

# Victor Company of Japan, Limited (JVC)

Exchanging delivery specification documents in PDF with parts manufacturers reduces costs and accelerates document review for leading manufacturer

## Victor Company of Japan, Limited

[www.jvc-victor.co.jp](http://www.jvc-victor.co.jp)



### Industry

Manufacturing

### Challenges

- Accelerate sharing and reviewing of product specification documents
- Safeguard intellectual property
- Address system requirements of all suppliers

### Solution

- Engineering document exchange
  - Digital signatures
- Victor Company of Japan is using Adobe Acrobat software to convert engineering specification documents to PDF for streamlined review and approval across the supply chain.

### Results

- Reduced document exchange cycles from as long as 20 days to 1 day
- Improved accuracy and timeliness of input from reviewers
- Eliminated errors from manual data entry by automating data capture
- Shortened product time to market with accelerated document exchange
- Increased competitiveness of manufacturers

### Systems At A Glance

- Adobe Acrobat Pro

## An industry innovator

Victor Company of Japan, Limited (JVC) has introduced to world markets many revolutionary products—including televisions, stereos, video players, and other popular devices—all created through close collaboration between JVC and its hundreds of parts suppliers.

More than two years ago, JVC automated its parts manufacturer Delivery Specification Documentation processes using Adobe® Acrobat® software to accelerate document delivery and eliminate all paper related costs including copying, distribution, and postage.

JVC's focus and determination is to provide the highest level of quality in audio-visual products. The company is currently proposing new communication technologies that expand creative possibilities by connecting high-quality technology to a network and communicating a moving impression of music and images to end users.

The widespread use of the Internet has diversified the types of content and end-user devices that play back audio and visual media. To offer an attractive user environment for all customers, JVC offers products that optimize features, such as small, precise mechatronics technology; high-quality pictures; high-quality sound conversion; low bit rate coding; and high-definition record playback technology.

Consumer needs and intense competition have forced lifecycles for JVC products—and products from all manufacturers—to be shorter, resulting in the need to bring more powerful products to market sooner. To help accelerate product development, JVC adopted Adobe Acrobat software to eliminate paper-based document exchange and strengthen relationships with its vast parts manufacturer network.

## Addressing industry standards

In the electronic equipment and semiconductor electronic parts industry, the Japan Electronics and Information Technology Industries Association (JEITA) standardized the maintenance and type of technical terminology and transactional information to be used in trade transactions. The association also set standards for electronic exchange.

The predecessor of JEITA was EIAJ, which started the EDI (Electronic Data Interchange) Center in 1988 to tackle standardizing online transactions. In 2003, JEITA started the EC (Electronic Commerce) Center. In the same year, JEITA released the Electronic Reliance for Global Business Activity (ECALGA) review. It advanced EDI adoption in areas of order, supply, credit purchases, and remittance. It also expanded the upstream flow of technical information regarding parts, delivery specification documentation, environmental information, and sample information.

Parts specifications are based on an agreement between the set manufacturer—in this case JVC—and the parts manufacturers. This is noted in the Delivery Specification Documentation, which is indispensable in verifying completed parts.

JVC adopted Adobe Acrobat to eliminate paper-based document exchange and strengthen relationships with its vast parts manufacturer network. JVC creates the cover page of a Delivery Specification Documentation, setting the electronic signature column and input field, and creates a PDF file in which recipients can digitally sign and comment on documents using the free Adobe Reader.

Previously, this exchange was done all on paper. Mr. Masahiko Nakatani, senior engineer in the Engineering Innovation Department, Technology Development Division of JVC states: “Currently, we procure parts information from parts manufacturers using the JEITA standards to design new products. In 2003, we introduced the search capability of the JEITA ECALS Catalog—but the exchange of Delivery Specification Documentation was still paper-based.”

*“To ensure that many parts manufacturers participate, our new system had to be a standardized one and have minimal or no adoption cost... we adopted the ECALGA standard that anyone can use, as well as the digital Delivery Specification Documents Exchange System built on PDF and XML.”*

Mr. Masahiko Nakatani,  
Senior engineer, Engineering  
Innovation Department,  
Technology Development Division,  
Victor Company of Japan

Before the Delivery Specification Documentation could be digitized, it was essential to prevent any alteration of the digital content, while also establishing who can digitally sign off on materials.

**Adobe Acrobat helps safeguard critical documents**

The original copy of the Delivery Specification Documentation is stamped and kept by JVC, which prevents it from being altered and aids in the design review process. In digitizing document sharing with processes that include digital signatures and stamping, JVC could not require parts manufacturers to purchase any specialized software or new systems.

