



DVD-Download Drive (for SL & DL)

TEST SPECIFICATION

**Version 1.2
January 2009**

Amendment for DVD-Download Drive (for SL & DL) TS Version 1.2 (January 2009)

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

- **Minor amendment (January 2010)**

Page	Location	Amendment
Pages 15 to 16	Annex A	<ul style="list-style-type: none">• Class-A Lab information of "Hitachi, Ltd. (company name)", "PIONEER CORPORATION", "Victor Company of Japan, Limited" and "Industrial Technology Research Institute" were updated.

- **Amendment 1 (January 2012)**

Page	Location	Amendment
Page 15	Annex A	<ul style="list-style-type: none">• "Toshiba Corporation" was deleted from the Class-A Lab list.• The company name "Victor Company of Japan, Limited" was changed to "JVC KENWOOD Corporation".

- **Amendment 2 (June 2012)**

Page	Location	Amendment
Page 16	Annex A	<ul style="list-style-type: none">• "Industrial Technology Research Institute" was deleted from the Class-A Lab list.• Class-A Lab information of "Sony Corporation" was updated.

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Revision History

- July 2007
DVD-Download Drive Test Specification Version 0.9 (Draft) was distributed to SG-6 members.
- August 10, 2007
DVD-Download Drive Test Specification Version 1.0 was approved by Test Specification Task Force members.
- September 12, 2007
DVD-Download Drive Test Specification Version 1.0 was authorized by Steering Committee members.
- November 13, 2007
Version-up to 1.1, to add the test procedure and items for the Drive for DVD-Download Disc with pre-recorded Lean-in area, was approved by Test Specification Task Force members.
- January 9, 2009
Version-up to 1.2, to add the test procedure and items for SL Drive based on Book Version 1.0, and for DL Drive based on Book Version 2.0, was approved by Test Specification Task Force members.

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Forms for DVD Format verification

Form 1TT

Preliminary Information for DVD Format Verification F1

Form 2TT

Test Information of DVD Format Verification F2

Form 3TT

Test results of Recording characteristics for SL F4

Form 4TT

Test result of Linking characteristic for SL F6

Form 5TT

Test results of Physical format information for SL (without pre-recorded) F7

Form 6TT

Test results of Physical format information for SL (with pre-recorded) F8

Form 7TT

Test results of Recording characteristics for DL F9

Form 8TT

Test result of Linking characteristic for DL F13

Form 9TT

Test results of Physical format information for DL (without pre-recorded) F14

Form 10TT

Test results of Physical format information for DL (with pre-recorded) F15

Form 11TT

Confirmation of DVD Format Verification F16

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1. General

1.1 Scope

The scope of this Test Specification is the testing DVD-Download Drive for compliance with DVD Specifications mentioned in 1.2. Hereinafter, DVD-Download Drive recordable DVD-Download Disc (Blank Disc) may be called DVD-Download Drive or SL Drive, and DVD-Download Drive recordable DVD-Download Disc for DL (Blank Disc) may be called DVD-Download Drive for DL or DL Drive.

Furthermore, a Drive for the disc without pre-recorded Lead-in and without pre-recorded Control data zone may be suffixed as "without pre-recorded area" and a Drive for the disc with pre-recorded Lead-in and without pre-recorded Control data zone may be suffixed as "with pre-recorded area".

The test procedure described herein could be used by Class-A Verification Labs, Class-B Verification Labs and Quality Assurance Departments of "DVD-Download Drive" manufacturers.

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

- a) DVD-R for General Part 1, Optional Specifications: DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0
- b) DVD Specifications for Download Disc (DVD-Download)
Part 1: Physical Specifications Version 1.0
- c) DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL)
Part 1: Physical Specifications Version 2.0

Note : The Book Revision 1.0 was updated to the Book Version 1.0 in September 2008.

1.3 Scope of Products Covered

SL Drive for the disc without pre-recorded Lead-in based on Book Rev.1.0

8x-6x-speed DVD-Download Drive

Note : The recording speeds (8x-6x) specify the Maximum recording speed (8x) and the Minimum recording speed (6x) that a Drive is able to support. An actual Drive supports 8x/6x, 8x* only or 6x only.
(* 8x means recording speed at R = 55 mm.)

