



(Revision) Verification of Authentic HPE Universal Hard Drives (SAS, SATA, FATA, SCSI, iSCSI, Fibre Channel), and Solid State Drives (SSDs)

DESCRIPTION

Document Version	Release Date	Details
7	05/09/2019	Updated with the latest security labels.
6	11/22/2016	Updated with the latest security labels.
5	03/08/2016	Updated with the latest security labels and company name.
4	08/06/2012	Updated with the latest security features.
3	07/08/2010	Modified the Description to emphasize that this document does not cover non-public means of ascertaining product authenticity. In some cases, further investigation by HP will be required to determine whether product is genuine HP product or counterfeit product.
2	02/25/2010	Updated with the current tamper-evident labeling and packaging, and added Fibre Channel and Solid State Drives
1	12/19/2006	Original Document Release.

Around the world, a number of fraudulent HPE hard drives (SAS, SATA, FATA, SCSI, iSCSI, Fibre Channel), and Solid State Drives (SSDs) are being represented as new HPE product. These drives are packaged as HPE Option Kits and Spares Kits. HPE is providing the following information to allow verification of authentic HPE drives.

However, the information provided in this document regarding some of the typical means to ascertain genuine from counterfeit HPE products is not all-inclusive, as there are also non-public means that HPE uses to determine authenticity. Authentication by HPE may be the only means of determining whether a product is genuine or not, and details of that authentication process will not be made public.

To verify that HPE drives are authentic, use the information provided in the Details section below.

Note: Information on verification of older labeling and packaging of Compaq Parallel SCSI hard drives is available in the following document (c00833220):

(Revision) Verification of Authentic Compaq Universal SCSI Hard Drives
http://h20565.www2.hp.com/hpsc/doc/public/display?calledBy=Search_Result&docId=emr_na-c00833220&docLocale=en_US

DETAILS**Verification of Authentic HPE Universal Hard Drives**

With hard drives, SSDs, and ioDrives, it starts with the highest quality drives. HPE works with Original Equipment Manufacturers (OEMs) to create specific HPE firmware, drivers, and software that provide optimized performance and manageability. Only the major drive OEMs are considered, and then only after HPE is satisfied with the ongoing quality and reliability of their product. Only after every system has been tested with every supported drive, and it has been confirmed that the product will work in all HPE systems, will an HPE Option Kit be created.

Most HPE drives are purchased directly from the OEMs, and HPE continues to work directly with these OEMs throughout the life of the product to ensure that only the highest quality products are delivered to HPE customers. If any quality issues develop, the product is purged from HPE inventory and controlled by date code and product ID to ensure that known issues cannot be reintroduced into HPE inventory. In addition, drive OEMs are required to also institute date code controls to prevent substandard drives from being shipped to HPE.

Note: For more information on HPE's drive qualification process, please refer to the following documents:

- HP Hard Disk Drive Quality System - The Driving Force of Reliability
<http://whp-hou4.cold.extweb.hp.com/pub/c-products/servers/proliantstorage/drivers-enclosures/scsi-hdd-quality-sys.pdf>
- HPE Drive Technology Overview
http://h20565.www2.hp.com/hpsc/doc/public/display?docId=emr_na-c01071496&docLocale=en_US

HPE's concern does not stop with the shipment of the product, however. HPE ensures high customer satisfaction by providing high levels of service on HPE drives that are installed in HPE systems.

To ensure that customers can differentiate generic components or used components that have been manipulated to represent new authentic HPE Drive Option Kits, HPE also uses specific packaging, including HPE tamper evident labels.

How to Verify Authentic HPE Universal Hard Drives

When you are among the "best in class," others will try to copy you and fraudulently benefit from your success. Some will go so far as to use the same part numbers and kit assembly structures in an attempt to convince customers that they are selling the same product that is sold in the HPE Kits. Counterfeits are common and can be easy to recognize, if you know what to look for.

