



DVD-R Drive (4.7 Gbytes) for Authoring

TEST SPECIFICATION

Version 2.01
June 2005

Amendment for DVD-R Drive (4.7 Gbytes) for Authoring TS Version 2.0₁ (June 2005)

The following pages were amended without changing the version number of the TS.

- **Minor amendment (July 2, 2009)**

Page	Location	Amendment
Page 7	Annex A	<ul style="list-style-type: none">• Class-A Lab information of "Industrial Technology Research Institute" and "PIONEER CORPORATION" was updated.
Page 10	Annex D	<ul style="list-style-type: none">• A note regarding Class-A Lab information was added.• Class-A Lab information of "PIONEER CORPORATION" and "Matsushita Electric Industrial Co., Ltd. (company name)" was updated.

- **Minor amendment (January 2010)**

Page	Location	Amendment
Page 7	Annex A	<ul style="list-style-type: none">• Class-A Lab information of "PIONEER CORPORATION" was updated.
Page 10	Annex D	<ul style="list-style-type: none">• Class-A Lab information of "PIONEER CORPORATION" and "Panasonic Corporation" were updated.

- **Amendment 1 (June 2012)**

Page	Location	Amendment
Page 7	Annex A	<ul style="list-style-type: none">• "Industrial Technology Research Institute" was deleted from the Class-A Lab list.

Conditions for Publication

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- Hitachi Consumer Electronics Co., Ltd. (Tokyo, Japan)
- Industrial Technology Research Institute. (Hsinchu, Taiwan)
- JVC KENWOOD Corporation (Yokohama, Japan)
- Panasonic Corporation (Osaka, Japan)
- PIONEER CORPORATION (Tokyo, Japan)

Inquiry

For any further explanation of the contents of this document or in case of any perceived inconsistency of interpretation, please consult:

DVD Format/Logo Licensing Corporation

Address: 2F Shibadaimon Makita Bldg., 2-5-8 Shibadaimon, Minato-ku, Tokyo, 105-0012 Japan

Fax: +81-3-5777-2884

E-mail: info@dvdflc.co.jp Website: <http://www.dvdflc.co.jp>

Revision History

- April 2000
DVD-R Drive for Authoring Test Specification Version 2.0(Draft) was distributed to SG-6 members.
- May 2000
DVD-R Drive for Authoring Test Specification Version 2.0 (Draft) was approved by Verification Task Force members.
- June 2000
DVD-R Drive for Authoring Test Specification Version 2.0 was authorized by Steering Committee members.
- June 2005
Version 2.0₁ updated Test Tool (File System Verifier) and was edited as electronic files.

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Forms for DVD Format verification

Form 1R

Preliminary Information for DVD Format Verification F1

Form 2R

Test Information of DVD Format Verification F2

Form 3R

Test results of the Recording characteristics F3

Form 4R

Test results of the Information data in Lead-in and RMA F5

Form 5R

Test result of the Reading characteristics F7

Form 6R

Test result of the File System verification F8

Form 7R

Confirmation of DVD Format Verification F9

1. General

1.1 Scope

The scope of this Test Specification is for the purpose of testing DVD-R Drive for compliance with DVD Specifications for Recordable Disc for Authoring Part 1: Version 2.0 and Part 2: Version 2.0. The test procedure described herein could be used by Class-A Verification Labs, Class-B Verification Labs and Quality Assurance Departments of DVD-R Drive Licensees.

The scope of this Test Specification is limited to product's compliance to DVD Specifications and not to evaluate performance of products.

1.2 Normative References

DVD Specifications for Recordable Disc for Authoring

Part 1: Physical Specifications Version 2.0

Part 2: File System Specifications Version 2.0

1.3 Scope of Products Covered

A. DVD-R Drive (4.7 Gbytes) for Authoring

B. Integrated systems of DVD-R Disc (4.7 Gbytes) readable/recordable functions

2. DVD Logo

DVD Format/Logo Licensing Corporation owns the rights to license the DVD Logo. To be able to use the DVD Logo, DVD manufacturer must have:

- a. License to use the Logo and
- b. DVD Specification compliance of the product for logo consideration must be validated by the test specifications as defined in this document.

Licensing terms for the DVD Logo are available from the DVD Format/Logo Licensing Corporation.

This chapter describes the mechanism to be used for product compliance testing.

2.1 Definition of Terms Used

First Production Model - The **First Production Model** must be tested and approved by any of the appropriate Class-A Verification Labs (see definition of Class-A Labs below) for compliance with DVD Specifications. Class-A Labs will use the test specifications described in this document for compliance verification.