“To ensure that many parts manufacturers participate, our new system had to be a standardized one and have minimal or no adoption cost,” explains Mr. Nakatani. “In October, 2006, we adopted the ECALGA standard that anyone can use, as well as the digital Delivery Specification Documents Exchange System built on PDF and XML.”

Each parts manufacturer enters the necessary items on the cover page form of the Delivery Specification Documentation, copies and distributes them, and then the responsible party stamps and submits them back to JVC. At JVC, multiple related sections are stamped by the appropriate reviewers to provide verification and then the documentation is returned to the parts manufacturers.

Using Acrobat software to convert specification documents and cover page forms to PDF was instrumental in this process. JVC can create the cover page of a Delivery Specification Documentation, setting the electronic signature column and input field. The Adobe software is also used to create a PDF file in which recipients can digitally sign and comment on documents using only the free Adobe Reader.\*

“Distributing the Delivery Specification Documentation with a cover page enabled JVC and parts manufacturers to provide input on forms, attach files, and apply digital signatures or stamps,” says Mr. Nakatani. “This lowered the hurdle and accelerated adoption. In October, 2007 we started the Supplier Specification Documentation process with electronic signatures between JVC and the first four participating companies, including Alps Electric Co., Ltd.”

Mr. Toshikuni Taira in the Planning Group Sales Administration Center, Sales and Marketing Headquarters of Alps Electric, an electronic parts manufacturer, explained the following: “Parts manufacturers need to have a PDF conversion tool like Adobe Acrobat to draw up the text of the Delivery Specification Documentation. However, it is not a special system with an associated high-price entry point, as it can be used easily and adopted at minimal cost.”

*"We previously made multiple copies of paper documents for internal drawings and distributed the materials via couriers. It could take as long as 20 days to obtain documents. ...Now, data capture happens automatically and input mistakes have been eliminated, shortening document exchange processes to as little as one day."*

Mr. Masahiko Nakatani,  
Senior engineer, Engineering  
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**Accelerated document exchange workflow**

By adopting a workflow based on PDF for Delivery Specification Documentation, JVC and four of its parts manufacturers saw tremendous benefits. The company has reduced its document exchange cycle by 75% to 95%; a process that previously took from 4 to 20 days now takes just 1 day.

"We previously made multiple copies of paper documents for internal drawings and distributed the materials via couriers," explains Mr. Nakatani. "It could take as long as 20 days to obtain documents. Plus, we had to input parts information into our company's database by hand. That changed when we started using PDF in combination with XML. Now, data capture happens automatically and input mistakes have been eliminated, shortening document exchange processes to as little as one day. Furthermore, the electronic documents in PDF are always readily accessible."

Adds Mr. Taira, "We previously sent multiple sets of Delivery Specification Documentation for each part. JVC circulated them to the appropriate groups and then held the original copy after signing and stamping. By converting documents to PDF, we've eliminated the need to make copies and manually deliver materials to all manufacturers. As a result, the lead time was shortened and cost savings were realized."

In addition to sharing documents in PDF with parts manufacturers, JVC distributes Delivery Specification Documentation in PDF for internal verification to save time and improve precision during the part-qualification process. "We decided to input the required information into the JVC cover page in PDF and allow authorized managers to review and verify the information using Adobe Reader," says Mr. Nakatani. "This reduced verification time from several weeks to several days. Even when managers travel, they can easily review and verify the documents in PDF. And, because we eliminated the need to manually input specification data into back-end systems, we greatly improved overall accuracy and efficiency."

**A foundation for growth**

JVC's approach to managing Delivery Specification Documentation with PDF and Acrobat will have a big impact worldwide. Mr. Yoshiharu Yamamoto, vice President and general manager for Information Technology Department EC Center of the JEITA EC Center, expects wide adoption of this ECALGA standard.

"Many parts manufacturers are small to medium sized entities," says Mr. Yamamoto. "Digitizing Delivery Specification Documentation lowers costs and would be attractive to many suppliers. Major manufacturers already have their processes, but we want to promote wider adoption and demonstrate the efficiencies to suppliers of all sizes. It would be great to accomplish such a widespread adoption of this standardized system."

Adds Mr. Nakatani, "JVC is planning to expand its digital Delivery Specification Documentation system to include most of its parts manufacturers by the end of 2009, because it will deliver substantial benefits when working with parts manufacturers overseas."

The broader adoption of Delivery Specification Documentation based on PDF is expected to contribute to the competitiveness of Japanese manufacturers by reducing the lead time required for document exchanges.



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