Packaging

Since different kit part numbers may have a different quantity of modules per kit, there are several formats in which product may be shipped. For the same part number, there should not be differences with the packaging from kit to kit. Cardboard, plastic, and foam packaging materials can be easily duplicated. Although the packaging may be very similar and may contain the same documentation as an HPE Kit, it may not be an authentic HPE Kit.

Over time, HPE has made changes to product packaging to ensure that authentic functional product is received by our customers. The following information will help you to identify authentic HPE labels.

Tamper Evident Seals

The opening end of the clamshell package is sealed with a unique HPE tamper evident seal to ensure that the product inside has not been tampered with.

Tamper evident seals have the same security features as the hardware security labels that will help validate that the kit is authentic. The seals are made of destructible material that will not

allow the label to be removed from the carton without damaging the seal where it was opened. The seals can easily be sliced open for product opening.

Taping, or using any other means of reattaching the label, is fraudulent. If there are no seals, or if the seals have been tampered with in any way, question the validity of the kit. If the seals do not have the proper security features, the integrity of the product may be questionable and should be further identified and qualified before determining that it is an authentic HPE product.



Figure 1: Tamper Evident Seal

Option Kit Labels

Each Option Kit is labelled with consistent information on the exterior of the Option Kit packaging to identify the product, its country of origin, and other specific tracking details necessary to HPE and our OEM partners, as shown in Table 1 below:

Option Kit External Label for SAS Hard Drive	Option Kit External Label for SATA Hard Drive

Table 1: Option Kit Labels

Universal Hard Drive Packaging

Inside the Option Kit and Spares Kit cartons, the drives are protected and secured in the packaging. Each drive is sealed inside an antistatic bag and cradled in a Styrofoam or thermal formed bun inside the box, as shown in Table 2 below:




		
Anti-Static Bag	Styrofoam Bun	Thermal Bun

Table 2: Internal Packaging Used for Spares Kits and Option Kits



Table 3: External Packaging with Tamper Evident Seal

Is It Labelled HPE/Compaq on the Drive?

HPE labels drives with various and different labels that may have the HPE or HP logo (or OEM logo) and specific component or tracking information on the label. All HPE drives have a tamper evident security label applied to them during the manufacturing process.









		
Label on Solid State Drive	Label on SAS Drive with HPE Logo	Label on SAS Drive without HPE or HP Logo


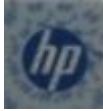



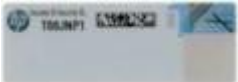

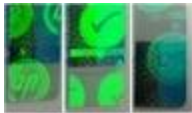




Table 4: Labelling Used on Hard Drives and Solid State Drives

Security Verification of Authentic HPE Universal Hard Drives

Security Labels

HPE has used several different security labels for verification and authentication of HPE product. These labels have many layered security features that provide covert and overt security to keep the labels from being counterfeited. When there is a risk of the primary features being counterfeited, HPE must either expose the next set of features or change the primary feature in order to provide high confidence in product authentication.

In Use	Full Label	Validation	Features
April 2019 through Present			<p>Security strip has florescent holograms that are in motion.</p> <p>When the label is tilted left to right, the HPE logos flip to coins with a check mark (✓) by either spinning left/right or up/down, at the same time the coins flip to HPE logos by either spinning left/right or up/down.</p>
September 2016 through September 2019	 		<p>Security strip has florescent holograms which move in conjunction to the HPE logo:</p> <ol style="list-style-type: none"> 1. Rotating left to right the HPE and Hewlett Packard Enterprise text moves

			<p>in opposite directions.</p> <p>2. Moving up and down, the HPE and Hewlett Packard Enterprise text moves in opposite directions.</p>
July 2015 through September 2016		 	<p>Use holograms for authentication:</p> <p>1. Rotate label up and down - the "ok" and "check mark" move in opposite directions towards and away from the center logo.</p> <p>2. Rotate label left and right - the "ok" and "check mark" move in the same direction around the center logo.</p>
June 2011 through December 2016	   	 	<p>1. Security strip has holographic medallions which switch from HP to ✓ to OK and fade to transparent.</p> <p>2. Three lines of different sized OK text and will fade away (largest alternately to medallions).</p> <p>3. Color bar has green to Pale Purple color in different lighting.</p>
Oct 2008 through May 2011	<p>Green to Pink</p> 	<p>Red to Green</p> 	<p>1. Left side Green or Red color with intentional outline of Red causing Red haze.</p> <p>2. Right side Pink or Green color in different lighting.</p> <p>3. Unique ID Number in upper Right Hand corner.</p> <p>4. Light Blue patterned adhesive -  images revealed when label is peeled back.</p>