SL Drive for the disc with pre-recorded Lead-in based on Book Rev.1.0

8x-2x-speed DVD-Download Drive

Note : The recording speeds (8x-2x) specify the Maximum recording speed (8x) and the Minimum recording speed (2x) that a Drive is able to support. An actual Drive's Maximum recording speed (Ax) is equal to or less than 8x, and its Minimum recording speed (Bx) is equal to or more than 2x. For example, an actual Drive supports 8x/6x/4x/2x, 8x/6x, 4x/2x or 2x only.

SL Drive for the disc without pre-recorded Control data zone based on Book Ver.1.0

8x-6x-speed DVD-Download Drive

Note : The recording speeds (8x-6x) specify the Maximum recording speed (8x) and the Minimum recording speed (6x) that a Drive is able to support. An actual Drive supports 8x/6x, 8x* only or 6x only.
(* 8x means recording speed at R = 55 mm.)

SL Drive for the disc with pre-recorded Control data zone based on Book Ver.1.0

8x-2x-speed DVD-Download Drive

Note : The recording speeds (8x-2x) specify the Maximum recording speed (8x) and the Minimum recording speed (2x) that a Drive is able to support. An actual Drive's Maximum recording speed (Ax) is equal to or less than 8x, and its Minimum recording speed (Bx) is equal to or more than 2x. For example, an actual Drive supports 8x/6x/4x/2x, 8x/6x, 4x/2x or 2x only.

DL Drive for the disc without pre-recorded Control data zone

8x-6x-speed DVD-Download Drive for DL

Note : The recording speeds (8x-6x) specify the Maximum recording speed (8x) and the Minimum recording speed (6x) that a Drive is able to support. An actual Drive supports 8x/6x, 8x* only or 6x only.
(* 8x means recording speed at R = 55 mm.)

DL Drive for the disc with pre-recorded Control data zone

8x-2x-speed DVD-Download Drive for DL

Note : The recording speeds (8x-2x) specify the Maximum recording speed (8x) and the Minimum recording speed (2x) that a Drive is able to support. An actual Drive's Maximum recording speed (Ax) is equal to or less than 8x, and its Minimum recording speed (Bx) is equal to or more than 2x. For example, an actual Drive supports 8x/6x/4x/2x, 8x/6x, 4x/2x or 2x only.

Note : Rev.1.0 product means that it complies with the "DVD-R for General Part 1, Optional Specifications: DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0". Since the Revision 1.0 Specification was updated to "DVD Specifications for Download Disc (DVD-Download) Part 1 Version 1.0" in September 2008, if the SL Drive product only complies with the Revision 1.0, it is strongly recommended to change the product so as to comply with the Version 1.0 as soon as possible.

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** for "*DVD-Download Drive*" (SL Drive) and "*DVD-Download Drive for DL*" (DL Drive) independently:

- 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.

Examples of First Production Model

SL Drive: 8x-6x-speed DVD-Download Drive for SL disc without pre-recorded Lead-in

SL Drive: 8x-2x-speed DVD-Download Drive for SL disc with pre-recorded Lead-in

SL Drive: 8x-6x-speed DVD-Download Drive for SL disc without pre-recorded Control data zone

SL Drive: 8x-2x-speed DVD-Download Drive for SL disc with pre-recorded Control data zone

DL Drive: 8x-6x-speed DVD-Download Drive for DL disc without pre-recorded Control data zone

DL Drive: 8x-2x-speed DVD-Download Drive for DL disc with pre-recorded Control data zone

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**:

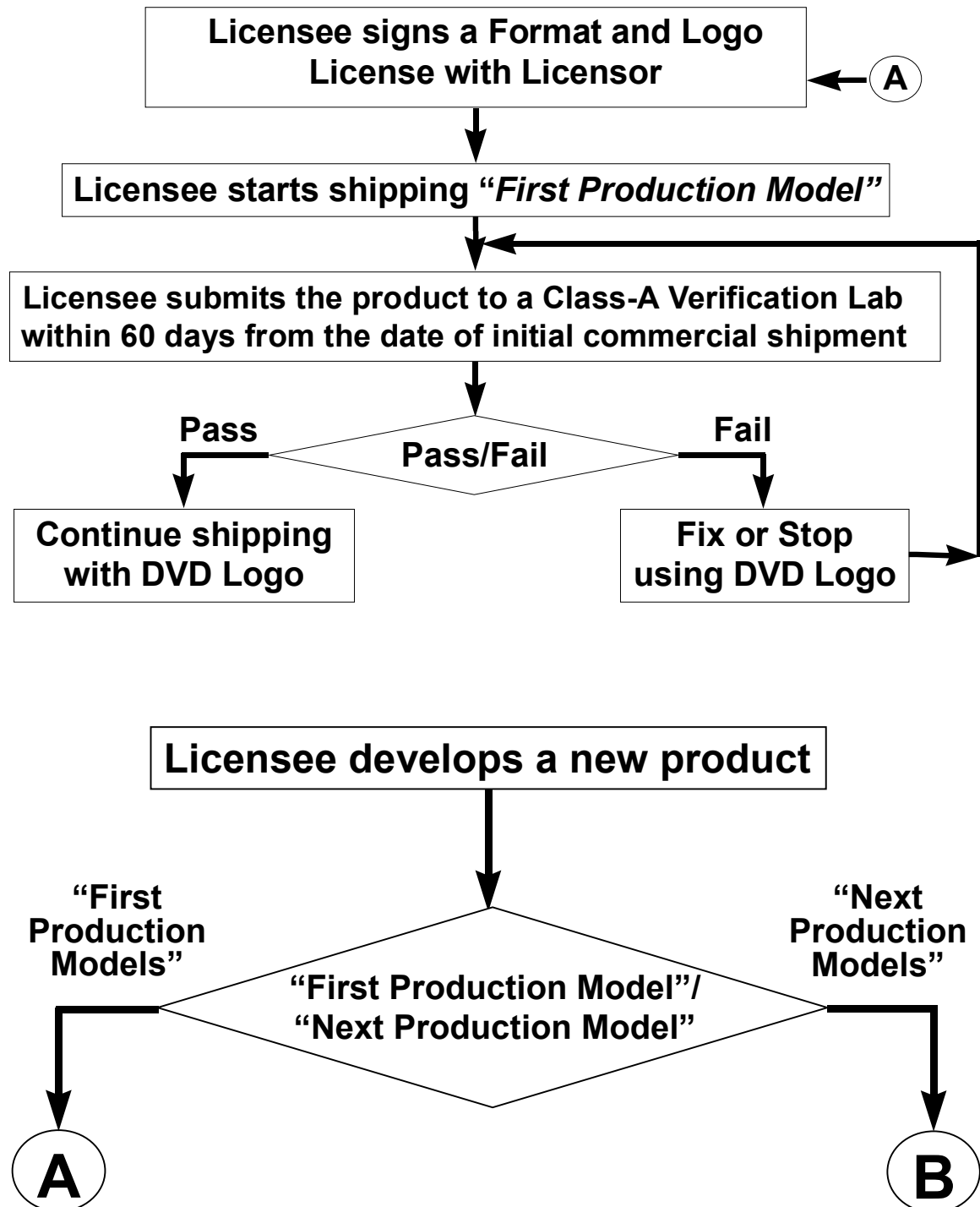
- DVD Specifications Version n.x changing to n.x+1.
- Change to add or reduce applicable recording speed(s).
- Significant changes at Licensees discretion to Pickup head, LSI and/or firmware related to DVD format.
- Change the capability of the pre-recorded Lead-in area or Control data zone. i.e.,
 - Drive for the disc without pre-recorded Lead-in changing to Drive for the disc with pre-recorded Lead-in.
 - Drive for the disc with pre-recorded Lead-in changing to Drive for the disc without pre-recorded Lead-in.
 - Drive for the disc without pre-recorded Control data zone changing to Drive for the disc with pre-recorded Control data zone.
 - Drive for the disc with pre-recorded Control data zone changing to Drive for the disc without pre-recorded Control data zone.
- Production of SL Drive based on Book Version 1.0 when the applicant has already passed compliance verification of the SL Drive based on Book Revision 1.0.
- Additional support of the disc based on Book Revision 1.0 when the applicant has already passed compliance verification of the SL Drive based on Book Version 1.0.