The following parameters must be used to determine a **First Production Model**:

- DVD Specifications Version n.x changing to n+1.x
- Initial or the latest production model at the start of Logo Program for each licensee

Next Production Model - A **Next Production Model** does not require compliance verification from a Class-A Verification Lab but must be tested by licensee in its QA department for compliance with DVD Specifications. Licensee's QA department must have the test tools required to perform the tests specified in this document and must, at minimum, use the test procedure referred to in this document (licensee is free to have its own QA procedure, equipment and tools as long as it is a superset of the specification described in this document). A Licensee without own QA department can get the product tested by a certified Third Party Class-B Verification Lab (see definition of Class-B Labs below).

The following parameters must be used to determine a **Next Production Model**:

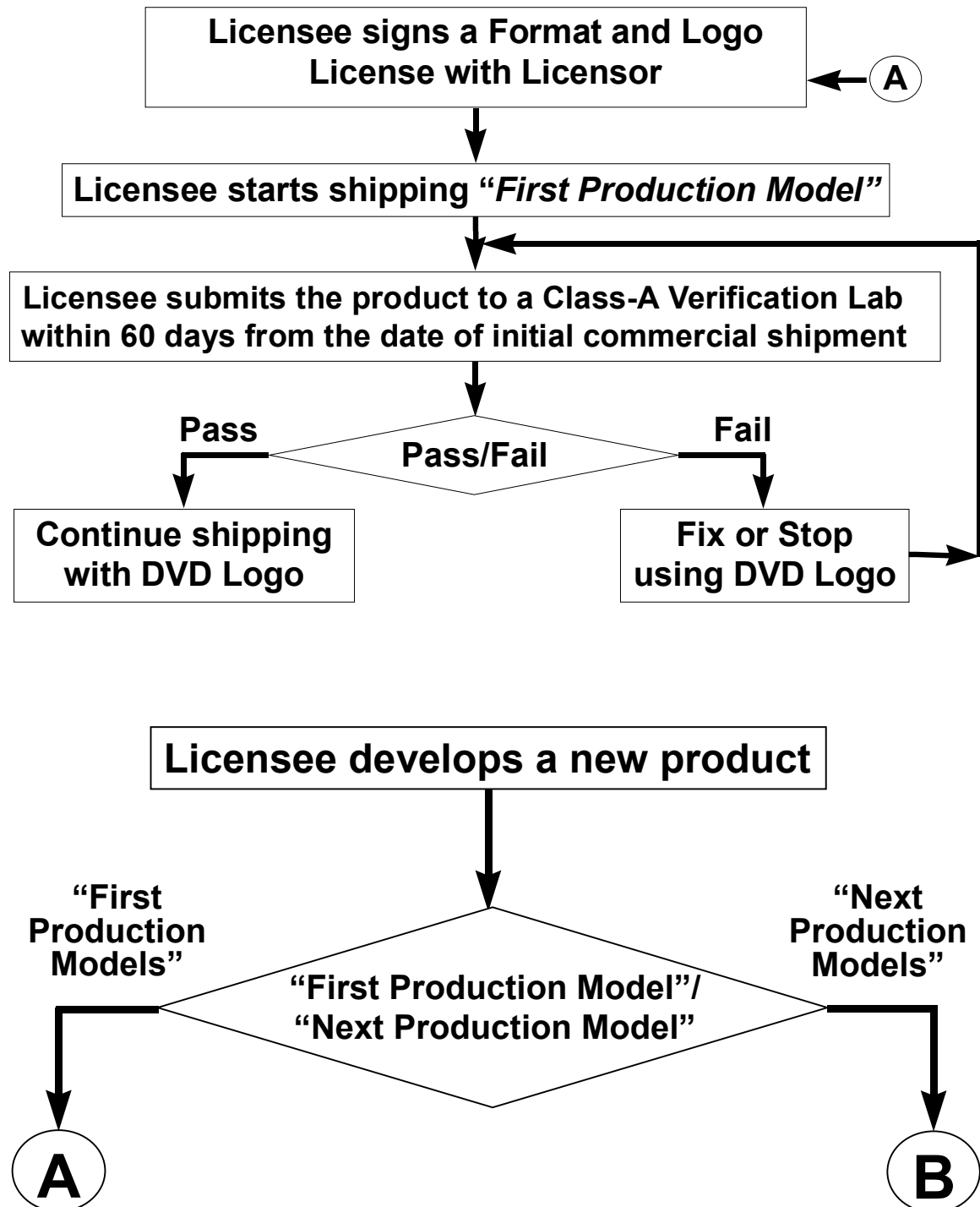
- DVD Specifications Version n.x changing to n.x+1
- Significant changes to Pickup head, LSI and/or firmware related to DVD format