Mar 2006 through Sep 2008	Purple 	Green 	<ol style="list-style-type: none"> 1. Purple to Green color shift. 2. Honeycomb pattern in color bar. 3. Unique ID Number in upper Right Hand corner. 4. Light blue patterned adhesive -  hp images revealed when label is peeled back.
2005 through 2006	Teal to Blue 	Blue to Bronze 	<ol style="list-style-type: none"> 1. Teal to Blue color shift. 2. Blue to Bronze color shift. 3. Intentional printing error - line under HP logo. 4. Intentional printer error - divot in date code block. 5. Light Blue patterned adhesive -  hp images revealed when label is peeled back.
2004 through 2005	Blue 	Bronze 	<ol style="list-style-type: none"> 1. Blue to Bronze color shift. 2. Pink Metachromic ink above and below date code. 3. Light Blue patterned adhesive -  hp images revealed when label is peeled back.
2002 through 2004	Copper 	Green 	<ol style="list-style-type: none"> 1. Copper to Green color shift. 2. Dark Blue patterned adhesive -  hp images revealed when label is peeled back.

Table 5: HPE Security Labels (2002 - Present)

There are also multiple covert features that are not disclosed. Although any of the versions of labels pictured below may be available on product in the field, the earlier versions would indicate older product or potentially a counterfeit product. Many counterfeits contain similar color shifts to those mentioned in this advisory. Additional validations are possible with assistance from HPE by contacting the following email address:

hardware.counterfeitvalidation@hpe.com

The printed information on the label may also be used to distinguish how the product was shipped from HPE and can be verified for warranty. Option Kits will include a number known as the Serial Number (see Figure 2 below). Only product shipped in an Option Kit should be sold in the HPE sales channel. Anything with a different format should be considered suspect and may not be eligible for warranty.



Figure 2: HPE Security Label Showing the Serial Number (SN)

HPE also includes a serial number on each Option Kit package that is linked to the number printed on the label. Beware that it is a common practice for counterfeiters to "reuse" serial numbers listed on the packaging (and often on the invoice) and the number printed on the product label in an effort to convince a customer that the product is authentic. The serial number is not intended to be used for product validation.

The latest HPE security label, which began in April 2019, has the following security features:

Security strip has florescent holograms for authentication:

- When the label is tilted left to right, the HPE logo's flip to coins with a check mark (✓) by either spinning left/right or up/down, at the same time the coins flip to HPE logo's by either spinning left/right or up/down.



Figure 3: Current HPE Security label

Previous HPE security label, which began in September 2016, contains the security features indicated below:

Security strip has florescent holograms for authentication:

- Rotating left to right - the HPE and Hewlett Packard Enterprise text moves in opposite directions.
- Moving up and down, the HPE and Hewlett Packard Enterprise text moves in opposite directions.



Figure 4: HPE Security Label (September 2016-September 2019)

Previous HP security label, which began shipping in June 2015, use holograms for authentication:

- Rotate label up and down - the "ok" and "check mark" move in opposite directions towards and away from the center logo
- Rotate label left and right - the "ok" and "check mark" move in the same direction around the center logo



Figure 5: HP Security Label (June 2015 – June 2016)

Previous HP security label, which began shipping in March 2011, contains the primary security features indicated below. Although slight alterations were made between March and July, the primary validation features remain unchanged. These features should be used to validate these labels:

- Medallions that flip from HP to ✓ to OK and that will completely disappear (may be two different sizes).
- Lines of OKs that will light and fade, the largest in direct contrast to the medallions.
- Metachromatic ink that will change from pale Purple to light Green under fluorescent to natural lighting.
- Little or no difference in the height of the label where the security strip is located, so that your fingernail does not "catch" on the lip of the security strip on the right side.