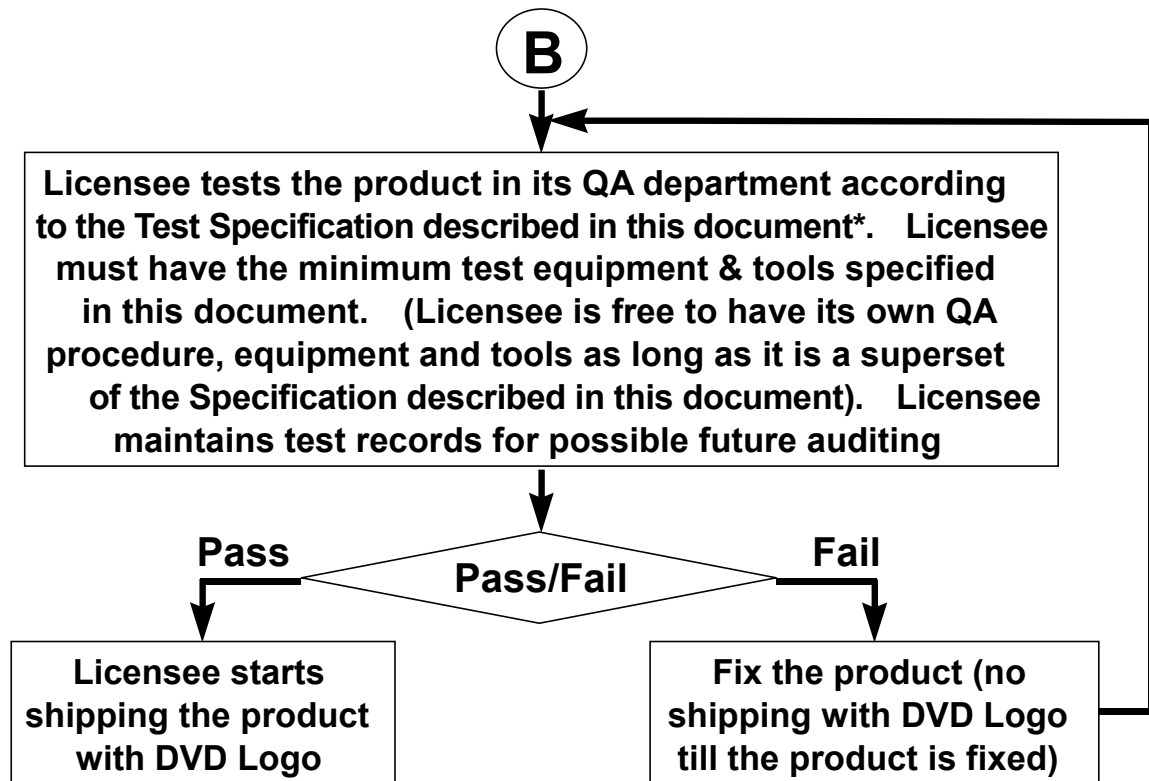
Class-A Verification Labs - Class-A Verification Labs are experts in DVD technology and provide independent expert assessment of Licensee's product compliance with respect to DVD Specifications. Class-A Labs also provide additional services such as interpretation of DVD Specifications, Test Tool development,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

Class-B Verification Labs - DVD-Download Drive Class-B Verification Labs provide DVD-Download Drive testing strictly according to **DVD-Download Drive (for SL & DL) 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-Download Drive Class-B Verification Lab**.

3. Test Specifications for recording capability of SL Drive for the disc *without* pre-recorded area

This chapter covers the test specifications and tool requirements for the physical and logical compliance testing the recording capability of SL Drive for the disc *without* pre-recorded Lead-in based on Book Rev.1.0 and SL Drive for the disc *without* pre-recorded Control data zone based on Book Ver.1.0.

3.1 Test Tools

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

3.1.1 Test Discs

The following test discs are used for testing the recording capability of SL Drive. As for acquisition, refer to **Annex D**.

- 12cm 8x/6x-speed DVD-Download Standard Blank Test Disc without pre-recorded Lead-in based on Book Rev.1.0 : **CSS-M47JG0**
- 12cm 8x/6x-speed DVD-Download Standard Blank Test Disc without pre-recorded Control data zone based on Book Ver.1.0 : **CSS-M47JA0**

Note: The above two Test Discs are abbreviated to "DVD-Download Standard Blank Test Disc without pre-recorded area" in **3.2**.

3.1.2 DVD-Download measuring system (Playback)

DVD-Download measuring system (Playback) shall have functions at least for executing the tests defined in **3.2.1**, **3.2.2** and **3.2.3**. Its reading beam condition shall be as defined in 2.1.3.2 of Optional Specifications DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0 or DVD Specification for Download Disc (DVD-Download) Part 1: Physical Specifications Version 1.0 and its scanning velocity shall be 3.49 m/s (1x-speed).