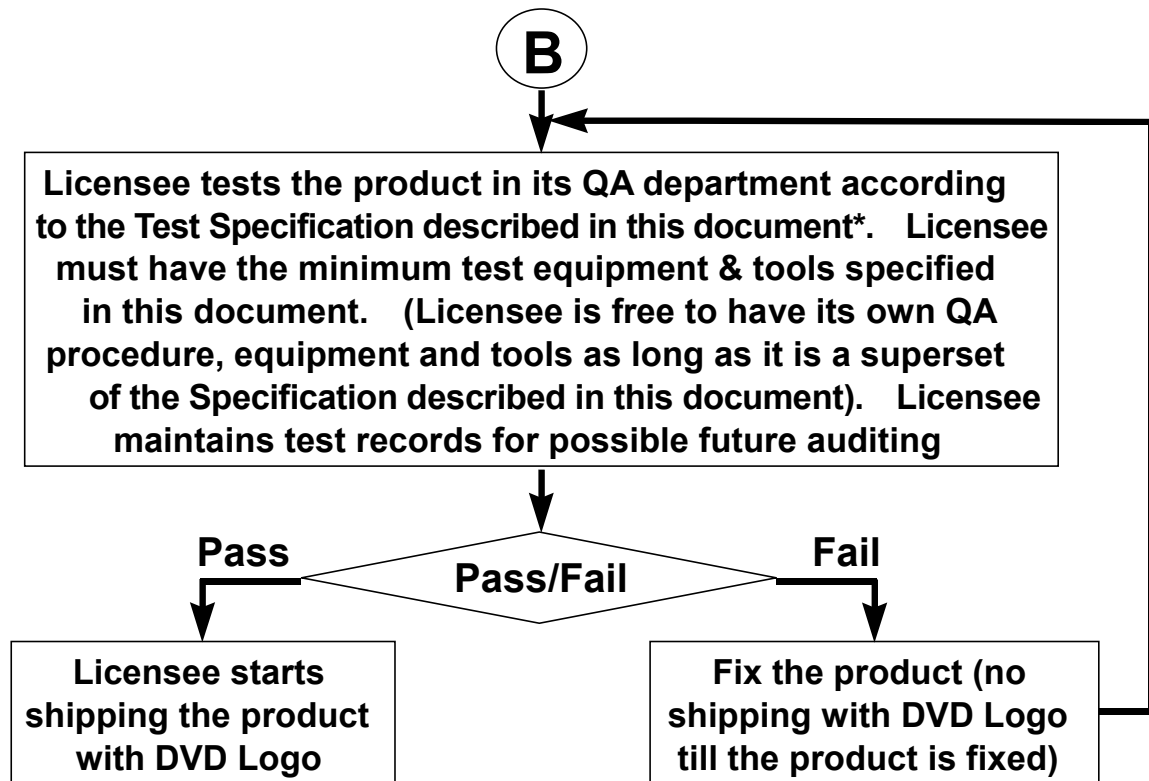
Class-A Verification Labs - Class-A Verification Labs are experts in DVD technology and provide independent expert assessment of Licensee's product compliance with respect to DVD Specifications. Class-A Labs also provide additional services such as interpretation of DVD Specifications, Test Tool development, Class-B Labs and Licensees auditing, etc.

Class-B Verification Labs - DVD-R Drive for Authoring Class-B Verification Labs provide DVD-R Drive testing strictly according to the **DVD-R Drive for Authoring Test Specification** (They can not interpret specifications).

2.2 DVD Logo Mechanism

The DVD Logo mechanism is described in the following flow chart:





*: Licensee without own QA department can get the product tested by a **DVD-R Drive for Authoring Class-B Verification Lab**.

3. Test Tools and Test Specifications

This chapter covers the test specifications and tool requirements for the physical and logical compliance testing.

3.1 Test Tools

The following tools are required to perform the test specified and shall be available before start executing the test procedures.

3.1.1 Test Discs

The following test discs are used for testing DVD-R Drive for Authoring. As for acquisition, refer to **Annex D**.

- DVD-R for Authoring Standard Blank Test Disc (ARBTD-001)
- DVD-R for Authoring Standard Signal Test Disc (ARSTD-001)

3.1.2 DVD-R measuring system (Playback)

DVD-R Disc evaluation system is generally consisted of 4 parts: Mechanical test tools, Optical test tools, DVD-R measuring system (Recording) and DVD-R measuring system (Playback).