Figure 6: HP Security Label (June 2011 - December 2016)

Previous labels used color shift technology as indicated in Table 5 (above). The color bars found on either side of the HP logo on the most recently retired version of the HP security label use two different color-shifting inks. On the left side of the HP logo is a bar of **color-shifting ink shift** that will change from Green to Red as you raise and lower the component. On the right side of the HP logo is a bar that will change from Pink to Green under different lighting. The Green-to-Red color-shifting ink on the left side of the HP logo also contains an outline of Red around the color-shifting

ink which does not shift in color. In addition, the upper right hand corner of the label contains a unique identification number for each security label.

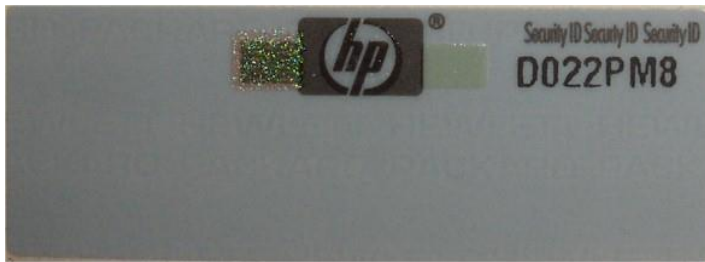


Figure 7: HP Security Label (October 2008 - June 2011)

The right side of the label has a block of color which will change under different lighting sources (see Figure 6 above). When viewed under fluorescent lighting, the right bar will be a pale Pink color. If it is viewed under natural sunlight or incandescent light, it will be a light Sage or Green color. If sunlight or incandescent lighting is not available, taking a photo using a flash camera, or shining a flashlight on the product, will allow for light verification. If the color does not change, or if the colors are not the pale Green to pale Pink swap, then consider the product to be suspected as counterfeit.

Although additional features are included in all security labels for security reasons, these additional features will not be communicated to the public until there has been an attempt to compromise the primary feature(s).

In addition to the visible Security Features listed above, the HPE security labels contain a tamper evident feature that leaves adhesive behind on the original object and makes the label appear somewhat transparent when it has been tampered with (see Figures 7 - 11 below).

Any product with a label that shows signs of tampering should be considered fraudulent. When removal is attempted, the tamper evident feature will leave a pattern of adhesive on the item to which it was applied. If there is no pattern left or if there are words such as VOID, question the authenticity of the product. In addition, if the label has been lifted from the product and adhesive is shown to be left behind, and there are no visible transparent marks on the front of the label, it is an additional indication of a counterfeit product.

To verify the tamper evidence, the label should be lifted ONLY half-way up. One side **MUST** remain adhered to the product and show no signs of tampering.

HPE will not warrant any product from which the label has been completely lifted.



Figure 8: Signs of tampering on current security label



Figure 9: Adhesive left behind on product (left) and signs of tampering on label (right) on previous labels



Figure 10: Adhesive left behind on product (left) and signs of tampering on previous label



Figure 11: Adhesive left behind on product (left) and signs of tampering on label (right) on previous label

Based on the printed bar code numbers on a security label, HPE can determine the date shipped and the warranty given to that part, as well as the supplier or site of manufacture for the part. The information needed to decode each digit on any security label is proprietary information that is not distributed outside of HPE.

Price as an Indicator of Authenticity

HPE offers product at competitive prices based on the product life cycle and the customer's affiliation with HPE. If you are an authorized reseller or a direct customer, your pricing may be more competitive than if you are not. However, HPE does not grossly discount product that is on the price list. If the product that is offered by HPE at one value and offered by another company at a substantial discount (for example, 50 percent off), then you may be certain that the product was either not distributed through the HPE sales channel, or is part of some type of illegal activity. It is not "excess" or any other description that the counterfeiter may use that allows them to deceive customers into accepting low cost counterfeit product.