This system is to be equipped by each Lab and applicant individually.

3.1.3 DVD-Download measuring system (Recording)

DVD-Download measuring system (Recording) shall have functions at least for executing the tests defined in **3.2.1**. Its recording beam condition shall be as defined in 2.2.3.2 of Optional Specifications DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0 or DVD Specification for Download Disc (DVD-Download) Part 1: Physical Specifications Version 1.0 and its scanning velocity shall be 3.49 m/s (1x-speed).

This system is to be equipped by each Lab and applicant individually.

3.2 Test Specifications

The following sections describe the test procedures of recording capability required for verification of DVD-Download Drive. The tests shall be performed according to the items described in **Form 3TT to 5TT**.

3.2.1 Recording characteristics

This test shall be done for DVD-Download Standard Blank Test Disc without pre-recorded area.

Either 6x or 8x recording speed that the drive adopts can be selected for the test.

- Proper data shall be written with 8x or 6x-speed in the whole information area of the DVD-Download Standard Blank Test Disc without pre-recorded area by the Drive.
- Measure the characteristics of the Recorded layer using DVD-Download measuring system (Playback PUH except for PPa) or equivalent system and enter the measured values in accordance with **Form 3TT**.

3.2.2 Linking characteristic

- Proper signal shall be written with between 6x to 8x-speed in the user area of a DVD-Download Standard Blank Test Disc without pre-recorded area by the Drive. If possible, pause and resume the writing to make linking areas intentionally according to the linking scheme that the drive adopts.
- Using DVD-Download measuring system (Playback), check whether the time difference between "the peak of LPP" and "center of 14T" is smaller than 7T (260 ns) in any place.
If the result is correct, mark OK in **Form 4TT**.
- This test shall be done in the user area where the Drive can keep performing between 6x to 8x-speed recording.

Note: In the case that the Drive does not use linking function, check whether the time difference between "the peak of LPP" and "center of 14T" is smaller than 7T (260 ns) in any place of the entire disc.

3.2.3 Information data in the Lead-in or Control data zone

- DVD-Download Standard Blank Test Disc without pre-recorded area recorded in the test of **3.2.1** shall be used for this check.
- Using DVD-Download measuring system (Playback) or equivalent system, check the recorded information data in the Lead-in or Control data zone of the recorded Test Disc. The applicant shall fill out each column of **Form 5TT**, and Class-A Lab will check them.

4. Test Specifications for recording capability of SL Drive for the disc *with* pre-recorded area

This chapter covers the test specifications and tool requirements for the physical and logical compliance testing the recording capability of SL Drive for the disc *with* pre-recorded Lead-in based on Book Rev.1.0 and SL Drive for the disc *with* pre-recorded Control data zone based on Book Ver.1.0

4.1 Test Tools

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

4.1.1 Test Discs

The following test discs are used for testing the recording capability of SL Drive. As for acquisition, refer to **Annex D**.

- 12cm 8x/2x-speed DVD-Download Standard Blank Test Disc with pre-recorded Lead-in based on Book Rev.1.0 : **CSS-E47JG0**
- 12cm 8x/2x-speed DVD-Download Standard Blank Test Disc with pre-recorded Control data zone based on Book Ver.1.0 : **CSS-E47JA0**

Note: The above two Test Discs are abbreviated to "DVD-Download Standard Blank Test Disc with pre-recorded area" in **4.2**.

4.1.2 DVD-Download measuring system (Playback)

DVD-Download measuring system (Playback) shall have functions at least for executing the tests defined in **4.2.1**, **4.2.2** and **4.2.3**. Its reading beam condition shall be as defined in 2.1.3.2 of Optional Specifications DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0 or DVD Specification for Download Disc (DVD-Download) Part 1: Physical Specifications Version 1.0 and its scanning velocity shall be 3.49 m/s (1x-speed).

This system is to be equipped by each Lab and applicant individually.

4.1.3 DVD-Download measuring system (Recording)

DVD-Download measuring system (Recording) shall have functions at least for executing the tests defined in **4.2.1**. Its recording beam condition shall be as defined in 2.2.3.2 of Optional Specifications DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0 or DVD Specification for Download Disc (DVD-Download) Part 1: Physical Specifications Version 1.0 and its scanning velocity shall be 3.49 m/s (1x-speed).