DVD-R measuring system (Playback) which shall have functions at least for executing the tests defined in **3.2.1** and **3.2.2** is required for the test of DVD-R Drive for Authoring. This system is to be equipped by each Lab and applicant individually.

3.1.3 DVD-File System Verifier: DVD-FV20AV

The DVD File System Verifier: DVD-FV20AV is used for testing UDF File structure on DVD disc.

As for acquisition, refer to **Annex D**.

3.2 Test Specifications

The following sections describe the test procedures required for verification of DVD-R Drive for Authoring.

3.2.1 Recording characteristics

- Random or equivalent signal shall be written in the user area of ARBTD-001 by the DVD-R Drive for Authoring. Write Strategy variations (refer to Annex K of DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0) can be used for recording.
- Measure the characteristic of the Recorded layer by DVD-R measuring system (Playback) or equivalent system in accordance with **Form 3R**.

3.2.2 Information data in Lead-in and RMA

Using DVD-R measuring system (Playback), check the recorded information data in Lead-in, and RMA of the recorded ARBTD-001. The applicant shall fill out each column of **Form 4R**, and Class-A Lab will check them.

3.2.3 Reading characteristics

- ARSTD-001 shall be read by the DVD-R Drive for Authoring. If the entire signal can be read properly, mark OK in **Form 5R**.

3.2.4 File System verification

This test is adapted only to the DVD-R Disc (4.7 Gbytes) readable/recordable functions of the integrated system. This test is performed to verify logical file system format of recorded DVD-R discs, which are formatted on the strength of DVD Specifications for Recordable Disc for Authoring Part 2: File System Specifications Version 2.0.

- Record the signals using the integrated system to ARBTD-001.
Test shall be done in accordance with user's manual of DVD File System Verifier: DVD-FV20AV. If no error is detected, mark OK in **Form 6R**.

Annex A

List of Class-A Verification Labs

This List is correct at the time of publication. However, when the Class-A Lab information contained here differs from such information cited in our website www.dvdfllc.co.jp, the List with more current date prevails. Also, please refer to the website for the latest Verification Service of each Class-A Lab.

PIONEER CORPORATION

Verification Laboratory

1-1 Shin-ogura, Saiwai-ku, Kawasaki-shi, Kanagawa, 212-0031 Japan

Fax: +81-44-580-4027

Annex B

Glossary of Terms used

(May be defined)

Annex C

Procedure for Class-A Verification Lab Product Submission

The procedure for submitting a product to a Class-A Verification Lab is as follows:

Preliminary Application

Applicant must complete **Form 1R** to provide preliminary information.

Self Test

Applicant must test the product in accordance with this Test Specification prior to submitting to a Class-A Verification Lab. Applicant must complete **Form 2R to 5R**, or **Form 2R to 6R** to provide test results.

Mutual Non-Disclosure Agreement (NDA)

Applicant, in order to maintain the confidentiality of the applicant's product and Verification Lab's information, must sign a Mutual Non-Disclosure Agreement.

Application

Applicant must submit 3 product samples along with **Form 2R to 5R**, or **Form 2R to 6R**, and the NDA.

Test Results

Upon completion of testing, Verification Lab will complete **Form 7R** to inform the applicant and DVD Format/Logo Licensing Corporation of the test results.

Annex D

Test Tool Contact Information

The Contact Information is correct at the time of publication. However, when the Class-A Lab information (marked <>) differs from such information cited in our website www.dvdfllc.co.jp, the List with more current date prevails.*

DVD-R for Authoring Standard Blank Test Disc (ARBTD-001) shall be delivered by:

PIONEER CORPORATION<*>

Verification Laboratory

1-1 Shin-ogura, Saiwai-ku, Kawasaki-shi, Kanagawa, 212-0031 Japan

Fax: +81-44-580-4027

DVD-R for Authoring Standard Signal Test Disc (ARSTD-001) shall be delivered by:

PIONEER CORPORATION<*>

Verification Laboratory

1-1 Shin-ogura, Saiwai-ku, Kawasaki-shi, Kanagawa, 212-0031 Japan

Fax: +81-44-580-4027

DVD Audio/Video File System Verifier (DVD-FV20AV) shall be delivered by:

Panasonic Corporation<*>

Format Verification Laboratory

1-15, Matsuo-cho, Kadoma, Osaka, 571-8504 Japan

Fax: +81-6-6909-5027

E-mail: fvl-info@ml.jp.panasonic.com URL: <http://panasonic.co.jp/avc/fvl/en/index.html>