Furthermore, even product offered at a discount of 10-20 percent should be subject to scrutiny. Many counterfeiters use smaller discounts to appear legitimate, because they know that their product is not going to be sought after if they cannot get it into the hands of a reputable reseller. The internet provides a high level of anonymity that helps to protect them from discovery.

Know your reseller! Have a person-to-person conversation with your reseller to help in protecting the systems you support from counterfeit product. And, most importantly, know the value of the product. If the deal is too good to be true, then it is probably is not HPE!

Other Products That Look the HPE Way

While qualifying hard drives, and SSDs in HPE systems, supplier process issues may be uncovered which negatively affect HPE systems. The supplier develops a corrective action plan to prevent drives with those issues from being shipped to HPE. Drives from a supplier that fail the qualification system may still be sold to other customers. There is no information published by HPE or the drive supplier to show which product is qualified and which may have failed the qualification process. Together, HPE and the drive supplier tightly control the product that is shipped to HPE for use in systems and Option Kits.

Although some third party drive manufacturers may also contribute to the confusion by using the HPE part number, do not be deceived by this attempt at making the product appear authentic. Ensure that the kit that was represented as a new HPE kit contains authentic HPE drives by validating the security features on seals and labels. There is no bulk product sold by HPE for server systems, so be cautious of claims that any drives are new bulk. This product could be counterfeit or product with limited warranty (or no warranty) from HPE. In order to ensure that the product is authentic hard drives, and SSDs, customers should only buy the product from reliable sources.

Other drive vendors may indicate that their product is "equivalent to" or "compatible with" certain HPE systems or kit part numbers. This is not an endorsement from HPE. There have been no tests performed by HPE using other drives, and HPE will not warrant a non-HPE kit. Additionally, if a system is damaged as a direct result of the non-HPE product, the warranty of the whole system can be negated.

Is It Identified as HPE/HP Inside the Hard Drive?

Beyond the external packaging and labelling, there are identifying features stored within the hard drive that can be accessed to assist with the determination of authenticity. All HPE/HP Universal hard disk drives and Solid State Drives have unique firmware installed that will identify the drive as HPE/HP.

The following utilities can be used to query a hard drive to help make this determination:

- Power-On Self-Test (POST) message when drives are initialized by the controller
- HPE Systems Insight Manager
- System Management Homepage
- Array Configuration Utility (ACU)
- Array Configuration Utility Command Line Interface (ACU CLI)
- Array Diagnostic Utility (ADU)
- Inspect Utility
- Survey Utility
- HSUTIL (for hard disk drives attached to HSx series Array Controllers)
- Windows Diagnostics

By using these tools, the hard drive identification (ID) string can be viewed. All HPE/HP universal drives will identify themselves as HPE/HP along with a valid model number and firmware version.

The following are examples of a Power-On Self-Test (POST) message and a portion of an Array Diagnostics Utility (ADU) Report:

POST message displayed (when hard drive is attached to a SCSI controller):

ID 0 - HPE/HP BD018635C4 ID 1- HPE/HP BD018635C4

Portion of an ADU Report:

SCSI Port 2, Drive ID 0
Factory: Serial #, Firmware Rev, and Mfg/Model #:
4a 32 30 42 56 57 41 4b 00 00 00 00 00 00 00 J20BVWAK.....

```
00 00 00 00 48 50 42 38 00 00 00 00 43 4f 4d 50 ....HPB8....COMP
41 51 20 20 42 44 30 37 32 38 41 34 42 34 20 20 AQ BD0728A4B4
20 20 20 20 00 00 00 00 00 00 00 00 00 00 00 00 .....
00 00 00 00
```

What If It Is Not Verified as an Authentic HPE Universal Hard Drives?