This system is to be equipped by each Lab and applicant individually.

4.2 Test Specifications

The following sections describe the test procedures of recording capability required for verification of DVD-Download Drive. The tests shall be performed according to the items described in **Form 3TT**, **4TT** and **6TT**.

4.2.1 Recording characteristics

This test shall be done for DVD-Download Standard Blank Test Disc with pre-recorded area.

The recording speed that the drive adopts can be selected for the test from 8x to 2x.

- Proper data shall be written with appropriate speed(s) in the whole information area except the pre-recorded area of the DVD-Download Standard Blank Test Disc with pre-recorded area by the Drive.
- Measure the characteristics of the Recorded layer using DVD-Download measuring system (Playback PUH except for PPa) or equivalent system and enter the measured values in accordance with **Form 3TT**.

4.2.2 Linking characteristic

- Proper signal shall be written with between 2x to 8x-speed in the user area of a DVD-Download Standard Blank Test Disc with pre-recorded area by the Drive. If possible, pause and resume the writing to make linking areas intentionally according to the linking scheme that the drive adopts.
- Using DVD-Download measuring system (Playback), check whether the time difference between "the peak of LPP" and "center of 14T" is smaller than 7T (260 ns) in any place.
If the result is correct, mark OK in **Form 4TT**.
- This test shall be done in the user area where the Drive can keep performing between 2x to 8x-speed recording.

4.2.3 Information data in the pre-recorded Lead-in or Control data zone

- DVD-Download Standard Blank Test Disc with pre-recorded area shall be used for this check.
- Using DVD-Download Drive to be tested, read and check the information data in the pre-recorded Lead-in or Control data zone of the Test Disc. The applicant shall fill out each column of **Form 6TT**, and Class-A Lab will check them.

5. Test Specifications for recording capability of DL Drive for the disc *without* pre-recorded Control data zone

This chapter covers the test specifications and tool requirements for the physical and logical compliance testing the recording capability of DL Drive for the disc *without* pre-recorded Control data zone.

5.1 Test Tools

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

5.1.1 Test Disc

The following test disc is used for testing the recording capability of DL Drive. As for acquisition, refer to **Annex D**.

- 12cm 8x/6x-speed DVD-Download for DL Standard Blank Test Disc without pre-recorded Control data zone : **CSS-M85LA0**

5.1.2 DVD-Download measuring system (Playback)

DVD-Download measuring system (Playback) shall have functions at least for executing the tests defined in **5.2.1**, **5.2.2** and **5.2.3**. Its reading beam condition shall be as defined in 2.1.3.2 of DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0 and its scanning velocity shall be 3.84 m/s (1x-speed).

This system is to be equipped by each Lab and applicant individually.

5.1.3 DVD-Download measuring system (Recording)

DVD-Download measuring system (Recording) shall have functions at least for executing the tests defined in **5.2.1**. Its reading beam condition shall be as defined in 2.2.3.2 of DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0 and its scanning velocity shall be 3.84 m/s (1x-speed).

This system is to be equipped by each Lab and applicant individually.

5.2 Test Specifications

The following sections describe the test procedures of recording capability required for verification of DVD-Download Drive for DL. The tests shall be performed according to the items described in **Form 7TT to 9TT**.

5.2.1 Recording characteristics

This test shall be done for DVD-Download for DL Standard Blank Test disc without pre-recorded Control data zone.

Either 6x or 8x recording speed that the drive adopts can be selected for the test.

- Proper data shall be written with 8x or 6x-speed in the whole information area of the DVD-Download for DL Standard Blank Test Disc without pre-recorded Control data zone by the Drive.
- Measure the characteristics of the Recorded layer using DVD-Download measuring system (Playback PUH except for PPa) or equivalent system and enter the measured values in accordance with **Form 7TT**.
- The recording order is recommended to be kept for recording of Layer 1 (refer to Annex AA of DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0).

5.2.2 Linking characteristic

- Proper signal shall be written with between 6x to 8x-speed in the user area of a DVD-Download for DL Standard Blank Test disc without pre-recorded Control data zone by the Drive.
If possible, pause and resume the writing to make linking areas intentionally according to the linking scheme that the drive adopts.
- Using DVD-Download measuring system (Playback), check whether the time difference between "the peak of LPP" and "center of 14T" is smaller than 7T (260 ns) in any place.
If the result is correct, mark OK in **Form 8TT**.
- This test shall be done in the user area where the Drive can keep performing between 6x to 8x-speed recording.

