and cost.

Transcoding
A process that changes the video or audio features of a file, such as the resolution or bit rate, by changing portions of the audio/visual content but not by reconstructing the content (as would be in encoding). Compressed-domain transcoding also maintains the format of the file.

Ultra high definition (UHD)
A successor to the HDTV format with up to 16 times the pixel resolution (8K).