Even though a kit may have been represented as an HPE kit, HPE will not warrant a kit that is not authentic. The liability for the kit belongs to the reseller from which the kit was purchased. HPE contractual agreements with HPE authorized resellers include agreed upon terms and conditions that allow HPE to govern replacement of any product if the product is purchased from an HPE authorized reseller. However, HPE cannot govern replacement of any product purchased from a reseller who is NOT authorized to sell the product (even if it is authentic HPE product) since there are no contractual agreements with that reseller. If customers choose to purchase products from a reseller who is NOT an HPE authorized reseller, the customer may have to resolve any product issues without the assistance of HPE.

While HPE is working to combat the issue of fraudulent and counterfeit reproductions of our kits, customers are strongly urged to protect themselves by buying only from authorized resellers and validating the authenticity of the kits upon receipt. If you encounter any product that is suspected as being counterfeit, the product should be validated and fraudulent drives should be returned to the reseller in return for authentic HPE drives. In the event that counterfeit product is identified, it is important that HPE be contacted with the following required information via the following web address:

E-mail Address:

hardware.counterfeitvalidation@hpe.com

- Customer name/address/phone
- Part number ordered
- Description of product
- Photographs of product in question showing all identification printing on the product.
Photographs should be a high enough resolution to show the following:
 - Security label
 - HPE/vendor labels
 - Manufacturer printing on the components of the HDD
- Reseller from whom the HPE drives was purchased (name/address/phone)
- Invoice (hard copy) from purchase of the HDD Option Kit must be either sent via email to HPE Brand Protection at hardware.counterfeitvalidation@hpe.com
- Date of Purchase
- Quantity of counterfeit HDD identified
- Name of person who identified the product as counterfeit (address/phone)
- RMA from reseller against which product will be returned

Note: Based upon the information supplied in the email to HPE, in some instances it may be necessary for the product to be sent to HPE for further identification.

IMPORTANT: ALL COUNTERFEIT DRIVES SENT TO HPE WILL BE CONFISCATED.

If counterfeit product is cross-shipped to HPE in place of an authentic HPE Spares Kit, the customer will be charged for the kit. If any drives that are sent to HPE for validation or for other service related issues are determined to be counterfeit, it will be confiscated. If counterfeit product is found onsite and the customer agrees to allow the product to be taken from the premises, it will not be returned if it is found to be counterfeit.

If counterfeit product is discovered during a service event by an HPE badged technician, the customer should be informed that the product is counterfeit and instructed to contact the reseller of the drives and request replacement with authentic HPE drives. If possible, the counterfeit drives

should be removed from the system in order to prevent future failures pertaining to the fraudulent drives. With the permission of the customer, the counterfeit product should be sent to HPE Corporate Security in Houston, Texas.

Note: It is the responsibility of the reseller to provide authentic product to customers. HPE will make every effort to help customers regain operational ability with authentic product, after this process is completed.

If, while using the end user replacement process, the drives are not properly validated and are sent to HPE in exchange for a replacement spare part, the customer will be charged the full amount of a non-returned Spares Kit.

Questions regarding the legal use of such confiscated drives may be directed to the following email address for distribution to the HPE legal department:

hardware.counterfeitvalidation@hpe.com

Doc ID c00832103 version 7 09-May-2019

©Copyright 2018 Hewlett Packard Enterprise Development LP

Hewlett Packard Enterprise Development shall not be liable for technical or editorial errors or omissions contained herein. The information provided is provided "as is" without warranty of any kind. To the extent permitted by law, neither HPE nor its affiliates, subcontractors or suppliers will be liable for incidental, special or consequential damages including downtime cost; lost profits; damages relating to the procurement of substitute products or services; or damages for loss of data, or software restoration. The information in this document is subject to change without notice. Hewlett Packard Enterprise Development and the names of Hewlett Packard Enterprise Development products referenced herein are trademarks of Hewlett Packard Enterprise Development in the United States and other countries. Other product and company names mentioned herein may be trademarks of their respective owners.

Legal Disclaimer: Products sold prior to the November 1, 2015 separation of Hewlett-Packard Company into Hewlett Packard Enterprise Company and HP Inc. may have older product names and model numbers that differ from current models.