Note: In the case that the Drive does not use linking function, check whether the time difference between "the peak of LPP" and "center of 14T" is smaller than 7T (260 ns) in any place of the entire disc.

5.2.3 Information data in the Control data zone

- DVD-Download for DL Standard Blank Test disc without pre-recorded Control data zone recorded in the test of **5.2.1** shall be used for this check.
- Using DVD-Download measuring system (Playback) or equivalent system, check the recorded information data in the Control data zone of the recorded Test Disc. The applicant shall fill out each column of **Form 9TT**, and Class-A Lab will check them.

6. Test Specifications for recording capability of DL Drive for the disc *with* pre-recorded Control data zone

This chapter covers the test specifications and tool requirements for the physical and logical compliance testing the recording capability of DL Drive for the disc *with* pre-recorded Control data zone.

6.1 Test Tools

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

6.1.1 Test Disc

The following test disc is used for testing the recording capability of DL Drive. As for acquisition, refer to **Annex D**.

- 12cm 8x/2x-speed DVD-Download for DL Standard Blank Test Disc with pre-recorded Control data zone :
CSS-E85LA0

6.1.2 DVD-Download measuring system (Playback)

DVD-Download measuring system (Playback) shall have functions at least for executing the tests defined in **6.2.1**, **6.2.2** and **6.2.3**. Its reading beam condition shall be as defined in 2.1.3.2 of DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0 and its scanning velocity shall be 3.84 m/s (1x-speed).

This system is to be equipped by each Lab and applicant individually.

6.1.3 DVD-Download measuring system (Recording)

DVD-Download measuring system (Recording) shall have functions at least for executing the tests defined in **6.2.1**. Its reading beam condition shall be as defined in 2.2.3.2 of DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0 and its scanning velocity shall be 3.84 m/s (1x-speed).

This system is to be equipped by each Lab and applicant individually.

6.2 Test Specifications

The following sections describe the test procedures of recording capability required for verification of DVD-Download Drive for DL. The tests shall be performed according to the items described in **Form 7TT**, **8TT** and **10TT**.

6.2.1 Recording characteristics

This test shall be done for DVD-Download for DL Standard Blank Test Disc with pre-recorded Control data zone. The recording speed that the drive adopts can be selected for the test from 8x to 2x.

- Proper data shall be written with appropriate speed(s) in the whole information area except the pre-recorded area of the DVD-Download for DL Standard Blank Test Disc with pre-recorded Control data zone by the Drive.
- Measure the characteristics of the Recorded layer using DVD-Download measuring system (Playback PUH except for PPa) or equivalent system and enter the measured values in accordance with **Form 7TT**.
- The recording order is recommended to be kept for recording of Layer 1 (refer to Annex AA of DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0).

6.2.2 Linking characteristic

- Proper signal shall be written with between 2x to 8x-speed in the user area of a DVD-Download for DL Standard Blank Test Disc with pre-recorded Control data zone by the Drive. If possible, pause and resume the writing to make linking areas intentionally according to the linking scheme that the drive adopts.
- Using DVD-Download measuring system (Playback), check whether the time difference between "the peak of LPP" and "center of 14T" is smaller than 7T (260 ns) in any place.
If the result is correct, mark OK in **Form 8TT**.
- This test shall be done in the user area where the Drive can keep performing between 2x to 8x-speed recording.

6.2.3 Information data in the pre-recorded Control data zone

- DVD-Download for DL Standard Blank Test Disc with pre-recorded Control data zone shall be used for this check.
- Using DVD-Download Drive for DL to be tested, read and check the information data in the pre-recorded Control data zone of the Test Disc. The applicant shall fill out each column of **Form 10TT**, and Class-A Lab will check them.

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.

(SL Drive for the disc without pre-recorded Lead-in based on Book Rev.1.0 and
SL Drive for the disc with pre-recorded Lead-in based on Book Rev.1.0 and
SL Drive for the disc without pre-recorded Control data zone based on Book Ver.1.0 and
SL Drive for the disc with pre-recorded Control data zone based on Book Ver.1.0 and
DL Drive for the disc without pre-recorded Control data zone and
DL Drive for the disc with pre-recorded Control data zone)

Hitachi Consumer Electronics Co., Ltd.

Format Verification Center

292, Yoshida-cho, Totsuka-ku, Yokohama-shi, Kanagawa, 244-0817 Japan

Fax: +81-45-866-5905

JVC KENWOOD Corporation

DVD Verification Lab.

12, 3 Chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa, 221-8528 Japan

Fax: +81-45-450-2425

PIONEER CORPORATION

Verification Laboratory

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

Fax: +81-44-580-4027

(SL Drive for the disc without pre-recorded Control data zone based on Book Ver.1.0 and
SL Drive for the disc with pre-recorded Control data zone based on Book Ver.1.0 and
DL Drive for the disc without pre-recorded Control data zone and
DL Drive for the disc with pre-recorded Control data zone)

Sony Corporation

Verification Laboratory

2-10-1 Osaki, Shinagawa-ku, Tokyo, 141-8610 Japan

Fax: +81-50-3750-6608

Annex B

Glossary of Terms used

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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 1TT** to provide preliminary information.

Self Test

Applicant must test the product in accordance with this Test Specification prior to submitting samples to a Class-A Verification Lab. Applicant must complete **Form 2TT**, and **necessary Forms*** to provide test results.

*Note: **Necessary Forms for each Product type** are as follows;

- 8x-6x-speed DVD-Download Drive for SL disc without pre-recorded Lead-in : **Form 3TT to 5TT**
- 8x-2x-speed DVD-Download Drive for SL disc with pre-recorded Lead-in : **Form 3TT, 4TT and 6TT**
- 8x-6x-speed DVD-Download Drive for SL disc without pre-recorded Control data zone : **Form 3TT to 5TT**
- 8x-2x-speed DVD-Download Drive for SL disc with pre-recorded Control data zone : **Form 3TT, 4TT and 6TT**
- 8x-6x-speed DVD-Download Drive for DL disc without pre-recorded Control data zone : **Form 7TT to 9TT**
- 8x-2x-speed DVD-Download Drive for DL disc with pre-recorded Control data zone : **Form 7TT, 8TT and 10TT**

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 2TT**, said **necessary Forms** and the NDA.

Note that the applicant must submit the product as the writing system. (Ex. drive, software and other items)

Test Results

Upon completion of testing, Verification Lab will complete **Form 11TT** 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.*

For SL Drive

<ul style="list-style-type: none"> 12cm 8x/6x-speed DVD-Download Standard Blank Test Disc without pre-recorded Lead-in based on Book Rev.1.0 <p style="text-align: right;">CSS-M47JG0</p>	<p>TAIYO YUDEN CO., LTD. Recording Media Marketing Department Recording Media Product Division Matsumura Bldg. 6-16-20, Ueno, Taito-ku, Tokyo, 110-0005 Japan Tel: +81-3-3837-6536 Fax: +81-3-3837-6555</p>
<ul style="list-style-type: none"> 12cm 8x/2x-speed DVD-Download Standard Blank Test Disc with pre-recorded Lead-in based on Book Rev.1.0 <p style="text-align: right;">CSS-E47JG0</p>	
<ul style="list-style-type: none"> 12cm 8x/6x-speed DVD-Download Standard Blank Test Disc without pre-recorded Control data zone based on Book Ver.1.0 <p style="text-align: right;">CSS-M47JA0</p>	
<ul style="list-style-type: none"> 12cm 8x/2x-speed DVD-Download Standard Blank Test Disc with pre-recorded Control data zone based on Book Ver.1.0 <p style="text-align: right;">CSS-E47JA0</p>	

For DL Drive

<ul style="list-style-type: none"> 12cm 8x/6x-speed DVD-Download for DL Standard Blank Test Disc without pre-recorded Control data zone <p style="text-align: right;">CSS-M85LA0</p>	<p>TAIYO YUDEN CO., LTD. Recording Media Marketing Department Recording Media Product Division Matsumura Bldg. 6-16-20, Ueno, Taito-ku, Tokyo, 110-0005 Japan Tel: +81-3-3837-6536 Fax: +81-3-3837-6555</p>
<ul style="list-style-type: none"> 12cm 8x/2x-speed DVD-Download for DL Standard Blank Test Disc with pre-recorded Control data zone <p style="text-align: right;">CSS-E85LA0</p>	

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